ACADEMY OF AMERICA

20755 Greenfield Rd. • Suite 300 • Southfield, MI 48075 • (248) 569-7787 • fax: (248) 569-6674

March 10, 2000

Nancy J. Wilson, Ph.D.
Associate Secretary of Education
Delaware Department of Education
P.O. Box 1402
Dover, Delaware 19903-1402

Dear Dr. Wilson:

Per your letter dated February 24, 2000, attached is our revised application, submitted March 13, 2000. Ten bound copies printed back to back are attached.

Included in the revised application are the names and addresses of four members of the board of directors and we are currently seeking a fifth member of the board of director from within the local community. This fifth member will be identified and submitted to you prior to the public hearing which is set for April 12, 2000.

If you have any questions or concerns regarding the attachments please feel free to call (248) 569-7787.

Sincerely,

Andrew L. Burks
Vice President / CFO

The Cover Page

The Narrative

DELAWARE DEPARTMENT OF EDUCATION

CHARTER SCHOOL APPLICATION FORM FOR

A NEW SCHOOL TO BE OPENED

IN SEPTEMBER 2001

Academy of Dover Charter School **Name of Proposed School**	Wilhelmina S. Hall, Ed. D. **Name of Contact Person**
Ruby Coppadge **Name of the Head of the Board**	20755 Greenfield Road, Suite 300 Southfield, MI 48075 **Mailing Address of Contact Person**
August 2001 **Opening Date**	(248) 569-7787 **Telephone Number of Contact Person**
K through 8 **Grades for School**	(248) 569-6674 **Fax Number of Contact Person**

First Year Enrollment	400 **Number**	K through 6 **First Year Grade Span**
Second Year Enrollment	500 **Number**	K through 7 **Second Year Grade Span**
Third Year Enrollment	700 **Number**	K through 8 **Third Year Grade Span**

Note: If this application is approved by the Department of Education and State Board of Education, with or without amendment, the final approval application and any amendments will serve as the approved charter for the school. A charter cannot be altered without the approval of the Secretary of Education.

Document No: 95-01/00/07/01

1. Executive Summary

The vision of the Academy of Dover is to provide all students with mastery of the essential skills needed for a quality education in the 21st Century. We believe that all students can and will achieve the level of academic performance necessary to ensure successful educational outcomes.

A. Grades to be served

The Academy will be open for the admission of students in kindergarten through grade six, who have expressed interest in and commitment to the Academy's curriculum and methods of teaching. An additional grade will be added each subsequent year. Students will be residents of the State of Delaware.

B. Target population

There are approximately 6400 school age children and 23% African Americans in this geographical area. It is anticipated that the majority of student population to be served will be majority Africian Americans. However, the Academy will comply with all civil rights laws, give all students equal access and operate in a non-discriminatory manner with regard to admissions.

C. School size

The Academy will open year one with 400 students, K-6. One additional grade will be added through year three (K-7, K-8).

D. Location

The school will be located in the Dover / Kent County School District.

E. Founding group

The founding group shared a common goal of improving the academic performance of Urban American children in a non-traditional setting and a non-traditional curriculum. This group from the community, in which the Academy will be located, has collaborated with experienced charter school personnel from the Academy of America to assist in operationalizing the vision of a charter school that emphasizes entrepreneurship and business. The Academy of America (a 501 © (3)) was selected because it has more than thirty years of successful experience in operating schools.

F. School focus

The Academy has developed an Entrepreneurial Curriculum that is grade appropriate and aligned with Delaware's core curriculum process. The Core Curriculum will be delivered using a business and technology thematic approach. Each subject will integrate entrepreneurial and business principles and the possible career, business and job opportunities available in the field. The content focus will be on skills necessary to accomplish the standards.

G. Parental Involvement

The academy believes that a joint and coordinated effort by parents and teachers is essential to deal successfully with problems of discipline, motivation, and the development of good work habits at home and in school. We have identified the parent involvement program at the Academy to include the four basic roles as defined by Williams and Stallworth, (1983/84). The four basic roles are: Parents as Partners; Parents as Collaborators and Problem Solvers; Parents as Audience; and Parents as Supporters. In addition, the Academy will adopt the Parent Declaration of Responsibility to increase parental involvement.

2. Statement of Need

a. Why is there a need for this type of school?

There is a need to respond to community demand for more options for educating children. The charter school is viewed as an answer to the demand for an alternative to the traditional public school. The charter school will provide families with a greater opportunity for choice and greater participation in the call for accountability for results.

b. Why is the charter school model an appropriate vehicle to address this need?

The charter school model is viewed as giving greater opportunities for improving education, more community involvement, raising the bar for expected results and creating a competitive atmosphere that may spur traditional public schools to do better or become more open to change.

c. How will this charter improve public education in Delaware? What will be the school's key strategies for improving student performance? If the strategies are successful, are there barriers to the use of those strategies in non-charter public schools throughout the state?

This charter will provide the State of Delaware an additional choice for those parents who are seeking new and innovative ways of educating their children. The key strategy for improving student performance will be in our Entrepreneurial Curriculum, which includes cooperative learning and hands-on experiences. It allows students to explore career job opportunities at an early age and is aligned with the Delaware service learning program. There are no barriers to the non-charter schools use of the model.

d. How will the educational practices used in this charter school be shared with other Delaware educators?

The educational practices will be shared through professional development and open visitation for all interested educators.

Qualifications of the Applicant

3. Identify the group seeking the charter

a. Identify the names, the places of residence, and the phone numbers of the founding Board of Directors and indicate which members are teachers certified in Delaware, parents, and community.

The founding Board of Directors is listed below:

Alisa Armstead
218 North Queen
Dover, Delaware 19904
(302) 678-0218

Ruby Coppadge (Certified Teacher, Certificate Attached)
943 Jawd Drive
Dover, DE 19901

Jana Yancy
452 Fulton
Dover, De 19901
(302) 736-0687

The head of the Board, Ruby Coppadge has lived in Delaware more for than 25 years. Other founding board members have each resided in the metropolitan - Dover area for more than five years. These individual experiences, employment relationships, church and social affiliations have provided an understanding of the needs, strengths and potential growth of the community. These board members have a vested interest in the community having served as business manager, entrepreneur, parent and community leaders/participants.

The broad based background of the board members and their many contacts in the community prompted them to establish a charter school. The board members' vision regarding the education of Urban American children with an Entrepreneurial Curriculum appears to be representative of a large segment of that community.

b. Describe how the group came together and if there are any partnership arrangements with existing schools, educational programs, businesses, non-profit organizations, or any other entities or groups. If any consultants or contractors were enlisted to help prepare this application, please name them, describe their qualifications, and indicate the areas where they provided information and assistance.

The founding group shared a common goal of improving the academic performance of

Urban American children in a non-traditional setting with a non-traditional curriculum. This group from the community, in which the Academy will be located, has collaborated with experienced charter school personnel from the Academy of America to assist in operationalizing the vision of a charter school that emphasizes entrepreneurship and business. The Academy of America (a 501 © (3)) was selected because it has more than thirty years of successful experience in operating schools.

Previous experiences of the Academy of America have shown that local residents do not have the expertise or resources for preparing applications and starting up new schools. Therefore, two staff members (Wilhelmina Hall, and Andrew Burks) assisted with the application process. Wilhelmina Hall, Ed.D. has more than thirty years of experience as teacher, Principal and Project Director. Andrew Burks is an experienced Public Accountant with an MBA. These individuals provided assistance throughout the initial planning and application process.

c. Describe the plans for further recruitment of board members of the school, especially teachers employed at the school and parents of students enrolled at the school.

The initial Board of Directors of the Academy will establish an Advisory Board within the first year of operation of the Academy. The Advisory Board members will consist of parents, teachers and community representatives. During the second year of the operation of the Academy, the Advisory Board will select a representative from its membership to serve on the Board of Directors.

Certificate of Certification

Code No. B11-S102-T 1

Department of Education
State of Delaware

Know all persons by these Presents, that

RUBY COPPADGE (528-36-9117)

having fulfilled the requirements of the rules and regulations
of the State Board of Education
for the certification of Professional School Personnel is hereby granted this

PROFESSIONAL STATUS CERTIFICATE RENEWAL

and is licensed to hold the position of

ELEMENTARY TEACHER 1-8

in the State of Delaware for the period of 5 years
unless this Certificate be sooner revoked.

Given at Dover: February 5, 1998
Effective Date: July 1, 1995
Expiration Date: June 30, 2000

Secretary of Education

Documentation of Incorporation

4. Identify the name of the corporation, date of incorporation, and name of the corporation's chief operating officer. Attach a certified copy of the Certificate of Incorporation and the bylaws of the corporation. The by-laws must be consistent with the provisions of the Freedom of Information Act, Del. C., Title 29, Chapter 100 (related to public bodies, public records, and open meetings) and provide for representation of the school's teachers and parents of students on the board of directors.

Documentation of Incorporation

4. Identify the name of the corporation, date of incorporation, and name of the corporation's chief operating officer. Attach a certified copy of the Certificate of Incorporation and the bylaws of the corporation. The by-laws must be consistent with the provisions of the Freedom of Information Act, Del. C., Title 29, Chapter 100 (related to public bodies, public records, and open meetings) and provide for representation of the school's teachers and parents of students on the board of directors.

The Academy currently has incorporated in the state of Delaware. The name of the Corporation is Academy of Dover, Inc., the date of the incorporation is February 25, 2000. Attached is a copy of the certificate of corporation and the by-laws of the corporation. The by-laws are consistent with the provisions of the Freedom of Information Act, DEL, C., Title 29, Chapter 100, and will provide for representation of the schools teachers and parents of students on the Board of Directors.

Mission and Purpose of the School

5. Describe the purpose, mission, goals, and core philosophy of the proposed school.

The vision of the Academy of Dover hereafter referred to as the "Academy" is to provide all students with mastery of the essential skills needed for a quality education in the 21st Century. We believe that all students can and will achieve the level of academic performance necessary to ensure successful educational outcomes. The Academy is committed to preparing all students to be successful citizens, cooperative workers and profitable entrepreneurs as they develop their unique potential. Currently, to our knowledge, a school with an entrepreneurial focus and thrust is not available for students and parents in or near the Dover community.

We promise that through the collaborative efforts of parents, administrators, teachers and stakeholders, a learning environment will be provided that has a culturally diverse curriculum of educational excellence that will facilitate high levels of performance among students

Educational Program

6. Describe the school's educational plan including the following:

a. Scope and sequence of the curriculum

The Academy's Curriculum content is aligned with Delaware Standards and includes objectives and methodologies unique to the mission and goals. The Academy will incorporate this curriculum in grades K-6. Grade levels will expand through grade eight in three years. The curriculum will include instruction in Language Arts/English, Mathematics, Science and Social Studies.

b. Provide evidence of the school's curriculum aligning with the state's content standards and state performance indicators (or comparable alternative indicators). Indicate how the instructional strategies are consistent with the school's curriculum.

There are three reasons for aligning the Delaware's Department of Education Standards with the Academy's Curriculum. First of all, an alignment of the curriculum assures academic success for all K-6 students in all subjects. Secondly, it provides a foundation for teachers to know what every student should know and learn at each grade level. Last of all, it prepares students for mastery of the state assessment test.

A review of the Delaware Standards and Performance Indicators indicate that the Academy's core curriculum is closely aligned. The core curriculum includes the same major subject content (Language Arts/English, Mathematics, Science and Social Studies). The Academy will adjust to meet other standards. **(See Appendix A for school's curriculum alignment)**

As you view the sample alignment located in Appendix A, first of all, you will see a Standard (a description of what students should know and be able to do in a given content area). In the sample, the Academy's Mathematics Standard #1 is aligned with Delaware's Mathematics Standard M5. Next, to support this standard, the Academy's Mathematics Benchmark (a statement which indicates what students should know and be able to do at various developmental levels i.e., K-2, 3-5, and 6-8) #1 has been aligned with Delaware's Performance Indicator M5.40. Finally the Academy's Performance Objectives have been included for each benchmark to show how students will demonstrate mastery of the standard at each developmental level.

The Curriculum will be delivered using a business and technology thematic approach. Each subject will integrate entrepreneurial and business principles and the possible career, business and job opportunities available in the field. This thematic approach will be integrated into the foundation and enrichment skills as students work to accomplish the academic performance necessary to achieve successful educational outcomes and the essential skills needed for a quality education in the 21st Century.

c. Describe how the curriculum approaches are consistent with the assessment strategies that will be used.

The curriculum content is consistent with and covers the standards that will be assessed. It covers both informational and narrative text in reading, the writing process, mathematics concepts based on National Standards, demonstration of science knowledge and demonstration of social studies concepts.

d. What teaching methods will be used? How will this pedagogy enhance student learning?

The Academy's delivery of instructional methods will incorporate methods to accommodate the learning styles of all students. The staff will be trained in an instructional methodology that meets the needs of all students. Instruction will be student centered, focusing on cooperative learning, critical thinking skills, using technology, appealing to the multiple intelligence and using the community as a learning environment. The method of delivery will use the "Active Learning" approach of learning while doing.

This method will enhance student learning by providing an atmosphere that is student centered and allow them more participation in the learning process.

e. Describe how the educational program will address students with IEPs and/or accommodation plans.

The educational program is inclusive of all students and the Academy will comply with all laws related to students with accommodations. The student will receive the necessary services necessary from a certified teacher to accomplish the IEP goals and objectives.

f. Describe the school calendar and hours of operation. Provide the calendar for the first year of school operation.

The Academy and the State of Delaware will require all students to attend school 185 days and that teachers be available for work 195 days per school year. The school day for students will begin at 8:15 am and end at 3:00 p.m. Teachers will remain until 4:00 p.m. for planning, tutoring and for professional development.

Academy of Dover Calendar
For the 2001-2002 School Year
Tentative

August 13, 2001 (Monday)	School Office opens for Registration
August 28, 29, 30, 2001 (Tuesday-Thursday)	Teachers Report to Work
September 3, 2001 (Monday)	Labor Day Observance No school for Teachers and Students
September 4, 2001 (Tuesday)	First day of school for students
October 8-19, 2001 (Monday-Friday)	Stanford 9
October 19, 2001 (Friday)	Classes in session 8:30am-11:30am
October 26, 2001 (Friday)	**End of First Card Marking**
November 1, 2001 (Thursday)	**Parent/Teacher Conference – 3:30pm – 8:00pm** **Report Cards Issued**
November 2, 2001 (Friday)	Classes in session 8:30am-11:30am No PM school for teachers and students
November 7-12 (Wednesday-Monday)	DSTP Fall Testing
November 22-23 (Thursday-Friday)	Thanksgiving Observance No school for teachers and students
December 5, 2001 (Wednesday)	Classes in session 8:30am-11:30am No PM school for students PM – Professional Development
December 24,2001-January 1, 2002	Holiday Recess No school for teachers and Students
January 2, 2002 (Wednesday)	School reopens classes resume
January 18, 2002 (Friday)	**End of Second Card Marking**
January 21, 2002 (Monday)	Martin Luther King, Jr. Day
January 22, 2002 (Tuesday)	Second semester begins
January 24, 2002 (Thursday)	**Parent/Teacher Conference 3:30pm – 8:00pm** **Report Cards Issued**

January 25, 2002 (Friday).....	Classes in session 8:30am – 11:30am No PM school for teachers and students
February 21-22, 2002 (Thursday-Friday)	Winter Break No school for teachers and students
March 6, 2002 (Wednesday)	Classes in session 8:30am - 11:30am. No PM school for students PM-Professional Development
March 11-15, 2002 (Monday – Friday).....	Stanford 9
March 22, 2002 (Friday)	**End of Third Card Marking** **Parent/Teacher Conference** **3:30pm – 8:00pm** **Report Cards Issued**
March 25-29, 2002 (Monday-Friday)	Spring Recess No school for teachers and students
April 1, 2002 (Monday).....	School reopens classes resume
April 1-5, 2002(Monday-Friday).....	DSTP Spring Testing
May 7, 2002 (Tuesday)	Classes in session 8:30am – 11:30am No PM school for teachers and students
May 27, 2002 (Monday).....	Memorial Day Observance No school for teachers and students
May 28, 2002 (Tuesday).....	School reopens, classes resume
June 14, 2002 (Friday)	Last day of school, report cards issued No PM School for students 12:00pm - 3:00pm Teachers in Session

g. Describe any other features of the school's educational plan (including special materials or focus on technology) which will aid the reviewers in understanding the unique nature of the school.

The Academy will be set up using a "Family/House" concept. Placement will be determined by a Student Assessment Team. This team will consider the student population, age of students, number of students, past history, reason for placement, student strengths and weaknesses, student interests and recommendation of the team..

This process will create a learning community of students with various ethnicity's' abilities, genders, interests and age levels.

Each "House" will be led by a team of teachers thereby facilitating a more personalized relationship with their students. The "House" organizational plan will facilitate teachers developing and delivering more individualized instruction. The goal is to create a "Family Atmosphere" where the adult guides, nurtures, leads and teaches. Some benefits include: team teaching which allow common planning, improved staff relationships, improved sense of community and family, improved parent relationships, long term planning for student achievement and development and implementation of programs to benefit smaller groups.

Measurable Student Performance Objectives

7. What are the specific performance objectives for students and what tools will be used to measure whether students meet or exceed those objectives? For example:

List the school's academic objectives for student learning for the initial three-year charter period and their relationship to the content standards set by the State Board of Education. Indicate the specific measurable performance targets on each objective for each of the initial three years of the charter. For guidance in this area, applicants may request a copy of a recently negotiated performance agreement from the Charter School Office.

The Delaware Student Testing Program (DSTP) will be used in grade 3 and 5 for reading, mathematics and writing, and in grades 4 and 6 for science and social studies. The plan listed below indicates the projected percentage points of students who will exceed the state standard.

The Stanford 9 test will be given in grades 1-6 in the fall as a pre-test and again in the spring as a post-test. This test will be used each school year as the primary assessment instrument for measuring the percentage of students success at the appropriate grades in each subject area.

a. The following educational goals reflect the academic achievement for each grade and are important to the mission of the academy.

1.1 Reading: Delaware Student Testing Program (DSTP)

By 2003-2004, the percent of students in grades 3 and 4 who meet or exceed the standard for Delaware Student Testing Program will increase 21 percentage points.

Year	2001-2001	2002-2003	2003-2004
Rate of Increase	+3 percentage points	+ 6 percentage points	+21 percentage points

(Note:) The Delaware Student Testing Program (DSTP) in reading, will be given at the Academy for the first time in 2001-2002. When the 2002-2003 results become available, which show the change between 2001-2002 and 2002-2003, annual goals will be prepared for students in each grade based on the data.

1.2 Mathematics: Delaware Student Testing Program (DSTP)

By 2003-2004, the percent of students in grades 3 and 4 who meet or exceed the standard for Delaware Student Testing Program will increase 21 percentage points.

Year	2001-2001	2002-2003	2003-2004
Rate of Increase	+3 percentage points	+ 6 percentage points	+21 percentage points

(Note:) The Delaware Student Testing Program (DSTP) in mathematics, will be given at the Academy for the first time in 2001-2002. When the 2002-2003 results become available, which show the change between 2001-2002 and 2002-2003, annual goals will be prepared for students in each grade based on the data.

1.3 Science: Delaware Student Testing Program (DSTP)

By 2003-2004, the percent of students in grades 4 and 6 who meet or exceed the standard for Delaware Student Testing Program will increase 21 percentage points.

Year	2001-2001	2002-2003	2003-2004
Rate of Increase	+3 percentage points	+ 6 percentage points	+21 percentage points

(Note:) The Delaware Student Testing Program (DSTP) in science, will be given at the Academy for the first time in 2001-2002. When the 2002-2003 results become available, which show the change between 2001-2002 and 2002-2003, annual goals will be prepared for students in each grade based on the data.

1.4 Writing: Delaware Student Testing Program (DSTP)

By 2003-2004, the percent of students in grades 3 and 4 who meet or exceed the standard for Delaware Student Testing Program will increase 21 percentage points.

Year	2001-2001	2002-2003	2003-2004
Rate of Increase	+3 percentage points	+ 6 percentage points	+21 percentage points

(Note:) The Delaware Student Testing Program (DSTP) in writing, will be given at the Academy for the first time in 2001-2002. When the 2002-2003 results become available, which show the change between 2001-2002 and 2002-2003, annual goals will be prepared for students in each grade based on the data.

1.5 Social Studies: Delaware Student Testing Program (DSTP)

By 2003-2004, the percent of students in grades 3 and 4 who meet or exceed the standard for Delaware Student Testing Program will increase 21 percentage points.

Year	2001-2001	2002-2003	2003-2004
Rate of Increase	+3 percentage points	+ 6 percentage points	+21 percentage points

(Note:) The Delaware Student Testing Program (DSTP) in social studies, will be given at the Academy for the first time in 2001-2002. When the 2002-2003 results become available, which show the change between 2001-2002 and 2002-2003, annual goals will be prepared for students in each grade based on the data.

1.6 Reading: Stanford 9

By 2003 - 2004, increase to 50 percent of students who attain **Stanford 9** scores at or above national norms in reading.

> **Note:** The **Stanford 9** in reading will be given at the Academy for the first time in the fall and spring of 2001-2002. When the spring, 2001-2002 results become available, which show the change between fall, 2001-2002 and spring, 2001-2002, annual goals will be prepared based on attaining the national norm of fifty percent in 2003-2004.

1.7 Mathematics: Stanford 9

By 2003 - 2004, increase to 50 percent of students who attain **Stanford 9** scores at or above national norms in Mathematics.

> **Note:** The **Stanford 9** in mathematics will be given at the Academy for the first time in the fall and spring of 2001-2002. When the spring, 2001-2002 results become available, which show the change between fall, 2001-2002 and spring, 2001-2002, annual goals will be prepared based on attaining the national norm of fifty percent in 2003-2004.

1.8 Science: Stanford 9

By 2003 - 2004, increase to 50 percent of students who attain **Stanford 9** scores at or above national norms in science.

> **Note:** The **Stanford 9** in science will be given at the Academy for the first time in the fall and spring of 2001-2002. When the spring, 2001-2002 results become available, which show the change between fall, 2001-2002 and spring, 2001-2002, annual goals will be prepared based on attaining the national norm of fifty percent in 2003-2004.

1.9 Foreign Language Education

By 2003 - 2004, increase to 100 percent of students in grades K-6 enrolled in foreign language classes.

> **Note:** During 2001-2002 baseline data are being established for the percent of students in grades K-6 enrolled in foreign language classes. An objective will be prepared for 2003-2004 based on the data. During subsequent years, baseline data will be established on the competence of students in foreign language and this information will be incorporated into the goal.

1.10 Technology

By 2003 - 2004, increase to 100 percent of students in grades K-6 enrolled in technology classes.

1.11 Student Attendance

By 2003 - 2004, increase to 95 percent or higher students' daily attendance.

1.12 Student Retention Rate

By 2003 - 2004, increase to 90 percent of students who re-enrolled at the Academy from the previous year.

> **Note:** The retention rate is based on the number of students returning to the Academy. The school goal reports on the retention rate will provide a comparison of the annual re-enrolled students from the previous year.

1.13 Professional Development

By 2003 - 2004, increase to 95 percent the quality of professional development.

> **Note**: During 2001-2002 baseline data will be established on the quality of professional development, and a goal will be prepared for 2003-2004 based on the data. Professional development will be based on identified staff needs. The school goal reports on the quality of professional development will include data on quality.

1.14 Staff Attendance

By 2003 - 2004, increase to 95 percent staff daily attendance.

> **Note:** During 2000-2001 baseline data will be established on the quality of staff attendance, and a goal will be prepared for 2003-2004 based on the data.

1.15 Parent Satisfaction

By 2003 - 2004, increase to 85 the percent of parents of the Academy's students who rate the School as satisfactory.

> **Note:** During 2001-2002 baseline data will be established on the quality of parent satisfaction, and a goal will be prepared for 2003-2004 based on the data. Parent satisfaction will be based on written surveys and the retention rate of returning students.

1.16 Volunteers

By 2003 - 2004, increase to 85 percent the quality of the Academy's volunteer program.

> **Note**: During 2000-2001 baseline data will be established on the quality of the volunteer program and a goal will be prepared for 2003-2004 based on the data.

b. Describe the assessment tools that will be used including state assessments and other standardized or performance assessments that may be used. On what timetable will they be used? If relevant, how will these be developed?

The Delaware Student Testing Program (DSTP) will be used in the spring and fall of each school year as the primary assessment instrument for measuring the percentage of student success at the appropriate grades in each subject assesses. The Stanford 9 will be used as a pre-post test to determine achievement growth during the school year for **all** grades.

In addition, assessment will be done through authentic assessment, observations, teacher made test, Portfolios and real life applications of concepts learned. The Delaware State Assessment will be a major tool used to determine the success. Additional accountability will be assessed through the following evaluation tools:

- Report Cards/Grades
- Student Portfolios
- Subject Area Evaluation
- Teacher Created Tests
- Project Based Evaluations
- Pre-Post Testing/Assessment
- Student Self-Evaluation
- Individualized Student Learning Plan Progress Reports
- Student Assessment Team: Student Status Reports

c. How will student evaluation information be used to improve student performance?

Student evaluation information will be reviewed by the School Improvement Team and all staff. Once the information is analyzed the team and staff will use it to plan professional development for teachers, to realign curriculum, adjust lesson plans and develop Individual Plans for students. In addition, the remediation program objectives will be geared to these needs.

d. What actions will be taken when students do not meet performance expectations?

When students do not meet performance expectations an Individual Plan will be written for their weaknesses; tutoring, mentoring and redemption classes will be provided.

e. How will the school meet the school accountability requirements of the Delaware Accountability Act of 1998?

The Academy goals and objectives are very closely aligned with the State of Delaware Standards. Therefore, the Academy will provide programs such as mentoring , after school programs and the Individualized Plan to reduce the number of students failing. Students will not receive social promotion. They will be tested to determine their weaknesses and prescriptions will be written to improve their achievement.

Admission Policies and Procedures

8. What is the plan (including timetable) to be used for recruiting students? How will the school publicize its program and admission procedures? How will the school ensure fairness in recruitment and admission of students? How will the school recruit a sufficient number of students to be financially viable?

Upon notification from the Delaware Charter Panel that the final charter has been granted, the Academy will prepare the printed brochures, fliers, and leaflets. In addition, we will prepare newspaper and radio ads and proceed to publicize the opening of the Academy.

The availability of applications for admission to specific grade levels will be made public beginning the first week after the final charter is granted.

The availability of applications for admission to specific grade levels will be made public for a minimum of eight weeks per year. Notification of application and enrollment dates will be published in a local daily or weekly newspaper. Students must complete and return an application within the specified time period.

No student will be discriminated against on the basis of intellect, athletic ability, measures of achievement or aptitude, status as a handicapped person, religion, creed, race, sex, color, national origin and or other basis that would be illegal if used by a public school district.

9. What is the plan for selecting students if more students seek admission than space allows?

All State and Federal law applicable to public schools concerning church-state and civil issues will be complied with for a random student selection process

If more applications are received than openings are available in the various grade levels being offered each semester, a lottery will be held and applications will be randomly selected for orientation and admission.

After a student has been enrolled at the Academy, he/she will be permitted to enroll in succeeding school years as long as: (1) appropriate grade levels are offered at the Academy, (2) the student and parents express a continued interest in the curriculum offered; and (3) he/she reapplies during open registration periods.

If openings remain after the official enrollment period, students will be admitted on a first-come, first-serve basis throughout the school year. If openings do not exist for the desired grade levels at the official enrollment period, applicants will be placed on a waiting list. When openings occur, students will be placed from the waiting list on a first-come, first-serve basis.

10. State law prohibits charter schools from restricting admissions except for a limited number of circumstances that are specifically permitted by Del. C.,Title 14, Section *506(3)*. Which, if any, preferences authorized by this statute does the school propose to use? If more than one preference will be used, describe how the various preferences will be employed.

The Academy will comply with all state laws on admission. Therefore, we will restrict only admissions authorized by statue.

11. How will the school accommodate at-risk and special education students? What is the plan for ensuring that the school will be in full compliance with current IDEA law as revised in 1997, including but not limited to: evaluation, re-evaluation, accommodations, and having certified special education teachers prior to the admission of students.

Accommodations for At-Risk Students:

It is our goal and we will work toward that end, that all students reach the stated performance standards. However, recognizing that a significant percentage of the student population will be students at risk of academic failure, the Academy will include strategies dealing with this population.

It will include the following components::

High expectations for all students: Students will be involved in extra class periods for review and extended day schooling.

Appropriate assessment: Implement an assessment program to evaluate student achievement on an ongoing basis's. A process of monitoring will be implemented in order to re-teach skills not mastered

Tutoring: Peer or cross-aged tutoring will be used to give students the chance to help each other, benefiting both high and low achievers.

Teacher participation in planning: Teachers will be involved in devising the school's new mission to try innovative and "hands-on" ideas.

Professional development: This component will begin with a review of "high expectations" teaching strategies; one or more teachers will be designated as Lead-teachers to assist other teachers in incorporating new techniques into their classroom.

Accommodations for Special Education Students:

Students with disabilities attending the Academy will receive services in accordance with the individualized education program (IEP) recommended by the committee or subcommittee on special education of the school district of residence. The Academy will provide such services directly, by contract with another provider, or arrange to have such services provided by the school district of residence. The following will be implemented in compliance with the Individuals with Disabilities Act of 1997:

The Academy will honor incoming student's IEP. The school will determine how it can meet the student's needs, using its own approach to teaching and learning. If the school offers to all students the kinds of services required in the IEP (for example, personalized instructions), the incoming student may require fewer hours of specialized services. It may be permissible to reclassify the student, or to exit the student from the IEP, However, the Academy will obtain parental permission before changing the IEP.

The Academy will review student enrollments as soon as possible to determine how many students will require special education services and at what levels. The staff will inquire from the sending school if there is an IEP on file so that they can begin immediately the 30-day period of review.

The Academy will use the Special Education Process, which includes but is not limited to the eight-step process and the forms provided to comply with these rules, Face Appropriate Public Education (FAPE) and related services.

The following eight steps will comprise the process for student identification for special education:

1. Child Find and Identification
2. Initial Evaluation and Eligibility Determination
3. IEP Development
4. Initial Placement
5. IEP Implementation in the least restrictive environment
6. Review and Revision of IEP
7. Re-evaluation and Determination of Eligibility
8. Repeat Step 6 or Dismiss from Special Education

Child Identification

The Individuals with Disabilities Education Act of 1997 (IDEA '97) requires all individuals with disabilities, aged 3 through 21, in public and private, (including religiously-affiliated) elementary and secondary schools, who are in need of special education and related services, be identified, evaluated, and served. The Academy will identify, evaluate, and provide services to enrolled eligible children in the age ranges Kindergarten through grade 6.

Evaluation

A multidisciplinary evaluation team (MET) will conduct a comprehensive evaluation. The MET will make recommendations to the IEPC regarding the student's eligibility to receive special education programs and services. No single procedure shall be used as the sole criterion for determining an appropriate educational program for a person. The MET recommendation is based on the eligibility requirements outlined in the Federal and State Laws.

The multidisciplinary evaluation team (MET) will submit a written report to the IEPC, which will include the student's current level of educational performance and unique educational needs, in order to determine the appropriate educational program. Parents have the right to submit evaluations that may assist the IEPC in educational planning for their children.

Individual Education Plans

The following steps will be implemented in developing the Individual's Educational Plan:

Referral, Parent Notification, Parent Consent Received, Multidisciplinary Evaluation Team (MET), Individualized Educational Planning Committee (IEPC) Meeting, Parent Notification, IEPC Implemented, Annual Review and Three Year Re-Evaluation

Procedural Safeguards

A Procedural Safeguards notice will be provided to parents at the initial referral for evaluation, at each notification of an IEP meeting, at each re-evaluation or when the parent requests due process. The contents of the Procedural Safeguards will include an explanation of all parent rights and responsibilities pursuant to the Special Education Rights of Parents and Children under the Individuals with Disabilities Education Act (IDEA). (Amended 1998) (See appendix B for appropriate forms)

Due Process Hearing

Upon request by the parent, a due process hearing will be conducted to resolve disputes or disagreements between parties regarding the identification, evaluation, or placement of an individual.

The due process hearing will be conducted in accordance with the requirements of applicable federal and state laws, pursuant to the Federal Regulations for IDEA '97.

Least Restrictive Environment

Pursuant with the Special Education Law (IDEA '97) services to students will be delivered in the least restrictive appropriate environment, meaning the students will be placed in settings which are closed to the regular education program in which they can progress effectively with or without added support and resources.

Certified Special Education Teachers and Related Personnel

Qualifications for professional and paraprofessional staff shall be consistent with Delaware Rules and Regulations. The Academy will contract services for school Psychologists, school Social Workers, and other personnel who meet the required regulations.

Screening Forms

The following forms will be used for screening and referral documentation: Screening Report Form, Referral for Evaluation Form, Parent Consent Form, Eligibility Determination Form, Meeting Notice Form, Prior Written Notice Form, IEP Form, Review of Progress Form, Review of Existing Evaluation Data Form, and the MET Report Form.

Treatment of Student Records

The Academy shall comply with the treatment of special education student records pursuant with all procedures and guidelines documented in the Federal Regulations for IDEA ' 97. This will include, but is not limited to, the headings that follow:

Access rights, Record of access, Records on more than 1 person, List of types and locations of education records, Fees, Amendment of records at parent's request, Opportunity for a hearing to challenge record, Hearing Procedures, Hearing results in finding of violations, Finding of no violation, Parental consent for disclosure of personally identifiable information, Confidentiality safeguards and Destruction of information.

Referral Process Incorrect

Any number of different people may refer a student suspected of having a disability. Referrals may be made by teachers, social workers, parents, licensed physicians, registered nurses, or representatives of other related agencies.

The Individuals with Disabilities Education Act (IDEA) identifies certain categories under which a student would be eligible for services. These disabilities are defined as; severely mentally impaired, visually and hearing impaired, physically, otherwise health impaired, speech and language impaired, learning disabled, and preprimary impaired.

When a referral is received, the Academy will notify parent/guardian/surrogates in writing and request written consent to conduct an evaluation.

Parental Consent

The Academy will follow the procedure mandated by the State of Delaware as it relates to parental consent for initial evaluation, contents of notice and refusal to consent or respond. It will include, but not be limited to the following procedure:

Within ten (10) calendar days of receipt of a referral of a person suspected handicapped, and prior to any formal evaluation designed to determine eligibility for special education programs and services, the public agency shall notify the parent.

Accommodations for Limited English Proficient (LEP) Students:

The following procedures will be implemented for Limited English Proficient Students:

- The Academy will insert questions on the registration form (e.g. "Is a language other than English spoken at home?") at the initial enrollment of each student.
- Students speaking another language or another language is spoken as home, an assessments of the student's English language proficiency will be one.
- The Academy will provide specialized instruction for Students identified as LEP.

Confusing

12. Administrative/Management Operations

Governance. Board of Directors

a. What will be the roles and responsibilities of the board of directors?

The Board of Directors will have the power and duties permitted by law to set policy, manage the business property and affairs of the Academy.

b. How will new board members be recruited and prepared to fulfill their responsibilities?

New Board members will be elected by a majority vote of the Founding Board members of the Academy. In addition, An Advisory Board will be established within the first year of operation of the Academy. The Advisory Board members will consist of parents, teachers and community representatives. During the second year of the operation of the Academy, the Advisory Board will select a representative from its membership to serve on the Board of Directors. New board members will be provided on-going training prior to and during board meetings. In addition, board members will attend two retreats per year focusing on increasing board member's capacity.

c. What will be the internal form of management to be implemented at the school, including any plans to contract with an outside group to manage the school? If there are plans to contract with an outside group, identify the group, describe the relationship between the group and the board of directors, and outline the services the outside group will be providing. If an outside group is used to manage the school, a copy of the proposed management agreement with that group will be required at a future date.

The Board of Directors will contract with Charter Schools Administrative Services (CSAS) to manage the day-to-day operations of the Academy. The four board members have no contractual or family relationship with the Management Company. The Management Company will provide the curriculum for the Academy which has been aligned with the Delaware Core Curriculum; personnel (teacher recruitment and hiring) financial and business management, student recruitment and buildings and grounds maintenance.

d. How will teachers and parents be involved in decision making at the school?

An Advisory Board will be established within the first year of operation of the Academy. The Advisory Board members will consist of parents, teachers and community representatives. During the second year of the operation of the Academy, the Advisory Board will select a representative from its membership to serve on the Board of Directors. New board members will be provided on-going training prior to and during term of office.

13. Staffing

a. What is the proposed size of staff that the school will have in each of its first three years of operation?

The staff will be one teacher per 25 students for a total of 16 teachers in year one, 20 in year two and 28 in year three.

b. List the staff positions and indicate the full-time equivalence for each position for the first year of school operation.

Positions will include Principal/Administrator (2.0 FTE) , 16 Teachers (16 FTE), 2 clerical (2 FTE), 2 custodians (2 FTE), 1 substitute teacher (1 FTE), 2 Teacher aides (2 FTE) and 1 Special Education Teacher (1.0 FTE). Total for year one: 26 FTE.

c. What is the plan for having certified special education teacher(s) available for students with disabilities?

The Academy will recruit appropriately certified teachers for Special Education using the school district ,. Local health agencies and colleges as resources.

d. What will be the criteria and timeline to be used in the hiring of teachers?

Upon the charter approval, the Academy will make every reasonable effort to hire the most qualified applicants for employment based on education, certification, skill, ability, experience and other job-related criteria. The employees will be placed in positions which best utilizes their abilities and offer the best opportunity for both personal and professional growth., We anticipate most teachers positions will be filled by July 2001.

e. Will any non-certified teachers be hired? If non-certified teachers will be hired, what will be the procedures to ensure. that the non-certified teachers are participating in alternative certification programs if available?

The Academy will first seek to employ teachers who hold a valid Delaware Teacher's Certificate appropriate for the assignment. If a certified teacher is not available to fill a vacancy, teachers will be hired depending on his/her qualifications to assume the assigned duties and responsibilities. This will be limited to the percentage allowed by law. Special attention will be given for hiring certified instructional personnel who will provide the instructional program for identified disabled students and limited English Proficient students which will be in compliance with the E.S L. in-service requirements. Non- certified teachers will be required to participate in an alternative certification program.

f. What will be the teacher/student ratio of the school?

The teacher student ratio will be one teacher to twenty-five students.

g. What will be the human resources policies governing: salaries, contracts, hiring, and dismissal.

Salaries: It is the policy of the Academy to compensate its employees in a competitive and equitable manner in order to attract and retain the most capable employees, who will contribute to their own success by their contributions to the Academy.

Contracts: The Academy strives to provide all employees with fair and reasonable conditions at all times. However, in order to carry out its business obligations and priorities in the most efficient manner possible, the Academy adheres to the principle of at-will employment whereby the Academy and employees alike may terminate the employment relationship at any time and for any reason

Hiring: It is the policy of The Academy to make every reasonable effort to hire the most qualified applicants for employment based on education, certification, skill, ability, experience and other job-related criteria. New employees are placed in positions which best utilize their abilities and offer the best opportunity for both personal and professional growth.

Whenever possible, openings are filled by promoting or transferring personnel from within the Academy. This is in keeping with the Academy's stated practice of offering optimum career advancement for its employees.

Former employees who have left the Academy in good standing may be considered for re-employment. A previous employee who is re-employed will be considered a new employee from the date of re-employment unless the break in service is less than thirty days, in which case, the employee shall retain applicable benefits (unless local or state law requires otherwise).

Dismissal: Employment may terminate because of an employee's resignation, discharge, retirement, or as a result of a permanent reduction in our work force.

In exercising such policy, The Academy attempts to inform an affected employee confidentially of the circumstances surrounding his/her discharge.

h. What professional development activities/opportunities will be made available to teachers and other staff?

Professional development and staff training provide information to employees so they are kept abreast of the current trends in their respective fields. It is our belief that a well trained employee base that is aware of the rapidly changing innovation makes for an organization that adequately addresses the needs of the company.

Needs assessments that involve all individuals at the Academy are conducted at regularly scheduled intervals. Professional development and staff training activities are scheduled throughout the year to address these needs.

Activities such as goal setting, formulating specific objectives, developing strategies to meet these objectives and selecting and using ongoing assessment tools to determine whether objectives are met or need adjusting are included as part of the professional development and staff training. The primary goal of professional development and staff training is to maximize the skills and talents of all the individuals at the Academy so that the goals and the mission of the Academy are realized.

i. If the school plans to operate outside of state benefit and retirement systems, what benefits will the school offer its employees (including health insurance and retirement)?

The Academy provides a $15,000 life insurance policy to all regular full time employees. To receive this benefit you will fill out a form provided to you at the time of hire. This form also allows you to participate in the health care and/or dental benefits that are available for yourself and your spouse or dependents.

While the Academy covers the majority of the cost of the health care policy for the employee, this benefit is available only to those who wish to take advantage of it by employee contribution toward the policy.

It is our intention for all employee to participate in the state benefit and retirement systems.

14. School Accountability

a. What methods of internal evaluation will be used by the staff to ensure that the school is meeting its stated educational mission and objectives?

Academic goals, outlined in the curriculum guide will be monitored for readiness and mastery and recorded daily by teachers. Portfolios and Written Student Progress Reports will be shared with parents. This summary of academic student progress as well as social and emotional progress will be sent to parents four times a year.

b. How will the teachers and staff be evaluated?

The Academy maintains a policy of evaluating the job performance of its employees as a means of measuring the efficiency and effectiveness of our operations.
This effort provides employees with meaningful information about their work, and aids the Academy in making personnel decisions related to such areas as training, compensation, promotion, job assignment, retention, and long-range planning of our operations. Evaluation of employees is intended to be participatory in nature, involving the employee's input as much as that of the rating supervisor, thereby helping the employee and the rating supervisor to contribute to the betterment of the Academy

During the initial year of employment, an employee is evaluated at least twice: once within the 90-day period, and at the conclusion of the first year. Thereafter, evaluations are conducted annually, or more frequently as deemed appropriate by supervising personnel.

Among the factors evaluated during the formal performance review are the quality and quantity of the employee's work, work habits, interpersonal relations, and adaptability to job conditions. Each employee is given an opportunity to meet with the evaluating supervisor to openly and candidly discuss the evaluation before it is finalized, whereupon the employee is given a copy of the completed form.

The employee should sign the performance report to acknowledge awareness of its contents and provide time for discussion with the rating supervisor. The signature does not necessarily mean that the signee fully agrees with the content of the report, and he/she may so state on the form before signing.

Where an employee has received a deficiency rating in any category or aspect of work that represents a significant area of job responsibility, the evaluating supervisor may recommend specific corrective action to the Lead Teacher, and notify the employee accordingly.

c. How will the school be held accountable to the parents of children at the school?

Parents reports of progress will consist of and be reported in the following way: Parent Report for the Delaware Student Testing Program (DSTP); individuals/group conference to explaining the test outlining the strengths and weakness of students, explaining the assistance available to get student to grade level, answering questions about the test, answering questions on diploma requirements; Parent-Teacher Conferences after every Report Card, four times per year and In-service to review/explain the complete Parent Report.

An annual report will be available for the Department of Education and the public on the Academy's accomplishments for the previous year. In addition, it will serve as an annual progress report on the plan the school proposed in its original charter application and the progress the Academy is making towards accomplishing the objectives to which it agreed.

d. What internal controls will be used for budgets and financial records?

An educational management company will be hired to supervise the day to day operation n of the Academy. The Management Company has a Academy and Business office that will be responsible for the budgets and financial records. As part of preparing the budgets and financial records, there is a separation of dislikes of the people who do the budgets and who prepare the financial records. Budgets will be done quarterly and compared to the financial statements to verify that the Academy is in line financially to our projection.

15. What is the plan for facilities to accommodate all the students for which the charter is being sought?

A building and maintenance team will identify the facility for the Academy. The facility will be an approved location for the successful operation of a school. The facility will comply with all Fire and Safety codes and occupancy permits will be obtained prior to the beginning of the school year.

a. Where will the school be located? If a specific site has not been identified, indicate the proposed location of the school.

The school will be located in the Dover / Kent Public School District.

b. If a site has been identified, describe the site and how it will be suitable for the proposed school. Will the site be purchased or leased? When will the school's board of directors have direct control of the site?

A specific site at this time has not been identified.

c. Are the facilities in full compliance with all applicable building codes for public schools and are they accessible for special needs students? If the site needs renovation, describe how the facilities will be renovated.

A specific site has not been identified at this time.

d. What funds will be needed to acquire (purchase or lease) the facilities and ready them for school opening? What are the plans for obtaining these funds?

It is anticipated that the facility will be leased. The sponsoring organization, Academy of America, will supply the start up funds for the lease of the facility.

16. What is the plan for transporting students to and from the school?

The Academy will provide transportation for all students, if desired by the parents.

a. Will the school provide transportation or will the local district be asked to provide transportation for the school's students? Describe the plan for providing transportation to all eligible students.

The school will provide transportation, if desired by the parents. They will outsource to a company that will provide services for the school.

b. How will students who reside outside the district in which the school will be located be transported to the school?

The parents will be responsible for taking them to the nearest location where transportation is provided.

c. How will special needs students be transported?

The special needs student's transportation will be reviewed and handled on a case by case basis. The academy will work with the parents to ensure that transportation is provided.

17. School Meals

Describe the plan for providing meals to students.

The Academy will provide lunch for the students attending the Academy. The students who are eligible for free lunch will not have to pay for the meal. Students who are eligible for a reduced lunch will pay an amount determined by local school districts guidelines. All other students will pay full price for the lunch. The food will be provided by a local catering company. The students will pay their teachers at the beginning of the school day and will receive a ticket to show that they have paid for the lunch. The ticket will then be given to the person serving lunch and the student will receive the meal.

18. Start-Up Activities

What administrative tasks will be undertaken between approval of the charter and school opening? Describe the tasks, how they will be accomplished, who will accomplish them, and the timetable on which they will be accomplished.

Assuming the charter is approved in April, 2000, then in May, June, July and August, a review of the city will be performed to determine where the Academy facility should be locate and we will meet with the community to gather additional community support for the charter school. All legal filings will be done. In September, October, November and December, after a facility has been located, we will review the transportation route to ensure that the busses will accommodate all areas of the city for our students. Review all state and local requirements for charter schools to ensure that all regulations are met. Assignment an accountant to be responsible for the record keeping and all financial matters. In January, February, March, and April, we will began the recruitment process which includes advertising for students via flyers, newspapers, radio, and word of mouth. The flyers will be distributed to all diverse communities in the area. A director will be hired to be responsible for the overall handling of the charter school. In May, June, and July, we will began the enrollment process, hire the principal and staff for the Academy, provide training for the principal and staff. We also will lease and renovate the facility to ensure that all fire and safety codes are met. Develop food system program that will be in place within the charter school. There are other tasks that will take place during the above time period, however the major ones are listed above. The Management Company will be responsible for all of the above tasks.

Financial Viability

19. Projected Budget

a. What costs are projected for the twelve-month period prior to school opening? What will be the source(s) of funds to cover these costs?

The projected cost for the twelve months prior to the school opening is $193,500. These funds will come from the sponsoring organization, Academy of America.

> **NOTE: If available, the Delaware Department of Education may offer federal startup funds to newly approved Delaware charter schools. As a condition of the ward of these funds, charter schools will be required to generate a development plan and direct all or a portion of those funds to specific startup tasks. The application must acknowledge this possibility and indicate the applicant's willingness to cooperate in these conditions. Additional eligibility requirements may be in effect - check with the Charter Schools Administrator for details.**

b. Are there plans to conduct any fund-raising efforts to generate startup capital or to supplement the per pupil revenues from the state and local districts? If so, please explain.

There are no plans to conduct any fund-raising to generate start-up capital.

c. Will there be other sources of revenue in addition to the state and local entitlements? If so, please identify all other sources of funds.

No

d. What will be the budget for the school (please use the attached budget worksheets)? Note: state and local revenue estimates may be obtained from the Education Specialist for School Accounts at the Delaware Department of Education (302) 739-4664. The applicant must attach as an appendix, a copy of the original budget revenue estimate from the Department of Education to verify the figures on which the proposed budget has been based.

> **NOTE: The Delaware Department of Education will provide estimates of state and local revenue upon request. Estimates will be based on a number of assumptions which the applicant must make regarding the numbers of students anticipated at each grade, the number of students anticipated from various districts, the anticipated special education classifications of enrolling students, and the qualifications of teachers hired by the school. These estimates must be viewed with caution since the assumptions upon which the applicant may have based them may hang once students actually enroll and staff are hired.**

See attached budget

e. What will be the back-up plan for the finances of the school if actual enrollment is below the projections presented in this application? What is the minimum number of students the school can enroll each year to remain open?

If the school does not meet our objectives for enrollment, then the staff will be reduced to reflect the actual enrollment. In addition, other variable costs will be cut to maintain a balanced budget. The Academy can maintain a balanced budget and remain open with at lease 100 students.

f. If the school is to be managed by an outside group(s), what financial arrangements will be made between the board of directors and this group(s)?

The Academy will have an outside management company. The Academy will pay that company 10% of its revenue or as specified in the Management Agreement.

g. If public funds remain at the end of a fiscal year, what will be the disposition of those funds?

Performance bonuses will be given to teachers based on their performance during the school year. These bonuses have been included in the budget. At the end of the school year the Academy's principal and director will prepare a rating system for the teachers. The teacher's performance bonus will be based on the results of their rating. All public funds that remain at the end of a fiscal year will be carried over and used in the next fiscal year.

20. Financial Operations

a. How will the financial operations of the school (in the areas of accounting, payroll, purchasing, compensation, and benefits management) be managed?

The Management Company will manage all business functions as well as curriculum functions, subject to Board review and approval when required.

b. Will the school operate within all state administrative and financial systems? If not, what specific procedures have been undertaken to gain approval for alternate administrative and financial system(s)?

The Academy will operate within all state administrative and financial systems.

21. Legal Liability

What has been done to assess the legal liability of the school, its employees, and the board of directors? What are the various options being considered for liability protection? Describe the types and limits of insurance coverage the school plans to obtain. The proposed costs for the coverage must be reflected in the budget worksheets. The applicant should contact the Insurance Coverage Office at (302) 739-3651 for further information on liability protection for public schools in.

An analysis has been performed to assertain the requirements for the legal liability of the school, its employees, and the board of directors. The insurance's will be purchased from the General Agency Company. The types and limits of insurance coverage the school plans to obtain are; General Liability - $2,000,000.00; Directors and Officers Liability - $2,000,000.00; Auto Liability Insurance - $1,000,000.00;
Employee Dishonesty - $500,000.00; Workers Compensation - as required by law. These insurance coverages are reflected in the budget worksheets.

Student Discipline Policies

22. Code of Conduct

What will be the school rules and guidelines governing student behavior? Include a general outline of the student handbook describing issues of student discipline, student rights, and student responsibilities. Describe how discipline will be handled with special education students.

The Academy's Disciplinary Procedure will follow all, but not be limited to the listed requirements below, of the Delaware Department of Education.

The Academy will:

- Report all cases of violent or potentially criminal acts committed by anyone against a student, school volunteer, or a school employee on school property or at a school function; report possession of a controlled substance, a weapon, or a dangerous instrument by any one on school property or at a school function;
- Participate in training related to the reporting process for school administrators;
- Establish a policy on school/police relations and develop a Memorandum of Agreement (MOA) with each police department that provides police coverage to the Academy;
- Advise each school employee, at the time of hiring and at the beginning of every school year thereafter, (as defined in Del.C.,Title 14, Section 4112) of his/her duty to report school crimes and the penalty for failure to so report.

In addition, the Academy has established policies on student rights and responsibilities in the form of a Parent/Teacher Handbook. The policies will be in accordance with the Guidelines for the Development of District Policies on Student Rights and Responsibilities, and the State Board policy on the possession, use, and distribution of drugs and alcohol. These policies will be included in the Parent/Student Handbook which has been established by the Academy and will be distributed to every parent and student enrolled.

Student discipline: When there is a discipline referral, the administration will explain the nature of the referral to the student. The student may admit or deny the accusation at this time. If the student denies the nature of the supporting evidence as presented, the student may explain his or her side of the case. When disciplinary measures are administered, the student and or parent/guardian may request a conference with an administrator involved or with the next level of authority.

Students with disabilities will continue to receive service until a parent conference has been convened. This policy is pursuant to the state and federal requirements regarding exclusion of students with disabilities from school.

23. Health and Safety

What procedures will be implemented to ensure the health and safety of the school's students, staff, and guests? What staff (e.g. nurse) will be hired or contracted with to ensure that these responsibilities will be handled in a satisfactory manner?

The Academy recognizes that the promotion of the health of students is the responsibility of all staff members. The Academy will make every effort to assure that all faculty is familiar with regulations related to this aspect of the Academy's program.

a. Ensuring that students have physical examinations prior to enrollment

School health appraisals, by a licensed physician, will be required for all first time enrollees. These appraisals will become a part of the students school records.

b. Administering medications and medical treatments, including first aid.

Students who require specific attention for identified medical treatment should be directed to follow the procedures listed below:

- Parents must submit a request for students to use medication or a medical device during school.
- Instructions for storage, duration of use and assistance to be given by school personnel must be clearly delineated by the student's attending physician.
- If instructions are not clear or beyond the academy's current capability, the principal should telephone the parent and the attending physician to request clarification and training for school staff. Document all inquiries and outcomes in writing;
- If medications are required in conjunction with a breathing apparatus or other device, then procedure for administering medications in school should be followed.
- At the request of the parent, school personnel will store student medical devices as space permits.
- Cleaning and replacement of items will be the responsibility of the parent/guardian.

c. Monitoring student health and maintaining health records.

A Health Record is to be filled out with all available information for any student entering the Academy. The Health Record is used to alert staff, particularly the homeroom teacher and physical education staff, to any health condition which might limit physical activity or create a medical emergency for the student. Any information provided by the student's physician that pertains to chronic conditions should be record on the Health Record. Any health conditions not confirmed in writing by the child's physician or any health conditions such as HIV/Aids or any other communicable diseases may not be mentioned in the student's records.

d. Ensuring that immunizations and TB and HepB screenings are conducted.

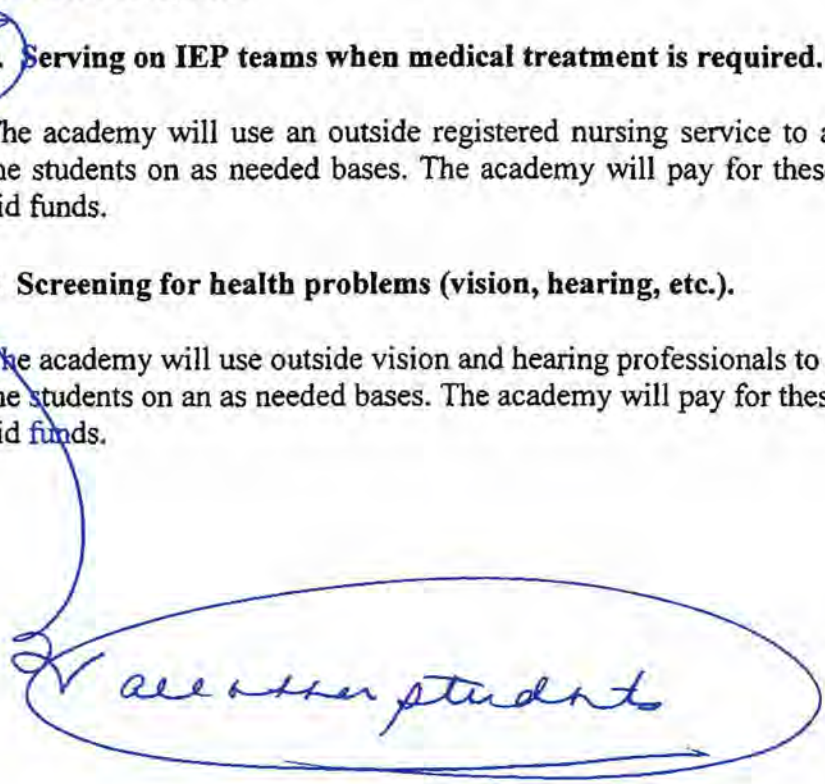
In accordance to Del.C., Title 14, Section 131, The Academy shall not permit a child to enter school without acceptable evidence of immunization. The parent or legal guardian shall be notified of this requirement in writing. Within 14 calendar days of the notice, evidence will be presented that the basic series of immunizations has been initiated or completed. A child will be admitted conditionally once the schedule of immunizations has been initiated. If the student fails to complete the series of required immunizations, the parent or guardian will be notified that the child will be excluded. Conditions for exemption from the immunization requirement will be followed as addressed in Del.C., Title 14, Section 131. A student being enrolled in the Academy for the first time must present a record of immunization (e.g. TB and HepB), unless the student claims one of the permitted exceptions

e. Serving on IEP teams when medical treatment is required.

The academy will use an outside registered nursing service to administer medication to the students on as needed bases. The academy will pay for these services from the state aid funds.

f. Screening for health problems (vision, hearing, etc.).

The academy will use outside vision and hearing professionals to administer screenings to the students on an as needed bases. The academy will pay for these services from the state aid funds.



Budget Worksheets

Charter School Application Budget WorkSheets

ACADEMY OF DOVER

REVENUE*

		OPERATING YEARS 400	500	700
	Planning Year	YEAR 1	YEAR 2	YEAR 3
State Appropriations		1832976	2291220	3207708
Local Fund Transfers		284143	355179	497250
Charter school Federal Funds		30000		
Other Federal Funds				
Other (Please specify)**	210000			
(Money from Academy of America)				
TOTAL REVENUE =	210000	2147119	2646399	3704958

* State and local revenue estimates are to be obtained from the Education Specialist School Accounts, at the Delaware Department of Education (302) 739-4664.

** Additional lines may be added if necessary or other revenue sources can be outlined on an attached sheet. Please indicate total revenue from all sources here.

EXPENSES

Personnel $

(Please indicate FI'ES - Full Time Equivaients)

		OPERATING YEARS 400	500	700	
Salaries	Planning Year	YEAR 1	YEAR 2	YEAR 3	FTEs
Teachers	6000	400000	500000	700000	16
Principal/Administrative	6000	75000	93750	131250	2
Clerical		33000	41250	57750	2
Custodial		33000	41250	57750	2
Substitutes		25000	31250	43750	1
Other (Teacher Aid/Spe.Ed)		70000	87500	122500	3
Other Employee Costs (a)					
Health Insurance		123700	154625	216475	25
Pension		25000	31250	43750	25
FICA		44392	55490	77686	25
Medicare		9308	11635	16289	25
Worker's Compensation		10000	12500	17500	25
Unemployment Insurance		6000	7500	10500	25
Other Benefits (Performance Budget)		80000	100000	140000	

#15 not. Fifteen

SUBTOTAL Personnel =	12000	934400	1168000	1635200	25

(a) The percentage rates for certain employment costs should be obtained from the Education Specialist, School accounts, at the Delaware Department of Education (302) 739-4664 if the Charter School chooses to utilize State benefits.

EXPENSES (continued)

		OPERATING YEARS		
Student Support $	Planning Year	YEAR 1	YEAR 2	YEAR 3
Transportation		224961	281201	393682
Cafeteria		50000	62500	87500
Extra Curricular		10000	12500	17500
Supplies and Materials	3000	50000	62500	87500
Textbooks	60000	25000	31250	43750
Computers		60000	75000	105000
Contracted Services	75000	5000	6250	8750
Other (Stall Develop)		20000	25000	35000
Contingency Funds		10000	12500	17500
SUBTOTAL Student Support =	138000	454961	568701	796182

		OPERATING YEARS		
Administrative/Operations Support $	Planning Year	YEAR 1	YEAR 2	YEAR 3
Insurance (Property/Liability)		10000	12500	17500
Rent	25000	144000	180000	252000
Mortgage				
Utilities	1000	18000	22500	31500
Maintenance		80000	100000	140000
Supplies & Materials	2000	10000	12500	17500
Equipment Lease/Maintenance		8000	10000	14000
Equipment Purchase		10000	12500	17500
Telephone/Communications	5000	12000	15000	21000
Accounting & Payroll	3000	15000	18750	26250
Printing & Copying	7000	7000	8750	12250
Postage & Shipping	500	5000	6250	8750
Administrative/Operations		214712	268390	375746
Other (Repayment of loan)		210000		
SUBTOTAL Administrative/Operations Support	43500	743712	667140	933996

		OPERATING YEARS		
EXPENSES SUBTOTAL $	Planning Year	YEAR 1	YEAR 2	YEAR 3
Personnel	12000	934400	1168000	1635200
Student Support	138000	454961	568701	796182
Administrative/Operations	43500	743712	667140	933996
GRAND TOTAL ALL EXPENSES	193500	2133073	2403841	3365378
Profit or (Loss)	16500	14046	242558	339581

Dover

FY 2000 Charter School Revenue Calculation - Preliminary

Parameters:

1. 400 Students
2. Grades K - 6 (58 K, 171 1-3, 171 4-6)
3. 400 Regular, Special
4. 200 Caesar Rodney, 200 Capital
5. Transportation provided to 340 students by charter school
6. Meals will be served but not prepared by the school

State Funding — **Academy of America - Dover**

# of Students =	400		
# per grade =	See Above		
Number of regular students 7 - 12 =	0	Unit size regular students 7 - 12 =	20
Number of regular students 4 - 6 =	171	Unit size regular students 4 - 6 =	20
Number of regular students 1 - 3 =	171	Unit size regular students 1 - 3 =	17.4
Number of Kindergarten students =	58	Unit size Kindergarten students =	34.8
Number of EMH students =	0	Unit size EMH students =	15
Number of SED students =	0	Unit size SED students =	10
Number of LD students =	0	Unit size LD students =	8
Number of TMH students =	0	Unit size TMH students =	6
Number of SMH students =	0	Unit size SMH students =	6
Number of PI students =	0	Unit size PI students =	6
Number of HHPD students =	0	Unit size HHPD students =	6
Number of BLIND students =	0	Unit size BLIND students =	8
Number of PTST students =	0	Unit size PTST students =	10
Number of ATSTC students =	0	Unit size ATSTC students =	4
Number of DFBLD students =	0	Unit size DFBLD students =	4
Number of ILC students =	0	Unit size ILC students =	8.6

		FY 1999 Average Cost Per Position	cademy of America - Dove
# of Div I Units Generated =	21.00	$25,706	$539,826
Administrative Assistant =	1.00	$43,500	$43,500
Percentage 11 Month Supervisor =	0.14	$34,142	$4,780
Percentage Transportation Supervisor =	0.05	$37,246	$1,862
Principal =	1.00	$47,642	$47,642
Assistant Principal =	0.00	$45,192	$0
Percentage Psychologist =	0.14	$32,840	$4,598
Percentage Speech/Hearing =	0.15	$31,105	$4,666
Percentage Visiting Teacher =	0.08	$33,000	$2,640
Percentage Driver Education Teacher =	0.00	$28,975	$0
Nurse =	0.00	$28,831	$0
Academic Excellence Units =	1.60	$32,045	$51,272
Clerical Units =	2.00	$20,840	$41,680
Custodial Units =	1.00	$17,410	$17,410
Cafeteria Manager =	0.00	$10,187	$0
Cafeteria Worker =	1.64	$6,240	$10,234
Related Service Specialist =	0.00	$33,730	$0
Total Staffing =	29.80		
Total Staffing For Health Insurance =	28.16		

Total Salary Costs =	$770,109
OEC's @ 17.97% =	$138,389
Health Insurance @ $5,025 per FTE =	$141,504
Subtotal Personnel Revenue =	**$1,050,002**

Other State Sources (based on Latest Available Values)

		Academy of America - Dove
Professional & Curriculum Development		$8,328
Teacher to Teacher Cadre =		$1,757
Division II Units (No Vocational Courses) =	21.00	
Division II - All Other Costs - Current Unit Value =	$3,247	$68,187
Division II - Energy - Current Unit Value =	$1,480	$31,080
Division III - Equalization - Unit Value =	$12,933	$271,593
Academic Excellence Division III =		$20,693
Academic Excellence Division II =		$5,195
Academic Excellence Allotment =		$11,403
Tuition Reimbursement =		$1,638
Student Discipline Programs =		$30,000
Extra Time for Students K - 12 =		$30,219
Early Intervention Reading (K - 3) =		$2,875
MCI/Annual Maintenance =		$23,600
Technology for Staff and Students =		$15,045
One-Time Building Improvements =		$36,400
Student Transportation Amount =		$224,961
	Subtotal Other Sources =	**$782,974**
	Grand Total State Sources =	**$1,832,976**
	Amount Loaded July 1 =	**$1,374,732**
	Remainder to Load =	**$458,244**

Local Funding Academy of America - Dover

Caesar Rodney

29 Kindergarten Students =	$9,338		
86 Regular Students 1 - 3 =	$58,394		
85 Regular Students 4 - 6 =	$54,825		
Total =	**$122,557**	**July Advance =**	**$42,895**
		Remaining Transfer =	**$79,662**

Capital

29 Kindergarten Students =	$12,325		
85 Regular Students 1 - 3 =	$76,075		
86 Regular Students 4 - 6 =	$73,186		
Total =	**$161,586**	**July Advance =**	**$56,555**
		Remaining Transfer =	**$105,031**

Total Local Funding =	**$284,143**
July Advance =	$99,450
Remainder to Be Transferred =	**$184,693**

Certificate of Incorporation

CERTIFICATE OF INCORPORATION

OF

ACADEMY OF DOVER, INC.

1. The name of the corporation is ACADEMY OF DOVER, INC..

2. The address of its registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, in the City of Wilmington, County of New Castle. The name of its registered agent at such address is The Corporation Trust Company.

3. The nature of the business or purposes to be conducted or promoted is: To operate exclusively for educational purposes, to-wit:

   To operate schools for the education of students in grades kindergarten through twelfth grade and to confer High School Diplomas to its graduates, after review and approval of its Trustees.

   To provide non-classroom instructions including but not limited to seminars, public forums, field trips, cooperative job training, as the Board of Trustees shall authorize for the education of its students.

   To foster quality of opportunity for students by promoting their continued growth and confidence and their usefulness, by encouraging their participation in a wide variety of curricular and extra curricular activities, and by seeking recognition of their potential.

   To own and/or lease and operate school facilities in such locations as the Board of Trustees shall determine.

   To establish policies, plans and procedures for the implementation and administration of the designated purposes.

   Admission to any school owned or operated by this corporation shall not be denied on the basis of race, color, creed or national origin.

   The corporation shall engage directly in the support of such purposes and may make distributions to other organizations that qualify as exempt organizations under Section 501 (C)(3) of the Internal Revenue Service Code.

4. The corporation shall not have any capital stock, and the conditions of membership shall be stated in the bylaws.

5. The name and mailing address of each incorporator is as follows:

   David K. McDonnell, 401 South Old Woodward, Suite 450, Birmingham, MI 48009

6. The name and mailing address of each person who is to serve as a director until the first annual meeting of the members or until a successor is elected and qualified, are as follows:

Lecester C. Allen, President/Director	20755 Greenfield Road, Ste 300 Southfield, MI 48075
David K. McDonnell, VP/Director	401 South Old Woodward, Ste 450 Birmingham, MI 48009
Mattie L. Allen, Treasurer/Director	20755 Greenfield Road, Ste 300 Southfield, MI 48075
Dana Allen, Director	20755 Greenfield Road, Ste 300 Southfield, MI 48075
Aaron Allen, Director	20755 Greenfield Road, Ste 300 Southfield, MI 48075
Nathalia Brooks, Director	20755 Greenfield Road, Ste 300 Southfield, MI 48075

7. The corporation shall have perpetual existence.

8 In furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized: To make, alter or repeal the by-laws of the corporation.

9. Elections of directors need not be written ballot unless the by4aws of the corporation shall so provide. Meetings of members may be held within or without the State of Delaware, as the bylaws may provide. The books of the corporation may be kept (subject to any provision of law) outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the by-laws of the corporation.

10. The corporation reserves the right to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by statute, and all rights conferred upon members herein are granted subject to this reservation.

I, THE UNDERSIGNED, being each of the incorporators hereinbefore named, for the purpose of forming a corporation pursuant to the General Corporation Law of Delaware, do make this certificate, hereby declaring and certifying this is our act and deed and the facts herein stated are true, and accordingly have put our hands this 25 day of February, 2000.

DAVID K. MCDONNELL, INCORPORATOR

Management Agreement

MANAGEMENT AGREEMENT

This Management Agreement is made and entered into on the 10 day of March, 2000, by and between **Charter School Administration Services, Inc.**, a Michigan corporation ("CSAS"), and **Academy of Dover**, an Delaware non-profit corporation (the "Academy").

The following is a recital of facts underlying this Agreement:

The Academy is a charter school, organized as a "charter school" under Chapter 5 of Title 14, Part I of the Delaware Code (the "Code"). The Academy has applied for a contract for charter (the "Contract") with the Delaware Department of Education ("DOE") to organize and operate a charter school, under the name "Academy of Dover", or upon such other name as may be selected by the Academy.

CSAS currently manages nine charter schools in the Detroit Metropolitan area (Academy of Southfield, Academy of Oak Park, Academy of Detroit West, Academy of Lathrup Village, Academy of Westland, Academy of Michigan, Academy of Flint, Academy of Inkster, and Cherry Hill School of Performing Arts), four open-enrollment charters school in Texas (Academy of Houston, Academy of Dallas, Academy of San Antonio, and Academy of Beaumont), a community school in Toledo, Ohio (Academy of Technology and Business), and a charter school in Missouri (Academy of Kansas City). CSAS is also negotiating additional management arrangements with charter schools in Delaware, Michigan, Texas, Ohio, Missouri, and elsewhere, commencing in the 2000-2001 academic year, and will likely enter into additional management agreements for the 2001-2002 academic year. CSAS was also instrumental in the creation of most of these charter schools, having incorporated the schools, recruited their initial boards of directors, prepared the

applications with authorizing bodies for the contracts to become charter schools, and prepared the curriculum and related documents submitted with the applications and essential for the operation of the schools. Similarly, the principals of CSAS were instrumental in the creation of the Academy, having incorporated the Academy, prepared the application with DOE to become a charter school, and prepared the curriculum and related documents submitted with the application and essential for the operation of the Academy. The principals of CSAS currently operate a chain of kindergarten and pre-kindergarten schools (Do Re Mi Learning Centers) throughout the Detroit Metropolitan area. Furthermore, the principals of CSAS are also the founders and principal administrators of three private schools (Academy of Detroit in Detroit, Academy of Detroit North in Southfield, and Academy of Detroit North in Oak Park) which provide quality education for students in grades pre-kindergarten through 12th grade.

The Academy and CSAS desire to create an enduring educational relationship, whereby the Academy and CSAS will work together to bring educational excellence and innovation to the Dover Metropolitan area, based on both (a) the Academy's school design and educational program, as incorporated in the Academy's application with the DOE for the Contract (the "Application"), and (b) CSAS' school design, comprehensive educational program, and management principles, as currently incorporated within the operations of the charter schools currently managed by CSAS, the Do Re Mi Learning Centers and the Academy of Detroit private schools. In order to facilitate the commencement of school for the 2001-2002 school year and the continuation of school indefinitely thereafter, and to implement an innovative educational program at the school, the parties desire to establish this arrangement for the management and operation of the Academy.

Therefore, it is mutually agreed as follows:

ARTICLE I

CONTRACTING RELATIONSHIP

A. **Authority.** The Academy represents that it is authorized by law to contract with a private entity and for that entity to provide educational management services. The Academy further represents that it has been, or will be, granted the Contract by DOE to organize and operate a charter school. The Academy is therefore authorized by DOE to supervise and control such school, and is invested with all powers necessary or desirable for carrying out the educational program contemplated in this Agreement.

B. **Contract.** The Academy hereby contracts with CSAS, to the extent permitted by law, for the provision of all labor, materials and supervision necessary for the provision of educational services to students, and the management, operation and maintenance of the Academy, in accordance with educational goals, curriculum, methods of pupil assessment, admission policy and criteria, school calendar and school day schedule, and age and grade range of pupils to be enrolled, educational goals, and method to be used to monitor compliance with performance of targeted educational outcomes, all as previously adopted by the Board of Directors of the Academy (the "Board") and included in the Contract between the Academy and DOE.

C. **Status of the Parties.** CSAS is a for-profit Michigan corporation, and is not a division or a part of the Academy. The Academy is a non-profit corporation authorized to operate a charter school under the Code, and is not a division or part of CSAS. The relationship between CSAS and the Academy is based solely on the terms of this Agreement, and the terms of any other agreements between CSAS and the Academy.

ARTICLE II

TERM

A. **Term.** This Agreement shall become effective as of August 1, 2001, and shall cover five academic years commencing on August 1, 2001 and ending on July 31, 2006. Each academic year in this Agreement shall commence on August 1 and end on July 31 of the following year.

B. **Renewal.** This Agreement shall be automatically renewed for an additional term of one year, and from year to year thereafter, unless written notice of intent to terminate or renegotiate is given by either party not later than May 31st of the first year of the agreement, or to any subsequent May 31st if the agreement has been renewed. By way of illustration, if neither party provides written notice of intent to terminate or renegotiate this Agreement on or before May 31, 2006, then this Agreement shall be automatically renewed for an additional one year, and the term of this Agreement will end on July 31, 2007; if this Agreement is so renewed and if neither party provides written notice of intent to terminate or renegotiate this Agreement on or before May 31, 2007, then this Agreement shall be automatically renewed for an additional one year, and the term of this Agreement will end on July 31, 2008.

ARTICLE III

FUNCTIONS OF CSAS

A. **Responsibility.** CSAS shall be responsible, and accountable to the Board, for the administration, operation and performance of the Academy.

B. **Educational Program.** The educational program and program of instruction to be provided by CSAS at the Academy is described in detail in the Application (the "Educational Program"). The Educational Program has been reviewed and approved by the Board and, by unanimous resolution of the Board, adopted for use at the Academy. The Educational Program may

be adapted and modified by CSAS from time to time, it being understood that an essential principal of this Educational Program is its flexibility, adaptability and capacity to change in the interest of continuous improvement and efficiency, and that the Academy and CSAS are interested in results and not in inflexible prescriptions. Any substantial adaption or modification of the Educational Program shall be subject to the prior approval of the Board and, if required under the Contract or by the Code, by DOE.

C. **Specific Functions.** CSAS shall be responsible for all of the management, operation, administration, and education at the Academy. Such functions include, but are not limited to:

1. implementation and administration of the Educational Program, including the selection and acquisition of instructional materials, equipment and supplies, and the administration of any and all extra- and co-curricular activities and programs;
2. management of all personnel functions, including professional development for the School Administrator and all instructional personnel and the personnel functions outlined in Article VI;
3. control, maintenance and operation of the school building, which the Board shall lease or otherwise provide to CSAS, and the installation of technology integral to the school design;
4. all aspects of the business administration of the Academy;
5. the provision of transportation and food service for the Academy; and
6. any other function necessary or expedient for the administration of the Academy.

D. **Subcontracts.** CSAS reserves the right to subcontract any and all aspects of all other services it agrees to provide to the Academy, including, but not limited to transportation and/or food service. However, CSAS shall not subcontract the management, oversight or operation of the teaching and instructional program, except as specifically permitted in this Agreement or with approval of the Board.

E. **Place of Performance.** CSAS reserves the right to perform functions other than instruction, such as purchasing, professional development, and administrative functions, off-site at CSAS' other locations, including locations outside of the State of Delaware, unless prohibited by state or local law.

F. **Student Recruitment.** CSAS and the Board shall be jointly responsible for the recruitment of students subject to agreement on general recruitment and admission policies. Students shall be selected in accordance with the procedures set forth in the Contract and in compliance with the Code and other applicable law.

G. **Due Process Hearings.** CSAS shall provide student due process hearings in conformity with the requirements of state and federal law regarding discipline, special education, confidentiality and access to records, to an extent consistent with the Academy's own obligations. The Academy shall retain the right to provide due process as required by law.

H. **Legal Requirements.** CSAS shall provide educational programs that meet federal, state, and local requirements, and the requirements imposed under the Code and the Contract, unless such requirements are or have been waived, but the Academy shall interpret state and local regulations liberally to give CSAS flexibility and freedom to implement its educational and management programs.

I. **Rules & Procedures.** CSAS shall recommend reasonable rules, regulations and procedures applicable to the Academy and is authorized and directed to enforce such rules, regulations and procedures adopted by the Academy.

J. **School Year and School Day.** The school year and the school day shall be as provided in the Application for the Contract submitted to and approved by DOE.

ARTICLE IV

OBLIGATIONS OF THE BOARD

The Board shall meet to review and provide good faith consideration of recommendations which CSAS may develop from time to time regarding matters within the scope of the duties and obligations of CSAS pursuant to this Contract, including, but not limited to, educational programs, policies, rules, regulations, procedures, curriculum and budget, subject to constraints of law and requirements of the Contract with DOE.

The Board shall retain the authority, as provided in the Code, to make reasonable regulations relative to anything necessary for the proper establishment, maintenance, management, and carrying on of the Academy, including regulations relative to the conduct of pupils while in attendance at the school or en route to and from the school. The Board shall retain the obligation, to the extent required in the Code, to adopt written policies governing the procurement of supplies, materials, and equipment.

The Board may delegate any or all of these responsibilities and authorities to such staff personnel, program committees, subcommittees of the Board, or other designees as it may determine from time to time.

ARTICLE V

FINANCIAL ARRANGEMENTS

A. **Capitation Fee.** The Academy shall pay CSAS an annual capitation fee, in an amount equal to ten (10%) percent of the per pupil expenditures ("PPE") that the Academy receives and spends from all sources for the particular students enrolled in the Academy. The PPE may change during the term of this Agreement according to overall changes in the state or local school aid payment, monies or services provided by other state or local agencies, and the extent of other revenue sources. The capitation fee shall be paid to CSAS as and when state or local school aid payments, or funds from other state or local agencies or other revenue sources, are received by the Academy.

B. **Other Revenue Sources.** In order to supplement and enhance the state school aid payments, and improve the quality of educational at the Academy, the Board and CSAS shall endeavor to obtain revenue from other sources. In this regard:

1. The Academy may solicit and receive grants and donations consistent with the mission of the Academy;
2. The Academy and/or CSAS may apply for and receive grant money, in the name of CSAS or the Academy; and
3. To the extent permitted under the Code, CSAS may charge fees to students for extra services such as summer and after school programs, athletics, etc., and charge non-Academy students who participate in such programs.

All funds received from such other revenue sources shall be deemed a part of the PPE and included within the calculation of the capitation fee.

C. **Payment of Costs.** Except as otherwise provided in this Agreement, all costs incurred in providing the Educational Program at the Academy shall be paid by the Academy. Such costs shall include, but shall not be limited to, salaries for all personnel, curriculum materials, textbooks, library books, computer and other equipment, software, supplies, building payments, maintenance, and capital improvements. CSAS may, at its election and in order to gain various economies and efficiencies, elect to incur certain of such costs directly and, in such event, the Academy shall reimburse CSAS for such costs on demand.

D. **Start-up Funds.** CSAS, in its discretion, may provide start up funds for the Academy, including funds for the development of a curriculum, technology system and school operations plan; recruiting, selecting and pre-service training of staff members; and cleaning, fixing and equipping of the Academy building and related capital facilities; all pending receipt by the Academy of its initial school aid payments. The Academy shall reimburse CSAS such start up funds upon receipt of such state school aid payments.

E. **Other Charter Schools.** The Academy acknowledges that CSAS has, or will, enter into similar management agreements with other charter schools and public school academies, in Delaware, Michigan, Florida, Texas, Missouri, Ohio, or elsewhere. CSAS shall separately account for reimbursable expenses incurred on behalf of the Academy and other charter schools, and only charge the Academy of expenses incurred on behalf of the Academy. If CSAS incurs reimbursable expenses on behalf of Academy and other charter schools which are incapable of precise allocation between such academies, then CSAS shall allocate such expenses among all such schools, including the Academy, on a pro rata basis based upon the number of students enrolled at such schools, or upon such other equitable basis as is acceptable to the parties.

F. **Financial Reporting.** CSAS shall provide the Board with:

1. a projected annual budget prior to opening the Academy and with a projected annual budget prior to each school year thereafter;
2. detailed statements of all revenues received, from whatever source, with respect to the Academy, and detailed statements of all direct expenditures for services rendered to or on behalf of the Academy, whether incurred on-site or off-site, upon request;
3. annual audits in compliance with state law and regulations showing the manner in which funds are spent at the Academy;
4. reports on Academy operations, finances and students performance, upon request, but not less frequently than four (4) times per year; and
5. other information on a periodic basis to enable the Board to monitor CSAS' educational performance and the efficiency of its operation of the Academy.

G. **Access to Records.** CSAS shall permit the Board, DOE, and all authorized representatives of the Board and of DOE, to have access to all of the books and records of the Academy in the possession of CSAS, and of all of the books and records of CSAS relating to the operation of the Academy, and such books and records shall be available for inspection and duplication during regular business hours.

ARTICLE VI

PERSONNEL & TRAINING

A. **Personnel Responsibility.** CSAS shall have the sole responsibility and authority to determine staffing levels, and to select, evaluate, assign, discipline and transfer personnel, consistent

with state and federal law, and consistent with the parameters adopted and included within the Educational Program.

B. **School Administrator.** Because the accountability of CSAS to the Academy is an essential foundation of this partnership, and because the responsibility of the School Administrator of the Academy is critical to its success, the School Administrator will be an employee of CSAS and CSAS will have the authority, consistent with state law, to select and supervise the School Administrator and to hold him or her accountable for the success of the Academy. The employment contract with the School Administrator, and the duties and compensation of the School Administrator shall be determined by CSAS. The School Administrator and CSAS, in turn, will have similar authority to select and hold accountable the teachers in the Academy.

C. **Teachers:** Prior to the commencement of the 2001-2002 academic year by the Academy, and from time to time thereafter, CSAS shall determine the number of teachers, and the applicable grade levels and subjects, required for the operation of the Academy. CSAS shall provide the Academy with such teachers, qualified in the grade levels and subjects required, as are required by the Academy. Such teachers may, in the discretion of CSAS, work at the Academy on a full or part time basis. If assigned to the Academy on a part time basis, such teachers may also work at other schools managed or operated by CSAS. Each teacher assigned or retained to the Academy shall hold a valid teaching certificate issued by DOE under the Code, to the extent required under the Code.

D. **Support Staff:** Prior to the commencement of the 2001-2002 academic year by the Academy, and from time to time thereafter, CSAS shall determine the number and functions of support staff required for the operation of the Academy. The parties anticipate that such support staff shall include student counselors, curriculum development staff, an attendance officer, clerical

staff, administrative assistants to the School Administrator and the Board, a bookkeeping staff, maintenance personnel, and the like. CSAS shall provide the Academy with such support staff, qualified in the areas required, as are required by the Academy. Such support staff may, in the discretion of CSAS, work at the Academy on a full or part time basis. If assigned to the Academy on a part time basis, such support staff may also work at other schools managed or operated by CSAS.

E. **Employer of Personnel.** The Academy and CSAS shall mutually determine whether the personnel who perform services at the Academy shall be employees of the Academy or of CSAS. The parties agree that initially all of the staff will be employees of CSAS, but such determination may change from time to time. Compensation of all employees of the Academy shall be paid by the Academy and the Academy shall reimburse CSAS for the compensation paid to employees of CSAS who perform services on behalf of the Academy. For purposes of this Agreement, compensation shall include salary, bonuses, fringe benefits, pension and profit sharing payments, state and federal tax withholdings, and any other payments to or for the benefit of an employee.

F. **Training.** CSAS shall provide training in its methods, curriculum, program, and technology, to all teaching personnel, on a regular and continuous basis. Non-instructional personnel shall receive such training as CSAS determines as reasonable and necessary under the circumstances.

ARTICLE VII

ADDITIONAL PROGRAMS

A. **Additional Programs.** The services provided by CSAS to the Academy under this Agreement consist of the Educational Program during the school year and school day, and age and grade level, as set forth in the Contract, as such school year, school day, and age and grade level

may change from time to time. CSAS may, in its discretion, provide additional programs, including, but not limited to, pre-kindergarten, summer school and latch-key programs. In such event, CSAS may retain the full amount of any and all revenue collected from or for such additional programs, and CSAS shall be responsible for the full cost of providing such additional programs.

B. **Food Service and Transportation.** CSAS may, in its discretion, provide food service and transportation services to students at the Academy. In such event, CSAS may retain the full amount of any and all revenue collected from or for such food and transportation services, and CSAS shall be responsible for the full cost of providing such services.

C. **Computer Equipment:** The parties acknowledge that computers and related equipment, for use by students of the Academy, is an integral part of the the Educational Program, and that computer equipment is likewise necessary for the efficient operation and administration of the Academy. Accordingly, CSAS may, in its discretion, provide computers, printers, servers, and related equipment, for the classrooms, school offices, and school administration on a lease basis. If such equipment is provided by CSAS, the Academy shall pay CSAS the prevailing lease rate, which shall be determined by lease rate quotations by CSAS and two other computer equipment lessors. All other terms and conditions of the lease shall be as set forth in CSAS' form equipment lease currently in use. The Academy shall be obligated to pay the prevailing rate for the lease of the computer equipment, and be subject to all of the other terms and conditions set forth in CSAS' form equipment lease, from the date the equipment is made available by CSAS to the Academy and so long as such equipment is made available, whether or not the lease has been signed or approved by the Academy's board of directors. CSAS shall, however, submit the final lease to the board of directors for approval or ratification at the first available meeting after such equipment has been made available.

ARTICLE VIII

TERMINATION OF AGREEMENT

A. Termination by CSAS. CSAS may terminate this Agreement with cause prior to the end of the term specified in Article II in the event the Academy fails to remedy a material breach within sixty (60) days after notice from CSAS. A material breach may include, but is not limited to, failure to make payments to CSAS as required by this Agreement. CSAS may also terminate this Agreement if the Academy makes decisions regarding the personnel, curriculum or program inconsistent with the recommendations of CSAS.

B. Termination by the Academy. The Academy may terminate this Agreement with cause prior to the end of the term in the event that CSAS should fail to remedy a material breach within sixty (60) days after notice from the Academy. Material breach may include, but is not limited to, failure to account for its expenditures or to pay operating costs (provided funds are available to do so); or the failure to follow the policies, procedures, rules, regulations or curriculum as adopted by the Academy; or the receipt by the Board of unsatisfactory reports from CSAS or DOE about matters which are not adequately corrected or explained.

C. Deficiency in Performance. If, after one year, the Academy makes a good faith reasonable determination that CSAS has been deficient in the performance of its obligations under the agreement, including falling short of the performance standards specified in this Agreement, or if DOE revokes the Contract with the Academy where such revocation is due to CSAS' failure to abide by the educational goals set forth in the Contract, CSAS' failure to comply with applicable law, or CSAS' failure to meet generally accepted accounting principles, then the Academy must advise CSAS and allow CSAS a reasonable period in which to remedy such failures. If the

Academy makes a good faith reasonable determination that CSAS' remedial action is unsatisfactory, the Academy may terminate the agreement upon notice appropriate to the circumstances.

D. **Change in Law.** If any federal, state or local law or regulation, or court decision has a material adverse impact on the ability of either party or carry out is obligations under this Agreement, then either party, upon written notice, may request renegotiations of the agreement; and if the parties are unable or unwilling to renegotiate the terms within 90 days after the notice, the party requiring the renegotiation may terminate this Agreement on 120 days' further written notice.

E. **Cessation of State Funding.** The parties anticipate that the primary source of revenue for the operation of the Academy will be state school aid payments, for which the Academy will be eligible as an open-enrollment charter school. If, for whatever reason, the state amends the Code such that charter schools are no longer eligible for state school aid payments or the state ceases funding for charter schools, then this Agreement may be terminated by either party with 90 days written notice.

F. **Effective Date of Termination.** In the event this Agreement is terminated by either party prior to the end of the term specified in Article II, absent unusual and compelling circumstances the termination will not become effective until the end of the academic year following the notice of termination.

G. **Property and Equipment upon Expiration or Termination.** Upon expiration of this Agreement at the completion of the contract term and where there is no renewal, or upon termination of this Agreement for any reason, CSAS shall have the right to reclaim any usable property or equipment it installed or provided at or to the Academy at its expense or the depreciated cost of such equipment. Fixtures and building alterations shall become the property of the Academy.

H. **Transition.** In the event of termination of this Agreement for any reason by either party prior to the end of the Agreement's term, CSAS shall provide the Academy reasonable assistance for up to 90 days to assist in the transition to an alternative school program.

ARTICLE IX

PROPRIETARY INFORMATION

A. **Proprietary Information.** The Academy agrees that CSAS shall own all copyright and other proprietary rights to all instructional materials, training materials, curriculum and lesson plans, and any other materials developed by CSAS, its employees, agents or subcontractors, or by any individual working for or supervised by CSAS, which is developed during working hours or during time for which the individual is being paid. CSAS shall have the sole and exclusive right to license such materials for use by other school districts, charter schools, private schools, or customers or to modify and/or sell such material to other schools and customers. During the term of this Agreement, CSAS may disclosure such proprietary information, including that which is currently in existence as well as that which may be created in the future. The Academy shall treat all such proprietary information as though it were a trade secret and copyrighted, and shall use efforts as may be reasonably requested by CSAS so as not to disclose, publish, copy, transmit, modify, alter or utilize such proprietary information during the term of this Agreement or at any time after its expiration other than to the extent necessary for implementation of this Agreement. The Academy shall use such efforts as may be reasonably requested by CSAS to assure that no Academy personnel or agent disclose, publish, copy, transmit, modify, alter or utilize CSAS' proprietary information.

B. **Required Disclosure.** The Academy shall be permitted to report any new teaching techniques or methods or significant revisions to known teaching techniques or methods to DOE,

which teaching techniques or methods may thereafter be made available to the public, to the extent required in the Code, notwithstanding anything contained in this Article IX to the contrary.

ARTICLE X

INDEMNIFICATION

A. **Indemnification of CSAS.** The Academy shall indemnify and save and hold CSAS and all of its employees, officers, directors, subcontractors and agents (collectively, "employees") harmless against any and all claims, demands, suits or other forms of liability that may arise out of, or by reason of, any action taken or not taken by CSAS or any of its employees in the event of any claim that this Agreement or any part thereof is in violation of law; any noncompliance by the Academy with any agreements, covenants, warranties or undertakings of the Academy contained in or made pursuant to this Agreement; and any misrepresentation or breach of the representations and warranties of the Board contained in or made pursuant to this Agreement. In addition, the Academy shall reimburse CSAS for any and all legal expenses and costs associated with the defense of any such claim, demand or suit.

B. **Inability to Open School.** Should either party fail to perform the obligations of this Agreement prior to the beginning of the first academic year contemplated under this Agreement, it shall hold the other harmless for the reasonable expenses incurred by that party in preparing for the opening of school operations, provided that such other party has substantially fulfilled all its obligations necessary to the performance, including but not limited to securing such waivers as may be necessary for CSAS to begin operations and approving CSAS' recommendation for selection of the Academy's school personnel.

C. **Indemnification for Negligence.** Each party to this Agreement shall indemnify and hold harmless the other, and their respective boards of directors, partners, officers, employees,

agents and representatives, from any and all claims and liabilities which they may incur and which arise solely out of the negligence of the other party, or the negligence of the party's trustees, directors, officers, employees, agents or representatives. Such indemnification may be achieved by the joint purchase of general liability and property insurance policies, or by such other means as the parties may mutually agree.

ARTICLE XI

INSURANCE

CSAS shall secure and maintain the normal general liability and umbrella insurance coverage. However, the building and related capital facilities remain the property of the Academy and the Academy shall cover its property with insurance. The Academy shall also maintain such insurance as shall be necessary to indemnify CSAS as provided in this Agreement. Each party shall, upon request, present evidence to the other that it maintains the requisite insurance compliance with the provisions of this paragraph. CSAS shall comply with any information or reporting requirements applicable to the Academy under the Academy's policy with its insurer(s), to the extent practicable.

ARTICLE XII

WARRANTIES, REPRESENTATIONS AND CONVENANTS

A. **Academy Warranties and Representations.** The Academy represents that it has the authority under law to execute, deliver and perform this Agreement and to incur the obligations provided for under this Agreement. The Board warrants that its actions have been duly and validly authorized, and that it will adopt any and all resolutions or expenditure approvals required for execution of this Agreement.

B. **Mutual Warranties.** The Academy and CSAS mutually warrants to the other that there are no pending actions, claims, suits or proceedings, to its knowledge, threatened or reasonably anticipated against or affecting it, which if adversely determined, would have a materials adverse affect on its ability to perform its obligations under this Agreement.

ARTICLE XIII

ALTERNATIVE DISPUTE RESOLUTION PROCEDURE

Any and all disputes between the parties, concerning any alleged breach of this Agreement, or arising out of or relating to the interpretation of this Agreement or the parties' performance of their respective obligations under this Agreement, shall be resolved by arbitration, and such procedure shall be the sole and exclusive remedy for such matters. Unless the parties agree upon a single arbitrator, the arbitration panel shall consist of three persons, including one person who selected or recommended by DOE. The arbitration shall be conducted in accordance with the rules of the American Arbitration Association, with such variations as the parties and arbitrator unanimously accept. A judgment on the award rendered by the arbitrators may be entered in any court having appropriate jurisdiction.

ARTICLE XIV

MISCELLANEOUS

A. **Sole Agreement.** This Agreement supersedes and replaces any and all prior agreements and understandings between the Academy and CSAS.

B. **Force Majeure.** Neither party shall be liable if the performance of any part or all of this Agreement is prevented, delayed, hindered or otherwise made impracticable or impossible by reason of any strike, flood, riot, fire, explosion, war, act of God.

C. **Notices.** All notices, demands, requests and consents under this Agreement shall be in writing, shall be delivered to each party and shall be effective when received by the parties or mailed to the parties at their respective addresses set forth below, or at such other address as may be furnished by a party to the other party:

If to CSAS: Charter School Administration Services, Inc.
20755 Greenfield, Suite 300
Southfield, Michigan 48075
Attention: Lecester L. Allen

If to Academy: Academy of Dover
20755 Greenfield, Suite 300
Southfield, Michigan 48075
Attention: President

D. **Severability.** The invalidity of any of the covenants, phrases or clauses in this Agreement shall not affect the remaining portions of this Agreement, and this Agreement shall be construed as if such invalid covenant, phrase or clause had not been contained in this Agreement.

E. **Successors and Assigns.** This Agreement shall be binding upon, and inure to the benefit of, the parties and their respective successors and assigns.

F. **Entire Agreement.** This Agreement is the entire agreement between the parties relating to the services provided, and the compensation for such services, by the parties.

G. **Non-Waiver.** No failure of a party in exercising any right, power or privilege under this Agreement shall affect such right, power or privilege, nor shall any single or partial exercise thereof preclude any further exercise thereof or the exercise of any other right, power or privilege. The rights and remedies of the parties under this Agreement are cumulative and not exclusive of any rights or remedies which any of them may otherwise have.

H. **Assignment.** Neither this Agreement nor any part of it may be assigned by either party without the prior written consent of the other party.

I. **Governing Law.** This Agreement shall be governed by and enforced in accordance with the laws of the State of Michigan.

The parties have executed this Agreement as of the day and year first above written.

Charter School Administration Services, Inc.

By: _____
Lecester L. Allen
President

Academy of Dover

By: _____
President

Resolutions of the Board of Directors

Academy of Dover
Resolutions of the Board of Directors
And Consent of the Member

The undersigned, as the president of Academy of Dover, a Delaware nonprofit corporation (the "Corporation"), and,. as president of Academy of America, a Michigan nonprofit corporation (the "Member"), the sole member of the Corporation, certifies that the board of directors of the Corporation and of the Member unanimously adopted the resolutions set forth below.

1. Bylaws. The attached bylaws shall be the bylaws of the Corporation.

2. Directors. The articles of incorporation filed with the State of Delaware named the following persons to the board of directors:

Lecester L. Allen
David K. McDonnell
Mattie L. Allen
Dana Allen
Aaron Allen
Nathalia Brooks

Each of these directors resigns as a member of the board of directors, and the following persons shall constitute the board of directors of the corporation:

Alisa Armstead, 218 North Queen, Dover, Delaware 19904
Ruby Coppadge, 943 Jawd Drive, Dover, Delaware 19901
Edward Minus, Sr., 37 McKee Road, Dover, Delaware 19904
Jana Yancy, 452 Fulton, Dover, Delaware 19901

The member of the corporation shall continue efforts to recruit an additional member to the board, such that the board of directors of the corporation shall consist of at least five directors, each of whom are residents of the State of Delaware.

2. Officers. The articles of incorporation filed with the State of Delaware named the following persons as officers of the corporation

person	office
Lecester L. Allen	President
Mattie L. Allen	Secretary & Treasurer
David K. McDonnell	Vice-President

Such persons shall continue to serve as officers of the corporation until the next meeting of the board of directors, at which time the newly constituted board of directors shall elect new officers.

3. Ratification of Prior Actions. All actions previously taken by the incorporators and the officers of the Corporation, including, but not necessarily limited to, the filing of the articles of incorporation, are hereby ratified and approved.

4. Authorization. Any officer of the Corporation is authorized to sign (when necessary) and deliver the documents referred to in these resolutions and to perform all other acts and obligations contemplated in the documents.

Lecester L Allen

Lecester L. Allen
President,
Academy of Dover

Lecester L Allen

Lecester L. Allen
President,
Academy of America

Dated: March 6, 2000

By-laws

BYLAWS

OF

ACADEMY OF DOVER

ARTICLE I

NAME

The name of the corporation shall be "**Academy of Dover**".

ARTICLE II

INCORPORATION

Section 1: Non-profit corporation: The corporation shall be incorporated as a non-profit corporation under Title 8 of the Delaware Code (the "Corporations Code").

Section 2: Membership corporation and conversion to directorship corporation: Initially, the corporation shall be organized as a membership corporation, as provided in Article V. The corporation may thereafter be converted into a directorship corporation, as further provided in Article V.

Section 3: Tax exempt status: The corporation shall apply for tax-exempt status under §501(c)(3) of the Internal Revenue Code ("IRC"). The corporation may, prior to submitting such application, operate as a tax-exempt "subordinate organization" under the general supervision or control of the member (as defined in Article V), under the procedure provided for in Rev. Proc. 80-27, 1980-1 C.B. 677.

ARTICLE III

OFFICES

Section 1: Principal office: The principal office of the corporation shall be located in the City of Southfield, Oakland County, State of Michigan, or at such other location as the board of directors shall determine from time to time.

Section 2: Registered office and agent: The registered office of the corporation shall be located in the State of Delaware, and be the business office of the registered agent, as required by the Corporations Code.

ARTICLE IV

OBJECTIVES

Section 1: Educational objectives: The corporation shall have as its exclusive objection, the following educational purposes:

to create, establish and operate a "charter school", as such term is defined in Title 14 "Education", Part I "Free Public Schools, Chapter 5 "Charter Schools" of the Delaware Code (the "Charter School Code"),

to create, establish and operate an accredited school and provide for the education of students in grades pre-kindergarten through twelfth grade,

to provide classroom instruction for its students and such nonclassroom instruction, including but not limited to seminars, public forums, field trips, cooperative job training, as the board of directors shall authorize for the education of its students,

to foster quality of opportunity for students by promoting their continued growth and development, their self-respect, their self-confidence and their usefulness, by encouraging their participation in a wide variety of curricular and extra curricular activities and by seeking recognition of their potential,

to provide an accredited program to primary and secondary education and to confer high school diplomas to its graduates,

to lease or own and operate a school facility in Dover, Delaware, or at such other location as the board of directors shall determine,

to employ and train sufficient staff to provide instruction to students,

to establish policies, plans and procedures for the implementation and administration of the designated purposes, and

to fulfill such other purposes and functions, consistent with the Corporations Code and the Charter School Code, as the board of directors shall determine from time to time.

The organization shall engage directly in the support of such purposes and may make distributions to other organizations that qualify as exempt organizations under IRC § 501(c)(3), for use by the distributees in support of such purposes.

Section 2: Net earnings: No part of the net earnings of the corporation shall inure to the benefit of, or be distributable to its directors, officers, or other private persons, except that the corporation shall be authorized and empowered to pay reasonable compensation for services

rendered and to make payments and distributions in furtherance of the purposes set forth in Section 1 of this Article.

Section 3: Political activities prohibited: No substantial part of the activities of the corporation shall be the carrying on of propaganda, or otherwise attempting to influence legislation, and the corporation shall not participate in, or intervene in (including the publishing or distribution of statements) any political campaign on behalf of any candidate for public office.

Section 4: Discrimination prohibited: The corporation shall not, in the operation of its activities in fulfillment of its corporate purposes, discriminate against students or applicants on the basis of race, color, religion, national origin or sex.

Section 5: Inconsistent activities prohibited: Notwithstanding any other provision of these bylaws, the corporation shall not carry on any other activities not permitted to be carried on (a) by a corporation exempt from federal income tax under IRC §501(c)(3), or (b) by a corporation, contributions to which are deductible under IRC §170(c)(2).

ARTICLE V

MEMBERSHIP, VOTING AND MEETINGS

Section 1: The member: The corporation shall be organized as a membership corporation. The sole member of the corporation shall be Academy of America, a Michigan non-profit corporation (the "member"). No other person or entity shall be entitled to membership.

Section 2: Voting: The member shall be entitled to one vote, and the sole vote, on all matters requiring a vote of the members. The member's vote may be cast in person, by an officer of the member, or by proxy.

Section 3: Membership meeting: The corporation shall conduct an annual meeting of the member, at a date and time selected by resolution of the board of directors. The president, a majority of the directors of the board, or the member may call special meetings of the member. The annual or any special meeting may be held in Delaware, Michigan, or at such other location as selected by the board of directors, with the consent of the member. At least 10 days, but not more than 60 days, before an annual meeting or a special meeting of member, written notice of the time, place, and purpose of the meeting shall be mailed to the member entitled to vote at the meeting. At least 20 days' written notice shall be provided to the member of any proposed amendment to these bylaws.

Section 4: Directorship corporation: The corporation may be converted from a membership corporation to a directorship corporation, upon resolution of the board of directors and consent of the member. Upon such resolution and consent, this Article shall no longer have any force or effect.

ARTICLE V

BOARD OF DIRECTORS

Section 1: Management of corporation: The corporation shall be managed by its board of directors. The board of directors may exercise any and all of the powers granted to it under the Corporations Code or pursuant to the Charter School Code. The board may delegate such powers as it deems necessary and to the extent authorized by law.

Section 2: Number of directors: The number of directors shall be not less than three (3), nor more than nine (9). The number of initial directors, and the selection of the initial directors, shall be determined by resolution of the member. Thereafter, the number of directors shall be determined by resolution of the board.

Section 3: Term of directors: The directors shall serve for a three (3) year term, or until resignation or removal. The directors shall be divided into three (3) classes, each to be as nearly equal as possible, with terms of office such that the terms of the directors in the first class will expire at the first annual meeting following their election, the terms of the second class will expire at the second annual meeting after their election, and the terms of the third class will expire at the third annual meeting after their election. At each annual meeting after such a classification of the board of directors, a number of directors equal to the number of the class whose term is expiring shall be elected to hold office until the third succeeding annual meeting.

Section 4: Qualifications: The initial board of directors shall be selected as provided in Section 2. Thereafter, the members of the board shall include at least one parent or guardian of a child attending the school operated by the corporation, at least one professional educator, preferably a person with school administrative experience, and other representatives from the community, business and industry. Directors need not be residents of the State of Delaware, except to the extent required under the Corporations Code or the Education Code.

Section 5: Meetings: The board of directors shall hold an annual meeting and at least five regular meetings each year. The date and time of the annual and regular meetings shall be established by resolution of the board of directors. Special meetings of the board of directors may be called by or at the request of the president or any two directors.

Section 6: Open meetings: From and after the issuance of a charter to the corporation, permitting its operation of a charter school, and so long as such charter remains in effect, every annual, regular, or special meeting of the board of directors shall be open to the public, except as provided in the Delaware Freedom of Information Act, 29 Del. C. §10001, *et. seq.* ("FOIA"). Notice of the time and place of any meeting shall be given, and a record of the meeting shall be taken, in the manner provided in FOIA. No members of the board of directors shall conduct a "meeting", as such term is defined in FOIA, except as provided in FOIA. Members of the board of directors may participate in an open or closed meeting of the board by telephone conference call or video conference to the extent, and under the procedure, authorized in FOIA.

Section 7: Quorum: A majority of the board of directors shall constitute a quorum for the transaction of business at any meeting of the board.

Section 8: Action of the board: The act of a majority of the directors present at a meeting at which a quorum is present shall be the act of the board of directors.

Section 9: Vacancies: Any vacancy occurring in the board of directors and any increase to be filled by reason of an increase in the number of directors shall be selected by the member, so long as it is a member, and thereafter may be filled by the affirmative vote of a majority of the remaining directors, even if less than a quorum of the board of directors. The member or the board of directors, as the case may be, shall determine the term of each new director, consistent with Section 3 of this Article.

Section 10: Removal: Any director may be removed, with or without cause, by the affirmative vote of the member, so long as it is a member, and thereafter by a two-thirds (2/3rds) vote of the remaining directors.

Section 11: Management company: The board may employ for the corporation a management company or managing agent, at a compensation rate established by the board, to perform duties and services authorized by the board. A member of the board, or any person or entity affiliated or related to a member of the board or of the member, may serve as managing agent if the board appoints the party, subject to the requirements and limitations set forth in Section 6 of Article X of these bylaws.

Section 12: Presumption of assent: A director of the corporation who is present at a meeting of the board of directors at which action on any corporate matter is taken shall be presumed to have assented to the action taken unless that director's dissent shall be entered in the minutes of the meeting or unless that director shall file a written dissent to such action with the person acting as the secretary of the meeting before its adjournment or shall forward such dissent by registered mail to the secretary of the corporation immediately after the adjournment of the meeting. This right to dissent shall not apply to a director who voted in favor of such action.

Section 13: Director's duties: A director shall discharge the director's duties, including the director's duties as a member of a committee, in good faith, with ordinary care, and in a manner the director reasonably believes to be in the best interest of the corporation. In the discharge of any duty imposed or power conferred on a director, including as a member of a committee, the director may in good faith rely on information, opinions, reports, or statements, including financial statements and other financial data, concerning the corporation or another person that were prepared or presented by:

a. one or more officers or employees of the corporation;

b. legal counsel, public accountants, or other persons as to matters the director reasonably believes are within the person's professional or expert competence; or

c. a committee of the board of directors of which the director is not a member.

A director is not relying in good faith, within the meaning of this section, if the director has knowledge concerning a matter in question that makes reliance otherwise permitted by this section unwarranted. A director is not liable to the corporation, any member, or any other person for any action taken or not taken as a director if the director acted in compliance with this section. A person seeking to establish liability of a director must prove that the director has not acted:

a. in good faith;

b. with ordinary care; and

c. in a manner the director reasonably believes to be in the best interest of the corporation.

ARTICLE VI

OFFICERS

Section 1: Officers: The officers of the corporation shall be president; zero, one or more vice presidents (the number thereof to be determined by the board of directors); a secretary; a treasurer; and such other officers as may be elected in accordance with the provisions of this Article. The board of directors may elect or appoint any other officers as it shall deem desirable, such officers to have the authority and perform the duties prescribed, from time to time, by the board of directors. Any two or more offices may be held by the same person, except the offices of president and secretary.

Section 2: Election: The officers of the corporation shall be elected annually by the board of directors at a regular meeting of the board of directors. New offices may be created and filled at any meeting of the board of directors. The officers may, but need not, be members of the board of directors.

Section 3: Removal: Any officer elected or appointed by the board of directors may be removed by the board of directors, at any time, with or without cause.

Section 4: Vacancies: A vacancy in any office because of death, resignation, removal, disqualification or otherwise, may be filled by the board of directors.

Section 5: President: The president shall be the principal executive officer of the corporation and shall in general supervise and control all of the business and affairs of the corporation. He shall preside at all meetings of the board of directors. He or she may sign, with the secretary or any other proper officer of the corporation authorized by the board of directors, any deeds, mortgages, bonds, contracts, or other instruments in which the board of directors has authorized to be executed, except

in cases where the signing and execution shall be expressly delegated by the board of directors or by these bylaws or by statute to some other officer or agent of the corporation; and in general he or she shall perform all duties incident to the office of president and such other duties as may be prescribed by the board of directors from time to time.

Section 6: Vice president(s): In the absence of the president or in event of his or her inability or refusal to act, the vice president (or in the event there be more than one vice president, the vice president in the order of their election or in their designation of authority) shall perform the duties of the president, and when so acting, shall have all other powers of and be subject to all the restrictions upon the president. Any vice president shall perform such other duties as from time to time may be assigned to him or her by the president or by the board of directors.

Section 7: Treasurer: The treasurer shall have charge and custody of and be responsible for all funds and securities of the corporation, receive and give receipts for moneys due and payable to the corporation from any source whatsoever, and deposit all such moneys in the name of the corporation in such banks, trust companies or other depositaries as shall be selected in accordance with the provisions of these bylaws; and in general perform all the duties incident to the office of treasurer and such other duties as from time to time may be assigned to him or her by the president or by the board of directors. If required by the board of directors, the treasurer shall give a bond for the faithful discharge of his or her duties in such sum and with such surety or sureties as the board of directors shall determine.

Section 8: Secretary: The secretary shall keep the minutes of the meeting of the board of directors in one or more books provided for that propose; see that all notices are duly given in accordance with the provisions of these bylaws or as required by law, including, but not limited to, FOIA; be custodian of the corporate records, keep a register of the post-office address of each director which shall be furnished to the secretary by such member; and in general perform all duties incident to the office of secretary and such other duties as from time to time may be assigned to him or her by the president or by the board of directors.

ARTICLE VII

COMMITTEES

Section 1: Executive committees: The board of directors, by resolution adopted by a majority of the directors in office, may designate and appoint an executive committee, which shall consist of one or more directors, which committee, to the extent provided in such resolution, shall have and exercise the authority of the board of directors in the management of the corporation, except that no such committee shall have the authority of the board of directors in reference to amending, altering or repealing the bylaws; electing, appointing or removing any member of any such committee or any director or officer of the corporation; amending the articles of incorporation; restating articles of incorporation; adopting a plan of merger or adopting a plan of consolidation with another corporation; authorizing the sale, lease, exchange or mortgage of all or substantially all of the property or assets of the corporation; authorizing the voluntary dissolution of the corporation or

revoking proceedings thereafter; adopting a plan for the distribution of the assets of the corporation; or amending, altering or repealing any resolution of the board of directors which by its terms provides that it shall not be amended, altered or repealed by such committee. The designation and appointment of any such committee and the delegation of authority to such committee shall not operate to relieve the board of directors, or any individual director, of any responsibility imposed upon it or him or her by law.

Section 2: Other committees: Other committees not having and exercising the authority of the board of directors in the management of the corporation may be appointed in such manner as may be designated at a meeting at which a quorum is present, and may consist of one or more directors or others. Any committee member may be removed, at any time with or without cause, by the person or persons authorized to appoint such member.

Section 3: Appointment: The members of an executive committee established pursuant to Section 1 shall be selected by a majority of the board of directors. The members of any other committee shall be selected by the president; or, at the option of the president, the chair of a committee may be selected by the president, with the authority to select committee members delegated to the committee chair.

Section 4: Vacancies: Vacancies in the membership of any committee may be filled by appointments made in the same manner as provided in the case of the original appointments.

Section 5: Quorum: Unless otherwise provided in the resolution of the board of directors designating a committee, majority of the whole committee shall constitute a quorum and the act of a majority of the members present at a meeting at which a quorum is present shall be the act of the committee.

Section 6: Procedures: Each committee may adopt rules for its own government not inconsistent with these bylaws or with rules adopted by the board of directors.

Section 7: Open meetings: Every meeting of a committee shall be open to the public to the extent required under FOIA.

ARTICLE VIII

ADVISORY BOARD

Section 1: Advisory board: The board of directors, by resolution adopted by a majority of the directors, shall designate and appoint an advisory board, which shall include one or more parents or guardians of students at the school operated by the corporation, one or more professional educators, and one or more representatives of the business community and community at large. The advisory board shall reflect the school's ethnic composition to the extent possible. The board of directors may appoint or remove members of the advisory board at its sole discretion.

Section 2: Duration: The initial board of directors shall appoint and maintain an advisory board so long as the member remains a member of the corporation. Upon the conversion of the corporation to a directorship corporation, the continual maintenance of an advisory board shall be within the discretion of the board of directors.

Section 3: Purpose: The purpose of an advisory board shall be to provide the board of directors and the officers of the corporation with independent advise and guidance relating to the administration of the school and matters incidental to such administration.

ARTICLE IX

COMPENSATION AND INDEMNIFICATION

Section 1: Director's compensation: Directors, as such, shall not receive any stated salaries for their services, but, by resolution, the board of directors may allow a fixed sum and expenses, if any, for attendance at each meeting of the board. Notwithstanding anything contained in these bylaws to the contrary, and to the extent permitted by law, a director may serve the corporation in any other capacity and receive compensation in such capacity.

Section 2: Officer's compensation: The compensation of all officers shall be fixed by the board of directors or a committee of the board of directors. The compensation of other employees shall be fixed by the president, or by a school administrator or principal granted such authority by the board of directors, subject to any limitations prescribed by the board of directors.

Section 3: Indemnification: The corporation shall indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceedings, whether civil, criminal, administrative or investigate (other than an action by or in the right of the corporation) by reason of the fact that he or she is or was a director, officer, employee or agent of the corporation, including a member of a committee or advisory board of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action, suit or proceeding, if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonably cause to believe his or her conduct was unlawful. This indemnification shall be to the fullest extent authorized or permitted under the Corporations Code or other applicable law, and shall be subject to the limitations, restrictions, and conditions for indemnification set forth in the Corporations Code.

The indemnification provided by this section shall not be deemed exclusive of any other rights to which any person seeking indemnification may be entitled under any bylaws, agreement, statute, court decision or otherwise, nor or hereafter in effect, both as to action in his or her official capacity, and as to action in another capacity while holding such office, and shall continue to a

person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

Expenses incurred in defending a civil or criminal action, suit, or proceeding described in this section may be paid by the corporation in advance of the final disposition of the action, suit, or proceeding as authorized by the board of directors on receipt of an undertaking by or on behalf of the director, an officer, an employee, or an agent to repay the amount unless it is ultimately determined that the party is entitled to be indemnified by the corporation as authorized in this section.

Section 4: Insurance: The corporation may purchase and maintain insurance on behalf of any person who is serving the corporation in any capacity, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify him or her against such liability under the provision of this Article or of the Corporations Code.

Section 5: Fidelity loss:. The treasurer, at the director of the board of directors, shall arrange for and maintain on behalf of the corporation insurance or other suitable protection against fidelity losses and against such other losses as the board of directors may deem appropriate.

ARTICLE X

CONTRACTS, CHECKS, DEPOSITS AND FUNDS

Section 1: Contracts: The board of directors may authorize any officer or officers, agent or agents of the corporation, in addition to the officers so authorized by these bylaws, to enter into any contract or execute and deliver any instrument in the name of and on behalf of the corporation, and such authority may be general or confined to specific instances.

Section 2: Checks, etc.: All checks, drafts or orders for the payment of money, notes or other evidence of indebtedness issues in the name of the corporation, shall be signed by such officer or officers, agent or agents of the corporation and in such manner as shall from time to time be determined by resolution of the board of directors. In the absence of such determination by the board of directors, such instruments shall be signed by the treasurer or the president of the corporation.

Section 3: Corporate funds: All funds of the corporation shall be deposited from time to time to the credit of the corporation in such banks, trust companies or other depositaries as the board of directors may select.

Section 4: Loans: No loans shall be contracted on behalf of the corporation and no evidences of indebtedness shall be issued in its name unless authorized by a resolution of the board of

directors. Such authority may be general or confined to specific instances. No loan, advance, overdraft or withdrawal by an officer or director of the corporation, other than in the ordinary and usual course of the business of the corporation, shall be made or permitted. Any authorization for a borrowing may be general or confined to specific instances, and may include authorization to pledge, as security for borrowing so authorized any and all securities and other real or personal property, or both, at any time held by the corporation.

Section 5: Donations: The board of directors may accept on behalf of the corporation any contribution, gift, bequest or devise for the general purposes or for any special purpose of the corporation.

Section 6: Conflicts: A contract or transaction between the corporation and one or more of its directors, officers, or member, or between the corporation and any other corporation, partnership, association, or other organization in which one or more of its directors, officers, or member are directors, officers, or members, or have a financial interest, is not void or voidable solely for that reason, solely because the director, officer, or member is present at or participates in the meeting of the board or committee of the board or of the members that authorizes the contract or transaction, or solely because the director's, officer's, or member's votes are counted for that purpose, if:

a. the material facts as to the relationship or interest and as to the contract or transaction are disclosed or are known to the board of directors, the committee, or the member, and the board, committee, or member in good faith and with ordinary care authorizes the contract or transaction by the affirmative vote of a majority of the disinterested directors or member, even though the disinterested directors or members are less than a quorum; or

b. the contract or transaction is fair to the corporation when it is authorized, approved, or ratified by the board of directors, a committee of the board, or the member.

Common or interested directors or member may be counted in determining the presence of a quorum at a meeting of the board of directors, of a committee, or of the member that authorizes the contract or transaction. Except as provided above, the directors, officers and member of the corporation may be interested directly or indirectly in any contract relating to or incidental to the operations conducted by the corporation, and may freely make contracts, enter transactions, or otherwise act for or on behalf of the corporation, notwithstanding that they may also be acting as individuals, or as directors of trusts, or as agents for other persons or corporations, or may be interest in the same matters as shareholders, directors or otherwise, provided, however, in which the directors, officers, or member are personally interested as shareholders, director or otherwise shall be at arm's length and not violative of the prescription in the articles of incorporation, these bylaws, or the Corporations Code against the corporation's use or application of its funds for private benefits.

ARTICLE XI

BOOKS AND RECORDS

Section 1: Books and records: The corporation shall keep correct and complete books and records of account and shall also keep minutes of the proceedings of the board of directors and committees having any of the authority of the board of directors. All books and records of the corporation may be inspected by any director, or his or her agent or attorney, for the proper purpose of any reasonable time.

Section 2: Financial accounting: The corporation shall use financial accounting practices consistent with the Delaware financial accounting manual; shall obtain an annual audit of its financial affairs by a certified public accountant; and shall, in all respects, comply with the financial accounting requirements imposed under the Corporations Code and the Education Code.

Section 3: Public records: All "public records", as such term is defined in FOIA, shall be collected, assembled, maintained, preserved or destroyed, withheld or disclosed or otherwise made available to the public, all as provided in such chapter.

ARTICLE XII

COMPLIANCE AND INTERPRETATION

Section 1: Compliance: The corporation shall at all times operate in compliance with the requirements imposed under the Corporations Code, the Charter School Code, IRC, and other applicable laws relating to a non-profit, tax-exempt corporation operating an open-enrollment charter school. The corporation shall further operate at all times in compliance with the charter granted to it to operate an open-enrollment charter school under the Charter School Code.

Section 2: Interpretation: These bylaws, and any resolution subsequently adopted by the board of directors or the member, shall be interpreted consistent with the requirements of Section 1 of this Article.

ARTICLE XIII

PLAN OF LIQUIDATION OR DISTRIBUTION

A plan providing for the distribution of assets, not inconsistent with the provisions of these bylaws or the Corporations Code, may be adopted by the corporation in the process of dissolution and shall be adopted by the corporation for the purpose of authorizing any transfer or conveyance of assets for which the Corporations Code requires a plan of distribution, in the following manner:

a. So long as the member is a member of the corporation, the board of directors shall adopt a resolution recommending a plan of distribution and directing the submission of the plan for approval of the member. Written or printed notice setting forth the proposed plan of distribution or a summary of the plan shall be given to the member, within the time and in the manner provided in the Corporations Code for the giving of notice of meetings of members. A plan of distribution may provide for the distribution of the assets of the corporation to the member. Such plan of distribution shall be adopted only if approved by the member.

b. If the member is no longer a member of the corporation, a plan of distribution shall be adopted at a meeting of the board of directors upon receiving the vote of a majority of the directors in office.

ARTICLE XIV

FISCAL YEAR

The fiscal year shall be September 1st to August 31st.

ARTICLE XV

AMENDMENTS

Section 1: Approval by board of directors: Subject to the limitations set forth in Section 2, below, amendments to these bylaws shall be adopted by a majority of the board of directors, at any regular or special meeting, the proposed amendment having been submitted to all directors, in writing, at least 15 days prior to such meeting.

Section 2: Approval by the member: So long as the member remains a member of the corporation, no amendment to these bylaws shall be effective unless such amendment has been approved by a resolution of the member.

ARTICLE XVI

SEVERABILITY

If any of the provisions of these bylaws are held to be partially or wholly invalid or unenforceable for any reason, that holding shall not affect, alter, or impair any of the other provisions of these bylaws or the remaining part of any provision that is held to be partially invalid

or unenforceable. In such an event, these bylaws shall be construed as if the invalid or unenforceable provisions were omitted.

ARTICLE XII

SEAL

The corporation shall have no seal.

* * * * * *

Adopted by the sole Member and by the Board of Directors on _____, 1999.

The Signature Page

The Board of Directors of this charter school assure that, the school will do the following:

1) Not discriminate against any student in the admissions process because of race, creed, color, sex, handicap, or national origin or because of a student's school district of residence has a per student local expenditure lower than another student seeking admission.

2) Not operate in a sectarian manner or include religious practices in its educational program.

3) Participate in the State Assessment Program and meet the requirements for school accountability as described in the Accountability Act of 1998.

4) Manage the school within all state administrative and financial systems listed in Del. C., Title 14, Section 512(9), or if the school plans to operate outside of any listed system it has been specifically noted in this application and the applicant has submitted a formal request to the State Budget Office to initiate a Memorandum of Understanding as described in Del. C., Title 14, Section 512(9).

5) Maintain direct communication with other public and nonpublic schools to assure efficient notification and transfers and exchange of records.

6) Update the application to incorporate any modifications and/or conditions identified as pre-conditions to final approval by the Secretary of Education and State Board of Education as set forth in its written decisions and order; and operate the program in accordance with the content of the updated and approved charter granted by the State Board. The school's board of directors may not implement any additional modifications to the charter school program or operation without the express written consent of the Department of Education.

7) Notify the Department of Education in writing within 30 days when the administrative head or members of the board of directors change.

8) Provide the Department of Education with copies of the policies and by-laws of the school and the school's board of directors and inform the Department when by-laws change.

9) Before September 1 of each school year, provide the Department of Education with evidence of the certification status of teachers employed at the school.

10) Employ only staff who have complied with the requirement of having a successful criminal background check and report to the Department of Education by September 1 of each school year that the school is in full compliance with state law related to this requirement.

11) Cooperate fully with Department of Education requests for reporting information and activities related to monitoring the school's compliance with the charter and applicable state and federal laws and regulations.

12) Comply with the provisions for a Performance Agreement, as required by the Secretary of Education.

13) Distribute copies of the Department's **Parent Guide to Delaware Charter Schools** to parents seeking to enroll their child(ren) as well as to parents of enrolled children.

14) Conduct all meetings of the board of directors in a manner consistent with the Freedom of Information Act, especially the legal requirements of Del. C. Title 29, Sections 10002, 10003 and 10004.

15) Prior to opening the school, include representation of the teachers employed the school and parents of students enrolled at the school on the board of directors, consistent with Del. C., Title 14, Section 511(a).

On behalf of the Board of Directors of this Charter School, I agree to these assurances as a condition of the approval of the charter.

Academy of Dover Charter School

Name of the Charter School

Signature of the Chairperson of the Charter School Board of Directors

Ruby Coppadge

Name of the Signer (type or print)

March 10, 2000

Date of Signature

Appendix A
Curriculum Alignment
Entrepreneurial

The following is an explanation of the alignment between the Delaware's Content Standards and the Academy of Dover's Core Curriculum.

K-8
Curriculum Alignment
Mathematics

Standard 1: Estimation, Measurement and Computation

All students will develop an understanding of Estimation, Measurement and Computation by solving problems in which there is a need to measure to a required degree of accuracy by selecting appropriate tools and units; to develop computing strategies and select appropriate methods of calculation from among mental math, paper and pencil, calculators or computers; to use estimating skills to approximate an answer and to determine the reasonableness of results. DEL-M5

Strand: Estimation, Measurement and Computation

Late Elementary 4-5

Academy of Dover's Mathematics Standard #1

Delaware's Mathematics Standard #5

By the end of the fifth grade students will be able to:

1. **Estimate, make and use measurements (U.S. customary and metric) to describe and make comparisons. M5.40**

Academy of Dover's Benchmark

Delaware's Performance Indicator

PO1. Measure length, volume and weight in both U.S. customary and metric units.

PO2. Convert measurement units to equivalent units within a given system (customary and metric).

PO3. Estimate measurements for both U.S. customary and metric units within either system.

Academy of Dover's Performance Objective

As you view this sample alignment, first of all, you will see a Standard (a description of what students should know and be able to do in a given content area). In the sample, the Academy's Mathematics Standard #1 is aligned with Delaware's Mathematics Standard M5. Next, to support this standard, the Academy's Mathematics Benchmark (a statement which indicates what students should know and be able to do at various developmental levels i.e., K-2, 3-5, and 6-8) #1 has been aligned with Delaware's Performance Indicator M5.40. Finally, the Academy's Performance Objectives have been included for each benchmark to show how students will demonstrate mastery of the standard at each developmental level.

Curriculum Alignment

Mathematics

Standard 1: Estimation, Measurement and Computation

All students will develop an understanding of Estimation, Measurement and Computation by solving problems in which there is a need to measure to a required degree of accuracy by selecting appropriate tools and units; to develop computing strategies and select appropriate methods of calculation from among mental math, paper and pencil, calculators or computers; to use estimating skills to approximate an answer and to determine the reasonableness of results. DEL-M5

Strand: Estimation, Measurement and Computation		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to: 1. **Demonstrate that a single object has different attributes that can be measured in different ways (e.g., length, mass/weight, time, temperature, area and volume) M5.10** PO1. Determine the characteristics (attributes) of an object that are measurable (e.g. length and weight are measurable; color and texture are not measurable) PO2. Identify the type of measure (e.g. weight, height, and volume) for each attribute. 2. **Write and use combinations and U.S.currency up to $5.00. M5.11** PO1. Given currency up to $5.00, state the value of money looking at real/play money or pictures/illustrations.	By the end of the fifth grade students will be able to: 1. **Estimate, make and use measurements (U.S. customary and metric) to describe and make comparisons. M5.40** PO1. Measure length, volume and weight in both U.S. customary and metric units. PO2. Convert measurement units to equivalent units within a given system (customary and metric) PO3. Estimate measurements for both U.S. customary and metric units within either system. 2. **Describe the structure and the use of systems of measurement. M5.41**	By the end of the eighth grade students will be able to: 1. **Estimate, use and describe measures of distance, perimeter, area, volume, capacity, weight, mass and angles. M5.60** PO1. Record estimates and measurements for; a. distance in scale drawings, circumference, volume, mass, degrees of angles and capacity. PO2. Compare weight to mass and capacity to volume. 2. **Solves application problems involving estimation and measurement of length, area, time, temperature, capacity, weight and angles. M5.61**

PO2. Given currency up to $5.00, write the value of money by looking at real/play money or pictures/illustrations. PO3. Show equal amounts of money using a variety of currencies. PO4. Use combinations of U.S. currency up to $5.00 to solve real-life problems. PO5. Given newspaper advertisements, use a calculator to estimate what might be purchased up to $5.00. 3. **Measure and compute the perimeter of rectangles. M5.12** 4. **Solve 2-digit addition/subtraction problems with renaming. M5.14** PO1. Demonstrate through manipulatives or illustrations renaming of tens to ones. PO2. Illustrate and use manipultatives to solve 2-digit minus 1-digit subtraction/addition problems. PO3. Illustrate and use manipulatives to solve 2-digit subtraction/addition problems without re-naming. PO4. Illustrate and use manipulatives to solve 2-digit subtraction/addition problems with renaming and check with a calculator.	3. **Apply measurement concepts. M5.42** PO1. Measure to solve problems involving length, including perimeter, time, temperature, and area of polygons. 4. **Add, subtract, multiply and divide to solve meaningful problems. M5.43** PO1. Use addition and subtraction to solve problems involving whole numbers and decimals PO2. Use multiplication to solve problems involving whole numbers (no more than three digit times two digits without technology.) 5. **Solve word problems requiring the addition and subtraction of fractions with like denominators mentally and in writing. M5.44** PO1. Review fractions using manipulatives and illustrations. PO2. Use manipulatives to show addition and subtraction of fractions. PO3. Write and solve addition and subtraction sentences using fractions of like denominators.	PO1. Estimate measurements and evaluate reasonableness of results. PO2. Select and use appropriate units, tools, or formulas to measure and to solve problems involving length (including perimeter and circumference), area, time, temperaure, capacity and weight. PO3. Measure angles. PO4. Convert measures within the same measurement system (customary and metric) based on relationships between units. 3. **Solves application problems involving estimation and measurement. M5.63** PO1. Estimate measurements and solve application problems involving length (including perimeter and circumference), area and volume. PO2. Find survace area of prisms and cylinders using concrete models and nets. PO3. Connect models to formulas for volume of prisms, cylinders, pyramids, and cones. PO4. Estimate answers and use formulas to solve application problems involving surface area and volume.

Mathematics

5. **Solve word problems by multiplying 3-digit by 1-digit 50 and 100 through 500 using a calculator to check solutions. M5.15, M5.17** PO1. Review multiplication fact families through 5 x 9. PO2. Multiply a 2 digit or 3-digit number by a 1-digit number with no regrouping. PO3. Multiply a 2- digit number by 10 through 50 and 100 through 500. PO4. Solve real-life word problems with manipulatives, illustrations, number sentences, and check with a calculator. PO5. Use estimation and mental math to solve these types of real-life word problems and check with a calculator. 6. **Estimate and solve word problems involving 1-digit divisors to find 2-digit quotients with and without remainders and check solutions with a calculator. M5.16, M5.17** PO1. Review the meaning of divisor, dividend, quotient, and remainder. PO2. Estimate the quotient and divide with 1-digit divisors to find 2-digit quotients without remainders as applied to real-life situations.	PO4. Write and solve addition and subtraction word problems using fractions with like denominators in real life situations. 6. **Analyze two-dimensional shapes for congruence, symmetry and similarity, calculate perimeter of polygons and determine area of rectangles. M5.45** PO1. Review properties of two-dimensional geo-shapes to include congruence, symmetry and similarity and relate to the classroom setting. PO2. Label vertices in two-dimensional shapes and classify the angles formed as a right angle, greater than a right angle or less than a right angle. PO3. Calculate the perimeter of teacher-selected polygons. PO4. Given a specified perimeter, Draw or demonstrate using manipulatives a representative polygon. PO5. Determine the area by counting square units of teacher-selected rectangles. PO6. Given a specified number of square units, demonstrate in a variety of ways the area of rectangles using illustrations and/or manipulatives.	**4. Solve problems involving proportional relationships. M5.62** PO1. Use ratios to describe proportional situations. PO2. Represent ratios and percents with concrete models, fractions, and decimals PO3. Use ratios to make predictions in proportional situations **5. Add, subtract , multiply or divide to solve problems and justify solutions. M5.64, M5.65** PO1, Represent multiplication and division situations involving fractions and decimals with concrete models, pictures, words and numbers. PO2. Use addition, subtraction, multiplication, and division to solve problems involving fractions and decimals PO3. Use models to add, subtract, multiply, and divide integers and connect the actions to algorithms. PO4. Use division to find unit rates and ratios in proportional relationships such as speed, density, price, recipes, and student-teacher ratio. PO5. Simplify numerical expressions involving order of operations and exponents.

PO3. Use the multiplication checking process with a calculator to validate answers with no remainders. PO4. Estimate the quotient and divide with 1-digit divisors to find 2-digit quotients with remainders as applied to real-life situations. PO5. Use the multiplication checking proceeds with a calculator to validate answers with remainders. PO6. Estimate the quotient and divide with 1-digit divisors to find 2-digit quotients with or without remainders from word problems created by students. 7. **Estimate to determine reasonable results.** PO1. Round two-digit numbers to the nearest ten and three-digit numbers to the nearest hundred. PO2. Estimate sums and differences beyond basic facts. 8. **Use place value to communicate about increasingly large whole numbers in verbal and written form, including money.** PO1. Use place value to read, write (in symbols and words). And describe the value of whole numbers through 999,999. PO2. Use place value to compare and order whole numbers through 9,999.	7. **Estimate to determine reasonable results. M5.46, M5.48** PO1. Round whole numbers to the nearest ten hundred or thousand to approximate reasonable results in problem situations. PO2. Estimate a product or quotient beyond basic facts. PO3. Estimate a measurement. PO4. Compare the estimation to actual measure. PO5. Evaluate the reasonableness of the estimation. 8. **Describe how a change in the liner dimension of an object affects its perimeter, area and volume. M5.49** PO1. Describe the change in perimeter and area when one dimension of an object is altered.	PO6. Select and use appropriate operations to solve problems and justify the selections PO7. Determine the reasonableness of a solution to a problem. **6. Solve problems involving proportional relationships. M5.67** PO1. Estimate and find solutions to application problems involving percent. PO2. Estimate and find solutions to application problems involving proportional relationships such as similarity, scaling, unit costs, and related measurement units. **7. Understand that different forms of numbers are appropriate for different situations. M5.66** PO1. Compare and order rational numbers in various forms including integers, percents, and positive and negative fractions and decimals. PO2. Select and use appropriate forms of rational numbers to solve real-life problems including those involving proportional relationships. PO3. Approximate the value of irrational numbers as they arise from problem situations.

PO3. Determine the value of a collection of coins and bills. 9. **Select and use appropriate units and procedures to measure length and area.** PO1. Estimate and measure lengths using standard units such as inch, foot, yard, centimeter, decimeter and meter. PO2. Use linear measure to find the perimeter of a shape. PO3. Use concrete models of square units to determine the area of shapes. 10. **Uses place value to represent whole numbers and decimals.** PO1. Use place value to read, write, compare and order whole numbers through the millions place. PO2. Use place value to read, write, compare, and order decimals involving tenths and hundredths, including money, using concrete models.		PO4. Express numbers in scientific notation, including negative exponents, in appropriate problem situations.

Standard 2: Number Sense

All students will develop Number Sense by solving problems in which there is a need to represent and model real numbers verbally, physically and symbolically; to use operations with understanding; to explain the relationship between numbers; to apply the concept of a unit; and to determine the relative magnitude of real numbers. DEL-M6

Strand: Number Sense		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to: **1. Represent and use numbers in equivalent forms through use of physical models, drawings, word names and symbols. M6.10, M6.11, M6.12** PO1. Make a model to represent a given whole number. PO2. Identify a whole number represented by a model with a word name and symbol. PO3. Construct equivalent forms of whole numbers. PO4. Make a model to represent a given fraction. PO5. Identify the fraction represented by a model with a word name and symbol. PO6. Identify a given model that is divided into	By the end of the fifth grade students will be able to: **1. Read, write and order integers, whole numbers and rational numbers. M6.40** PO1. Compare and order using concrete or illustrated models. a. whole numbers b. common fractions c. decimals PO2. Represent place value using illustrated models. a. whole numbers PO3. Read and write whole numbers, integers, and common fractions and decimals using real-world situations. a. whole numbers, decimals, fractions	By the end of the eighth grade students will be able to: **1. Read, write and order integers, whole numbers and rational numbers. M6.60** PO1. Compare and order using concrete or illustrated models. a. whole numbers b. common fractions c. decimals d. rational numbers PO2. Represent place value using concrete or illustrated models. a. whole number b. rational numbers.

equal fractional parts. **2. Understand the meaning for and application of the operations of addition, subtraction, multiplication and division. M6.13** PO1. Demonstrate with models to show the process used in addition. PO2. Demonstrate with models to show the process used in subtraction. PO3. Demonstrate with models to show the process used in multiplication. PO4. Demonstrate with models to show the process used in division. PO5. Demonstrate with models the operations of addition and subtraction up to two three-digit whole numbers. **3. Relate, counting, grouping and place-value concepts to whole numbers. M6.15** PO1. Read whole numbers up to one thousand. PO2. Write whole numbers up to one thousand. PO3. Order whole numbers. PO4. Construct a model to represent place value concepts PO5. Write a whole number in expanded notation.	**2. Relate the basic arithmetic operations to one another. M6.41, M6.43** PO1. Represent the process of multiplication as repeated addition, using concrete or illustrative models. a. whole numbers PO2. Represent the process of division as repeated subtraction, partitioning a group and partitioning a whole using concrete or illustrative models. a. whole numbers PO3. Write the family of equations using inverse operations for a given set of numbers. **a.** whole numbers with addition/subtraction and multiplication/division.	PO3. Read and write whole numbers, integers, common fractions and decimals using real-world situations. a. whole numbers b. rational numbers **2. Relate the basic arithmetic operations to one another. M6.61** PO1. Represent the process of multiplication as repeated addition using concrete or illustrative models. a. whole numbers b. fractions and decimals PO2. Represent the process of division as repeated subtraction, partitioning a group and partitioning a whole using concrete or illustrative models. a. whole numbers b. fractions and decimals PO3. Write the family of equations using inverse operations for a given set of numbers. a. whole numbers with addition/subtraction and multiplication/division. b. positive fractions and decimals, integers with addition/subtraction and multiplication/division

PO6. Read aloud a whole number with correct place value words. PO7. Count money to $5.00 using bills and coins. **4. Demonstrate proficiency with the operations of addition and subtraction of whole numbers. M6.16** PO1. Demonstrate proficiency with basic facts up to 20. PO2 Add and subtract two three-digit whole numbers. PO3. Solve problems using a variety of mental computations and estimation. **5. Demonstrate proficiency with the operations of multiplication and division of single-digit numbers. M6.18** PO1. Demonstrate proficiency with basic facts up to the fives. PO2. Solve problems using a variety of mental computations and estimation. **6. Add and subtract commonly used fractions and decimals.** PO1. Demonstrate with model addition and subtraction of fractions with denominators		**3. Represent and use rational numbers in a variety of equivalent forms. M6.62, M6.63** PO1. Compare and order non-negative rational numbers. PO2. Generate equivalent forms of rational numbers including whole numbers, fractions, and decimals. PO3. Use integers to represent real-life situations. PO4. Write prime factorizations using exponents. PO5. Identify factors and multiples including common factors and common multiples. **4. Add, Subtract, Multiply and Divide to solve problems and justify solutions. M.6.65** PO1. Model addition and subtraction situations involving fractions with objects, pictures, words, and numbers. PO2. Use addition and subtraction to solve problems involving fractions and decimals PO3. Use multiplication and division of whole numbers to solve problems including situations involving equivalent ratios and rates.

Mathematics

PO2. Add and subtract money up to $5.00. 7. **Using whole numbers through thousands, identify place value, compare numbers as greater than, less than, or equal and differentiate as odd or even. M6.14** PO1. Use base ten blocks to show a given Number and will identify and label the ones, tens, hundreds, and thousands. PO2. Use base ten blocks and write sentences using >, <, and = symbols to compare 2-, 3-, and 4- digit numbers. PO3. Using manipulatives and illustrations, identify odd and even numbers through thousands. PO4. Predict and determine an odd and/or even pattern on a number line. PO5. Add or subtract one, two or three from given models and predict then determine if the result is odd or even. **8. Given two numerals up to number 100 prove which set is greater than, less than, or equal to. M6.20** PO1. Count the number of objects up to 100 in a set. PO2. Create two sets of objects that are equal and write the numeral		PO4. Estimate and round to approximate reasonable results and to solve problems where exact answers are not required. **5. Select and use appropriate operations to solve problems and justify solutions. M6.64** PO1. Select and use appropriate operations to solve problems and justify the selections. PO2. Add, subtract, multiply and divide rational numbers in problem situations. PO3. Evaluate a solution for reasonableness. PO4. Use multiplication by a constant factor to represent proportional relationships.

PO3. Create two sets and write the corresponding numerals then state which set is greater or less. PO4. Prove which numeral is greater than, less than, or equal by using manipulatives. **9. Recognize the arbitrary size of a unit. M6.17** **10. Recognize inverse operations: subtract/add and divide/multiply. M6.19** **11. Count on, count back, and count by multiples. M6.21**		

Mathematics

Standard 3: Algebra

All students will use algebraic methods to explore, model and describe patterns, relationships and functions involving numbers, shapes data and graphs within a variety of real-world problem-solving situations. DEL-M7

Strand: Algebra		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to: **1. Write a mathematical equation using symbols (+, -, =) to match a specific verbal story problem involving addition of two and three addends with sums to 10 and subtraction problems with number value of 10 or under. M7.10, M7.11** PO1. Solve simple story problems by deciding whether to add or subtract. PO2. Develop a math equation with two addends and sum under, or equal to, 10 and check with a calculator. PO3. Develop a math equation with three addends with a sum under, or equal to, 10 and check with a calculator. PO4. Develop a subtraction equation with the largest number being less than 10 and check with a calculator	By the end of the fifth grade students will be able to: **1. Divide by 1-digit divisors to find 3-digit quotients in solving and creating word problems and check the solutions with a calculator using the inverse operation. M7.40** PO1. Analyze teacher-generated situations in division where dividing by a 1-digit divisor results in a 3-digit quotient for real-life application. PO2. Use manipulatives and/or illustrations to solve and explain word problems and then state as mathematical equations. PO3. Estimate and solve word problems by dividing a 1-digit divisor to find a 3-digit quotient and check with a calculator using the inverse operation.	By the end of the eighth grade students will be able to: **1. Use algebraic methods to explore, model and describe patterns and functions involving numbers, shapes, graphs and data plots. M7.60** PO1. Extend simple geometric and number patterns. PO2. Create sample geometric and number patterns. PO3.Describe a rule for a simple pattern. PO4. Generate patterns using algebraic expressions. **2. Describe the concepts of variables, expressions, equations and inequalities. M7.62** PO1. Describe and use variables in a contextual situation.

PO5. Verbally give a story problem. **2. Recall single digit addition facts and solve problems with sums to 18 using the commutative property and the identity property and recall related subtraction facts and solve problems. M7.12, M7.13** PO1. Demonstrate, through manipulatives and illustrations, addition facts to 18 and related subtractions facts. PO2. Solve a single digit addition problem with sums to 18 showing use of the commutative and identity properties, and check with a calculator. PO3. Solve single digit subtraction problems with minuends to 18 and check with a calculator. PO4. Show mastery of the memorization of addition facts to 18 and related subtractions facts, in written or oral form. PO5. Complete a number sentence by replacing an unknown with its value and dictate a story to fit the open sentence. PO6. Find the missing number in addition and subtraction number sentences.	PO4. Create word problems to share with peers involving a 1- digit divisor and a 3-digit quotient in word problems. **2. Solve simple linear equations and inequalities using a variety of methods and a variety of manipulatives. M7.41** PO1. Solve equations using: a. whole numbers with one variable – one step PO2. Graph given data points to represent a linear equation. a. on a coordinate grid with whole numbers **3. Use manipulatives or visual representation to write and solve equations with one variable. M7.42** PO1. Arrange the numbers to form an equation and illustrate with manipulatives using the four basic operations. PO2. Use manipulatives to solve an equation. PO3. Illustrate a simple equation (s) with one variable for a peer to write and solve.	PO2. Evaluate an expression using substitution with four basic operations of whole numbers. PO3. Translate a written phrase to an algebraic expression and vice versa. PO4. Express a simple inequality from a contextual situation. **3. Analyze functional relationships to explain how a change in one variable results in a change in another. M7.61** PO1. Describe a real-life situation in which a change in one variable results in the change of the other. PO2. Produce the rule (function) that explains the relationship (pattern) between the numbers when a change in the first variable affects the second variable. PO3. Compute an "output" for a given "input' in a function. PO4. Complete a T-chart for a given rule **4. Distinguish between linear and nonlinear functions through investigations. M7.65** PO1. Distinguish between linear and nonlinear functions, given graphic examples.

	PO4. Solve an equation with one variable. PO5. Write an equation with one variable and solve using manipulatives or illustrations.	**5. Solve simple linear equations and inequalities using a variety of methods and a variety of manipulatives. M7.63** PO1. Solve equations using: a. whole numbers with one variable-one step b. whole numbers with one variable-multiple steps. PO2. Solve linear equations using models/manipulatives, symbols and/or graphing in a one-step equation. PO3. Graph given data points to represent a linear equation. a. on a coordinate grid with whole numbers. b. In (x,y) form using all four quadrants of a coordinate grid. **6. Develop, analyze and explain methods for solving proportions. M7.64** PO1. Describe how to solve problem in context using a proportion. PO2. Compare quantities using ratios. PO3. Solve proportions using formal or

Standard 4: Geometry

All students will use geometric methods, properties and relationships as a means to recognize, draw, describe, connect, and analyze shapes and representations in the physical world. DEL-M8

Strand: Geometry		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to: **1. Relate geometric concepts to number and measurement ideas. M8.10** PO1. Identify two-dimensional shapes by name and attribute. PO2. Draw two-dimensional shapes. PO3. Identify three-dimensional figures by name and/or attribute. PO4. Compare attributes of two-dimensional shapes. PO5. Compare attributes of three-dimensional figures. PO6. Use a rectangular array to represent a multiplication fact.	By the end of the fifth grade students will be able to: **1. Visualize and draw two-and-three dimensional geometric figures with special attention to analyzing and reasoning informally about their properties. M8.40** PO1. Classify two-dimensional shapes and three-dimensional figures by their properties. a. by sight PO2. Identify the properties of geometric figures by using appropriate terminology and vocabulary. a. two-dimensional shapes PO3. Draw or build two-dimensional shapes by applying significant properties of each	By the end of the eighth grade students will be able to: **1. Demonstrate the principles of indirect measure by using similarity, congruence and the Pythagorean Theorem. M8.65, M8.66** PO1. Identify congruent figures and their corresponding sides and angles. PO2. Identify similar figures and their corresponding congruent angles and corresponding proportional sides. PO3. Find the missing sides of similar polygons. PO4. Solve real-world problems involving similar polygons. PO5. Solve problems applying the Pythagorean Theorem. PO6. Solve real world problems that involve finding the third side of a right triangle

Mathematics

2. Differentiate between and reproduce geometric shapes (circles, squares, rectangles and triangles). M8.12, M8.14 PO1. Name and differentiate between the four basic shapes. PO2. Reproduce geometric shapes using tracing materials. PO3. Reproduce geometric shapes with concrete materials showing various forms. PO4. Reproduce and describe geometric shapes on paper **3. Identify congruence, symmetry, and movement of plane figures and estimate the number of figures needed to tile a given figure. M8.11, M8.13, M8.15** PO1 Identify symmetry in different geometric shapes with manipulatives. PO2. Recognize and reproduce congruent figures with/without manipulatives. PO3. Demonstrate, name and describe a slide, flip, and turn of an object using manipulatives. PO4 Estimate the number of smaller shapes needed to completely cover a larger shape with/without manipulatives and relate to real-life situations	**2. Given a net, build three-dimensional figures such as a cube, rectangular prism, cylinder and square pyramid. M8.41** **3. Model transformations. M8.42** PO1. Sketch the results of translations, rotations, and reflections **4. Generate geometric definitions using critical attributes. M8.43** PO1. Identify critical attributes including parallel, perpendicular, and congruent parts of geometric shapes and solids. PO2. Use critical attributes to define geometric shapes or solids. **5. Recognize, produce, and classify special triangles and quadrilaterals and identify their lines of symmetry and transformations. M8.44** PO1. Measure the sides and angles of given triangles and group them together based on their similarities PO2. Identify and state properties of isosceles, equilateral, scalene, obtuse, right, and acute triangles PO3. Measure the sides and angles of given quadrilaterals and group them	PO7. Explore tangent ratio **2. Visualize and draw orthographic projections. M8.64** **3. Compare and classify shapes and solids using geometric vocabulary and properties. M8.60** PO1. Use angle measurements to classify pairs of angles as complementary or supplementary. PO2. Use properties to classify shapes including triangles, quadrilaterals, pentagons, and circles. PO3. Use properties to classify solids, including pyramids, cones, cones, prisms, and cylinders. PO4. Use critical attributes to define similarity. **4. Use coordinate geometry to describe location on a plane. M8.61** PO1. Locate and name points on a coordinate plane using ordered pairs of integers. PO2. Graph translations on a coordinate plane using ordered pairs of integers. 5. **The students uses geometry to model and describe the physical**

	together based on their similarities. PO4. Identify and state properties of trapezoids, rhombuses, parallelograms, squares, and rectangles. PO5. Produce special triangles and quadrilaterals. PO6. Identify all lines of symmetry in all special figures. PO7. Transform all special figures.	**world. M8.62** PO1. Sketch a solid when given the top, side and front views PO2. Make a net (two dimensional model) of the surface area of the solid. PO3. Use geometric concepts and properties to solve problems in fields such as art and architecture. **6. Solve real-life problems using formulas to determine surface area and volume of cones, pyramids and spheres. M8.63** PO1. Identify and construct cones, pyramids, and spheres to explore the relationships between the faces, vertices, and edges of a polyhedron. PO2. Estimate and find the surface area of cones, pyramids and spheres. PO3. Estimate and find the volume of cones, pyramids and spheres PO4. Apply surface area and volume in realistic situations.

Mathematics

Standard 5: Statistics and Probability

All students will develop an understanding of Statistics and Probability by solving problems in which there is a need to collect, appropriately represent, and interpret data; to make inferences or predictions; to present convincing arguments; and to model mathematical situations to determine the probability. DEL-M9

Strand: Statistics and Probability		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to: 1. **Collect and analyze data using the concepts of largest, smallest, most often, least often and middle. M9.10** PO1. Collect and record data from surveys or experiments, PO2. Organize information from surveys or experiments. PO3. Identify largest, smallest, most often recorded, least often and middle. PO4. Formulate questions from organized data. 2. **Construct, read and interpret displays of data to make valid decisions, inferences and predictions. M9.11, M9.12** PO1. Make and label a graph from organized data. PO2. Answer questions about a circle graph divided into halves and fourths.	By the end of the fifth grade students will be able to: 1. **Construct, read, analyze and interpret tables, charts, graphs and data plots. M9.40, M9.41** PO1. Construct bar graphs, line graphs, frequency tables and Venn Diagrams. PO2. Interpret and analyze data from graphical representations and draw simple conclusions. a. Bar graphs, line graphs, circle graphs, frequency table and Venn diagrams. 2. **Make valid inferences, predictions and arguments based on statistical analysis. M9.44** PO1. Formulate predictions from a given set of data and justify predictions.	By the end of the eighth grade students will be able to: 1. **Construct, read, analyze and interpret tables, charts, graphs and data plots. M9.60, M9.61** PO1. Construct histograms, stem-and-leaf plots, scatter plots, circle graphs and flow charts 2. **Interpret and analyze data from graphical representations and draw simple conclusions**. PO1. Construct histograms, stem-and leaf plots; scatter plots, circle graphs and flow charts. PO2. Choose an appropriate graphical format to organize and represent data. 3. **Make valid inferences, predictions and arguments based on statistical analysis. M9.62**

Mathematics

PO3. Answer questions about a pictograph where each symbol represents multiple units. PO4. Write a title representing the main idea of a graph. PO5. Locate points on a line graph using ordered pairs. PO6. Draw conclusions from graphed data. PO7. Formulate questions from graphs, charts and tables. PO8. Solve problems using graphs, charts and tables. **3. Predict and measure the likelihood of events and recognize that the results of an experiment may not match predicted outcomes. M9.13** PO1. Collect and record data from a probability experiment. PO2. Organize data from a probability experiment. PO3. Name the possible outcomes of the probability experiment. PO4. Predict the most likely or least likely outcome in probability experiments. PO5. Compare the outcome of the experiment to the predictions.	PO2. Compare a given prediction with the results of an investigation. **3. Display and use measures of range and central tendency. M9.42** PO1. Find the mean, median, mode and range of data using concrete and illustrative models. **4. Use counting strategies to determine all the possible outcomes of a particular event using a tree diagram. M9.45** PO1. Find all possible outcome sets involving two sets of objects. **5. Determine probabilities through experiments and/or simulations and compare the results with the mathematical expectation. M9.46** PO1. Make predictions from the results of a student-generated experiment a. single events PO2. Describe events that are certain or impossible. PO3. Identify outcomes that are more likely, to occur.	PO1. Formulate predictions from a given set of data and justify predictions. PO2. Compare a given prediction with the results of an investigation. PO3. Critique the conclusions and recommendations of others' statistics. PO4. Consider the effects of missing or incorrect information. **4. Display and use measures of range and central tendency. M9.64** PO1. Find the mean, median, mode and range of a data set. PO2. Choose appropriate measures of central tendencies to describe given or derived data. **5. Use counting strategies to determine all the possible outcomes of a particular event. M9.45** PO1. Find all possible outcome sets involving two or more sets of objects. PO2. Find all possible arrangements given a set. **6. Determine probabilities through experiments and/or simulations and compare the results with the mathematical expectation. M9.46**

		PO1. Make predictions from the results of a student generated experiment a. two-stage events PO2. Determine and compare experimental and mathematical probabilities PO3. Express probability as a fraction, zero, or one.

Mathematics

Standard 6: Patterns, Relationships and Functions

All students will use algebraic methods to explore, model and describe Patterns, Relationships and Functions involving numbers, shapes, data and graphs within a variety of real-world problem solving situations. DEL-M10

Strand: Patterns, Relationships and Functions		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to: 1. **Create, describe and extend a variety of patterns using shapes, events, concrete objects, designs and numbers. M10.11** PO1. Create a pattern using a model. PO2. Communicate orally or in written form the repetition of objects in a pattern. PO3. Communicate orally or in written form a given pattern occurring in a sequence of numbers. PO4. Extend patterns using a model. PO5 Extend a given pattern occurring in a sequence of numbers. 2. **Sort and classify objects by common attributes. M10.10**	By the end of the fifth grade students will be able to: 1. **Recognize, analyze, create, extend and describe a wide variety of patterns. M10.40** PO1. Predict, show and describe patterns formed by repeating growing and/or shrinking by 0 to 10 on a number line. PO2. Describe the pattern of numbers given on a number line or hundreds chart and record the fact family represented. PO3. Create and describe a repeating pattern on the number line, hundreds chart and calculator. PO4. Solve problems with one missing variable for appropriate operations using a number line, hundreds chart, and calculator.	By the end of the eighth grade students will be able to: 1. **Recognize, analyze, create, extend, describe and generalize a wide variety of patterns and relationships. M10.60** PO1. Use concrete objects or pictures to make generalizations about determining all possible combinations. PO2. Use lists, tables, charts and diagrams to find patterns and make generalizations such as a procedure for determining equivalent fractions. PO3. Identify prime and composite numbers using concrete models and patterns in factor pairs. 2. **Analyze functional relationships to explain how a change in one variable results in a change in another. M10.61**

Mathematics

PO1. Sort within the category of color. PO2. Sort within the category of size. PO3. Sort within the category of shape. PO4. Reproduce various three element patterns. PO5. Verbally describe a three-attribute pattern. PO6. Extend three element or attribute patterns. PO7. Create new patterns given three elements or attributes. **3. Sort numbers into different classes such as evens, odds, multiples and factors. M10.12** PO1. Find patterns in numbers, including odd and even. PO2. Compare and order whole numbers using place value. PO3. Identify patterns in related addition and subtraction sentences such as 2+3=5, 3+2=5, 5-2=3 and 5-3=2	PO5. Solve real-life word problems using patterning. **2. Use lists, tables, ruler, variables, open sentences, charts, and graphs to express patterns, functions and other relationships. M10.42** PO1. Generate a table of paired numbers based on a real-life situation such as insects and legs. PO2. Identify patterns in a table of related number pairs based on a real-life situation and extend the table. PO3. Describe a real-life situation in which a change in one variable results in the change of the other. PO4. Compute an "output" for a given 'input' in a function. **3. Investigate and predict the results of combining, subdividing and changing shapes. M10.41** PO1. Identify and extend whole number and geometric patterns to make predictions and solve problems. PO2. Identify patterns in multiplication facts using concrete objects pictorial models or technology	PO1. Produce the rule (function) that explains the relationship (pattern) between the numbers when a change in the first variable affects the second variable. PO2. Complete a T-chart for a given rule. **3. Use letters as variables in mathematical expressions to describe how one quantity changes when a related quantity changes. M10.62** PO1. Generate formulas involving conversions, perimeter, area, circumference, volume and scaling. PO2. Graph data to demonstrate relationships in familiar concepts such as conversions, perimeter, area circumference, volume and scaling. PO3. Describe the relationship between the terms in a sequence and their positions in the sequence. **4. Make connections among various representations of a numerical relationship. M10.63** PO1. Generate a different representation given one representation of data such as a table, graph, equation, or verbal description.

	PO3. Identify patterns in related multiplication and division sentences (fact families). **4. Identify patterns for explaining the concepts of computation. M10.43** PO1. Use patterns to develop strategies to remember basic multiplication facts. PO2. Solve division problems related to multiplication fact. PO3. Use patterns to multiply by 10 and 100.	**5. Use a calculator and computer software to explore number patterns and mathematical relationships. M10.64** **6. Use patterns and functions to represent and solve problems. M10.65** PO1. Estimate, find and justify solutions to application problems using appropriate tables, graphs, and algebraic equations. PO2. Use an algebraic expression to find any term in a sequence.

English Language Arts

Standard 1: Written and Oral Communication

All students will effectively use written and oral language for a variety of purposes and with a variety of audiences. ELA-W01

Strand: Writing/Speaking		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to 1. Use the writing process, including generating topics, drafting, revising ideas and editing, to complete effectively a variety of writing tasks. **W0-1.3** P01. Generate topics through prewriting activities (e.g., brainstorming, webbing, mapping, drawing, writer's notebook, K-W-L charts, scaffolds, group discussion) P02. Align purpose (e.g., to entertain, to inform, to communicate) with audience P03. Writer a first draft with the necessary components for a specific genre P04. Revise draft content (e.g., organization, relevant details, clarity) P05. Edit revised draft using resources (e.g., dictionary, word lists and banks, thesaurus, spell checker, glossary, style manual, grammar and usage reference) P06. Proofread revised draft	By the end of the fifth grade students will be able to: 1. Use correct spelling, punctuation, capitalization, grammar and usage, along with varied sentence structure and paragraph organization, to complete effectively a variety of writing tasks. **WO-1.3** P01. Spell correctly P02. Punctuate correctly (e.g., sentence endings, commas in a friendly letter's greeting and closing, commas in a series, abbreviations, quotations in dialog, apostrophes) P03. Apply rules of capitalization (e.g., sentence beginnings, titles, abbreviations, proper nouns) P04. Apply standard grammar and usage (e.g., subject-verb agreement; simple and compound sentences, appropriate verb tense, plurals) P05. Organize paragraphs with a variety of sentence structures (e.g., simple,	By the end of the eight grade students will be able to: 1. Use correct spelling, punctuation, capitalization, grammar and usage, along with varied sentence structure and paragraph organization, to complete effectively a variety of writing tasks. **WO-1.3** P01. Spell correctly P02. Punctuate correctly (e.g., sentence endings, commas in a series, commas in compound sentences, abbreviations, quotation marks, colon in a business letter greeting, apostrophes) P03. Apply rules of capitalization (e.g., sentence beginnings, titles, abbreviations, proper nouns, direct quotations) P04. Apply standard grammar and usage (e.g., subject-verb agreement; simple and compound and complex sentences, appropriate verb tense, plurals; prepositions)

P07 Present final copy according to purpose (e g., read aloud, display, publish, mail, send, perform) 2. Use correct spelling, punctuation, capitalization, grammar and word usage, and good penmanship to complete effectively a variety of writing tasks. **WO-1.2** P01. Spell high frequency words correctly P02. Punctuate endings of sentences P03. Capitalize sentence beginnings and proper nouns. P04. Use standard, age-appropriate grammar and word usage (e.g., basic subject-verb agreement, complete simple sentences, appropriate verb tense, regular plurals) P05. Write legibly 3. Writer a personal experience narrative or a creative story that has a beginning, middle, and end and uses descriptive words or phrases to develop ideas and advance the characters, plot and setting. **WO-1.3** P01. Write a narrative a. Establish a beginning, middle and end b. Use sensory details to describe or; P02. Write a story	compound) 2. Write a personal experience narrative or creative story that includes a plot and shows the reader what happens through well-developed characters, setting, dialog, and themes and uses figurative language, descriptive words and phrases. **WO-1.3** P01. Write a personal experience narrative a. Develop a story line in a sequence that is clear b. Use descriptive words and phrases or; P02. Write a story a. Develop a story line in a sequence that is clear. b. Develop the characters c. Describe the setting d. Use dialog when appropriate e. Use descriptive words and phrases 3. Write a summary that presents information clearly and accurately, contains the most significant details and preserves the position of the author. **WO-1.3**	P05. Organize paragraphs with a variety of sentence structures (e g., simple, compound, complex) 2. Write a personal experience narrative or creative story that includes a plot and shows the reader what happens through well-developed characters, setting, dialog, and themes and uses figurative language, descriptive words and phrases. **WO-1.3** P01. Write a personal experience narrative a. Develop a story line in a sequence that is clear b. Use descriptive words and phrases or; P02. Write a story a. Develop a story line in a sequence that is clear. b. Develop the characters c. Describe the setting d. Use dialog when appropriate e. Use simile, metaphor or descriptive words and phrases 3. Write a summary that presents information clearly and accurately, contains the most significant details and preserves the position of the author. **WO-1.3**

a. Use sensory details to describe setting and characters b. Develop a story line with a problem and events leading to a solution 4. Gather, organize and accurately, clearly and sequentially report information gained from personal observations and experiences such as science experiments, field trips and classroom visitors. **WO-1.2** P01. Record observations (e.g., logs, lists, graphs, charts, tables, illustrations) P02. Write an introductory statement P03. Report events sequentially P04. Write a concluding statement 5. Locate, acknowledge and use several sources to write an informational report. **WO-1.2** P01. Use resources (e.g., video tapes, magazines, informational books, reference materials, interviews, guest speakers, Internet) and report information in their own words P02. Write an introductory statement, followed by details to support the main idea P03. List resources used by title	P01. Use own words except for material quoted P02. Preserve the author's perspective and voice P03. Contain main ideas of event/article/story plus the most significant details P04. Present clearly written and organized information 4. Write an expository essay that contains effective introductory and summary statements and fully develops the ideas with details, facts, examples and descriptions. **WO-1.2** P01. Write an expository essay that begins by stating the thesis (purpose) with an effective introductory statement or paragraph; provides smooth transitions; and ends with either a paragraph concluding the development of the thesis, a summary or a clincher statement. **WO-1.2** P02. Use own words (except for quoted material) to develop ideas accurately and clearly with supporting details, facts, examples or descriptions. P03. Use personal interpretation, analysis, evaluation or reflection to evidence understanding of subject	P01. Use own words except for material quoted P02. Preserve the author's perspective and voice P03. Contain main ideas of event/article/story plus the most significant details P04. Present clearly written and organized information 4. Write an expository essay that contains effective introductory and summary statements and fully develops the ideas with details, facts, examples and descriptions. **WO-1.2** P01. Write an expository essay that begins by stating the thesis (purpose) with an effective introductory statement or paragraph; provides smooth transitions, and ends with either a paragraph concluding the development of the thesis, a summary or a clincher statement. **WO-1.2** P02 Use own words (except for quoted material) to develop ideas accurately and clearly with supporting details, facts, examples or descriptions. P03. Use personal interpretation, analysis, evaluation or reflection to evidence understanding of subject

6 Write well-organized communications, such as friendly letters, memos and invitations, for a specific audience and with a clear purpose. **WO-1.2** P01 Organize content, including necessary components of the selected format, for a specified audience P02. Place commas correctly in components (e.g., heading, greeting, closing, address) unique to letters, memos, invitations 7. Tell or retell a personal experience or creative story in a logical sequence. **WO-1.3** 8. Use effective vocabulary and logical organization to relate or summarize ideas, events and other information. **WO-1.2** 9. Give and follow multiple-step directions. 10. Prepare and deliver information by generating topics; identifying the audience; and organizing ideas, facts or opinions for a variety of speaking purposes such as giving directions, relating personal experiences, telling a story or presenting a report. **WO-1.1**	5. Write a report that conveys a point of view and develops a topic with appropriate facts, details, examples and descriptions from a variety of cited sources. P01. Write a report in own words that states, develops and provides a concluding statement for a point of view (perspective) about a topic that is narrow enough to be adequately covered. **WO-1.2** P02. Use logical sequence (including transitional words and phrases such as first, next, then) P03. Provide support through facts, details, examples or descriptions that are appropriate, directly related to the topic and from a variety of cited sources. 6. Write formal communications, such as personal or business letters, messages, directions and applications, in an appropriate format and for a specific audience and purpose. **WO-1.2** P01. Write a formal communication in an appropriate format for a specific audience and purpose	5. Write a report that conveys a point of view and develops a topic with appropriate facts, details, examples and descriptions from a variety of cited sources. P01 Write a report in own words (except for material quoted) that states, develops and provides a concluding statement for a point of view (perspective) about a topic that is narrow enough to be adequately covered. **WO-1.2** P02. Organize a report with a clear beginning, middle and end including use of smooth transitions. P03. Provide support through facts, details, examples or descriptions that are appropriate, directly related to the topic, and from a variety of cited sources. P04. Use personal interpretation, analysis, evaluation or reflection to evidence understanding of subject. 6. Write formal communications, such as personal or business letters, messages, directions and applications, in an appropriate format and for a specific audience and purpose. **WO-1.2** P01. Write a formal communication in an appropriate format for a specific audience and purpose.

English Language Arts

	P02. Organize ideas in a meaningful sequence using transitional words or phrases (e.g., first, next, then) P03. Express ideas that are clear and directly related to the topic 7. Write a response to a literary selection by supporting their ideas with references to the text, other works or experiences. **WO-1.3** P01. Write a clear response supported with examples from the text, other works or experiences P02. Relate own ideas to supporting. details in a clear manner P03. Organize response with a clear beginning, middle and end 8. Demonstrate research skills using reference materials such as a dictionary, encyclopedia and thesaurus to complete effectively a variety of writing tasks. **WO-1.3**	P02. Organize ideas in a meaningful sequence using smooth transitions P03. Express ideas that are clear and directly related to the topic 7 Write a response to a literary selection by supporting their ideas with references to the text, other works or experiences. **WO-1.3** P01. State clearly a position that is interpretive, analytic, evaluative or reflective P02. Support inferences and conclusions with examples from the text, personal experience, references to other works or reference to non-print media P03. Relate own ideas to supporting details in a clear and logical manner. P04. Provide support adequate to the literary selection (e.g., short poem vs. novel) 8. Demonstrate research skills using reference materials such as a dictionary, encyclopedia and thesaurus to complete effectively a variety of writing tasks. **WO-1.3**

	P01. Implement a research strategy that includes: a Selecting appropriate source for a specific research purpose b Utilizing reference materials (e.g., dictionary, thesaurus, encyclopedia, informational trade books, multimedia sources, Internet) c. Writing a paraphrase of information from a source d. Recording relevant information (e.g., notes, graphs, tables) taken from a research source e. Organizing notes and integrating notes into a finished product. f. Incorporating notes into a finished product 9. Prepare and deliver an organized speech and effectively convey the message through verbal and nonverbal communications with a specific audience. **WO-1.3** 10. Prepare and deliver an oral report in a content area and effectively convey the information through verbal and nonverbal communications with a specific audience. **WO-1.3** **11.** Interpret and respond to questions and evaluate responses both as interviewer and interviewee. **WO-1.4**	P01. Implement a research strategy that includes: a. Selecting best source for specific research purpose b Taking notes that summarize and paraphrase c. Information relevant to the topic d. Incorporating notes into a finished product **9.** Prepare and deliver an organized speech and effectively convey the message through verbal and nonverbal communications with a specific audience. **WO-1.3** **10.** Prepare and deliver an oral report in a content area and effectively convey the information through verbal and nonverbal communications with a specific audience. **WO-1.3** **11.** Interpret and respond to questions and evaluate responses both as interviewer and interviewee. **WO-1.4**

Standard 2: Constructing Meaning

All students learn and effectively apply a variety of reading strategies for comprehending, interpreting and evaluating a wide range of texts including fiction, nonfiction, classic, contemporary works and technical texts. **CM-2**

Strand: Reading

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
By the end of the third grade, students will be able to: 1. Use phonetic skills to decode words. **CM-2.1** PO 1. Decode words in context using beginning, middle and final letter/sound relationships. 2. Use word recognition and decoding strategies such as phonetic skills, context clues, picture clues, word order, prefixes and suffixes to comprehend written selections. **CM-2.1** PO 1. Derive meaning from written selection using reading/decoding strategies: a. phonetic clues b. context clues c. picture clues d. word order e. structural analysis (e.g., prefixes, suffixes) f. word recognition 3. Use reading comprehension strategies such as drawing conclusions, summarizing, making predictions, identifying cause and effect, and differentiating fiction from nonfiction. **CM-2.4** PO 1. Draw conclusions based on the text.	By the end of the fifth grade, students will be able to: 1. Use structural analysis skills such as identifying root words, prefixes, suffixes and word origins to decode words unfamiliar in print. **CM-2.1** PO 1. Identify root words. PO 2. Infer meanings of words in a selection through knowledge of prefixes and suffixes. PO 3. Confirm meaning of words using context clues 2. Use reading strategies such as making inferences and actions, summarizing, paraphrasing, differentiating fact from fiction, drawing conclusions, determining the author's purpose and perspective to comprehend written selections. **CM-2.4** PO 1. Identify the main ideas; critical and supporting details; and the author's purpose, feelings and point of view on the text. PO 2. Distinguish fact from opinion PO 3. Summarize the text in own words (assessed at district level only)	By the end of the eighth grade, students will be able to: 1. Use structural analysis skills such as identifying root words, prefixes, suffixes and word origins to decode words unfamiliar in print. **CM-2.1** PO 1. Identify the effect of prefixes and suffixes on root words. PO 2. Confirm meaning of figurative, idiomatic and technical language using context clues. 2. Use reading strategies such as making inferences and actions, summarizing, paraphrasing, differentiating fact from fiction, drawing conclusions, determining the author's purpose and perspective to comprehend written selections. **CM-2.4** PO 1. Identify the main ideas; critical and supporting details; and the author's purpose, feelings and point of view of the text. PO 2. Distinguish fact from opinion. PO 3. Summarize the text in own words (assessed at district level only)

PO 2. Restate information from a reading selection.

PO 3. Predict events, actions and behaviors using prior knowledge and/or details to comprehend a reading selection.

PO 4. Identify cause-and-effect relationships.

PO 5. Differentiate fiction and nonfiction texts.

4. Identify facts and the main idea, sequence events, define and differentiate characters, and determine and author's purpose in a range of traditional and contemporary literature. **CM-2.4**

PO 1. Identify the main idea and relevant facts in a reading selection.

PO 2. Sequence as series of events from a reading selection.

PO 3. Compare characters (e.g., to inform, to entertain, to persuade, to describe) in a reading selection.

5. Analyze selections of fiction, nonfiction and poetry for their literary elements such as character, setting, plot, sequence of events and organization text. **CM-2.4**

PO 1. Compare characters, plot (including sequence of events), settings across reading selections.

PO 2. Explain whether the events in the reading selection are real or fantasy.

PO 4. Compare and contrast the text (e.g., characters, genre, culture differences, fact, fiction)

PO 5. Determine cause-and-effect relationships.

PO 6. Identify the text in chronological, sequential or logical order.

PO 7. Make an inference using contextual clues.

3. Analyze selections of fiction, nonfiction and poetry by identifying the plot line (i.e., beginning, conflict, rising action, climax and resolution); distinguishing the main character from minor ones; describing the relationships between and motivations of characters; and making inferences about the events, setting, style, tone, mood and meaning of the selection. **CM-2.5**

PO 1. Distinguish the main characters from the minor characters.

PO 2. Summarize the plot line to include cause and effect.

PO 3. Explain the interaction of major and minor characters in a selection.

PO 4. Draw defensible conclusions based on events and settings.

PO 5. Differentiate fiction, nonfiction and poetry based on their attributes.

PO 6. Explain cause and effect within the plot.

PO 4. Compare and contrast the text (e.g., characters, genre, culture differences, fact, fiction)

PO 5. Determine cause-and-effect relationships.

PO 6. Summarize in text in chronological, sequential or logical order

PO 7. Predict outcome of text.

3. Analyze selections of fiction, nonfiction and poetry by identifying the plot line (i.e., beginning, conflict, rising action, climax and resolution); distinguishing the main character from minor ones; describing the relationships between and motivations of characters; and making inferences about the events, setting, style, tone, mood and meaning of the selection. **CM-2.5**

PO 1. Describe the settings and its relationship to the selection.

PO 2. Describe the motivation of major and minor characters in a selection.

PO 3. Draw defensible conclusions, based on stated and implied information according to style, meaning and mood.

PO 4. Differentiate fiction, nonfiction or poetry based on their attributes.

PO 5. Identify the theme

PO 3. Describe structural elements of poetry (e.g., rhyme, rhythm, repetition)

PO 4. Describe the literary elements of fiction and nonfiction.

6. Read and comprehend consumer information such as forms, newspaper ads, warning labels and safety pamphlets. **CM-2.5**

PO 1. Explain the meaning of specific signs (e.g., traffic, safety, warning)

PO 2. Restate information found in consumer literature (e.g., safety pamphlets, newspapers, catalogs)

PO 3. Compare information in written advertisements.

PO 4. Fill out a variety of forms (e.g., contest entry, requests for information)

7. Follow a list of directions and evaluate those directions for clarity. **CM-2.3**

PO 1. Identify similarities and differences relating to theme, plot, setting, character and point of view in literature from different cultures.

PO 2. Compare real-life experiences to events, characters and conflicts in literary selections from different cultures.

PO 3. Recognize that some words in literary selections come from a variety of cultures.

4. Identify the author's purpose, position, bias and strategies in a persuasive selection. **CM-2.4**

PO 1. Identify the author's purpose and use of details to support the purpose.

PO 2. Describe the author's use of strategies to convince or persuade:
a. bandwagon
b. peer pressure
c. "loaded" words

PO 3. Identify the author's bias.

5. Evaluate an instructional manual such as assembly directions or user's guide for clarity and completeness. **CM-2.7**

PO 1. Identify the components of an instructional manual (e.g., directions, tools required, parts needed, illustrations, diagram sequence, bold face for relevant steps)

PO 2. Incorporate information from the illustrations.

PO 3. Locate support help in manual or from the manufacturer.

PO 4. Identify the sequence of activities needed to carry out a procedure.

PO 5. Identify information that is either extraneous or missing (e.g., directions, tools required, parts needed, illustrations, diagram sequence, bold face for relevant steps.

4. Identify the author's purpose, position, bias and strategies in a persuasive selection. **CM-2.4**

PO 1. Identify the author's purpose and use of details to support the purpose.

PO 2. Describe the author's use of strategies to convince or persuade:
a. bandwagon
b. peer pressure
c. "loaded" words

PO 3. Identify the author's bias.

5. Evaluate an instructional manual such as assembly directions or user's guide for clarity and completeness. **CM-2.7**

PO 1. Identify the components of an instructional manual (e.g., directions, tools required, parts needed, illustrations, diagram sequence, bold face for relevant steps)

PO 2. Incorporate information from the illustrations.

PO 3. Locate support help in manual or from the manufacturer.

PO 4. Identify the sequence of activities needed to carry out a procedure.

8. Develop an increasing extensive vocabulary and actively seek the meaning of unknown words as an important facet of comprehending text. **CM-2.8**

PO 1. Use context clues to determine the meanings of words.

PO 2. Use reference works, technology, and human resources to learn the meaning of unknown words (e.g., dictionaries, computer software)

6. Compare and contrast the historical and cultural perspectives of literary selections. **CM-2.6**

PO 1. Compare one author's perspective of a historical character, setting or event with another historical or contemporary literary selection (e.g., essays, autobiographies, fiction, nonfiction)

PO 2. Compare the lives and experiences of characters in history to present-day individuals who have similar goals or face similar challenges.

PO 3. Compare versions of traditional or contemporary literature from different cultures for similarities and differences related to theme, plot, character, setting and point of view.

7. Self- monitor comprehension while listening, reading, and viewing. **CM-2.3**

PO 1. Generating a purpose for reading, listening, or viewing.

PO 2. Assimilating information with prior knowledge to revise predictions and understandings, and make inferences.

PO 3. Taking appropriate actions (e.g., rereading to make sense, adjusting rate of reading, seeking the meaning of unknown vocabulary) to enhance understanding of oral and written text

PO 5. Identify information that is either extraneous or missing (e.g., directions, tools required, parts needed, illustrations, diagram sequence, bold face for relevant steps).

6. Compare and contrast the historical and cultural perspectives of literary selections. **CM-2.6**

PO 1. Compare one author's perspective of a historical character, setting or event with another historical or contemporary literary selection (e.g., essays, autobiographies, fiction, nonfiction)

PO 2. Compare the lives and experiences of characters in history to present-day individuals who have similar goals or face similar challenges.

PO 3. Compare versions of traditional or contemporary literature from different cultures for similarities and differences related to theme, plot, character, setting and point of view.

7. Self- monitor comprehension while listening, reading, and viewing. **CM-2.3**

PO 1. Generating a purpose for reading, listening, or viewing

PO 2. Assimilating information with prior knowledge to revise predictions and understandings, and make inferences.

	8. Develop an increasing extensive vocabulary and actively seek the meaning of unknown words as an important facet of comprehending text. **CM-2.8** PO 1. Use context clues to determine the meanings of words. PO 2. Use reference works, technology, and human resources to learn the meaning of unknown words (e.g., dictionaries, computer software)	PO 3. Taking appropriate actions (e.g., rereading to make sense, adjusting rate of reading, seeking the meaning of unknown vocabulary) to enhance understanding of oral and written text 8. Develop an increasing extensive vocabulary and actively seek the meaning of unknown words as an important facet of comprehending text. **CM-2.8** PO 1. Use context clues to determine the meanings of words. PO 2. Use reference books, technology, and human resources to learn the meaning of unknown words (e.g., dictionaries, computer software)

Language Arts

Standard 3 Analytical Reading, Listening, Viewing and Technology

All students will become proficient in analytical reading, listening and viewing using traditional printed sources and technology.
DEL-ARLVT3

Strand:		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to: 1. Access, organize, and evaluate information gained by listening, reading, and viewing. P01. Identify, locate, and select sources of information relevant to a defined need: a. With direct teacher assistance, students will 1. Identify and locate a variety of sources including printed materials, personal interviews, oral reporting, forums, and technological forms of information; 2. Use procedures to gather information and ideas. b. Independently, extract information to achieve a specific purpose. P02. Organize, manipulate, and express the information and ideas relevant to a defined need:	By the end of the fifth grade students will be able to: P01. Identify, locate, and select sources of information relevant to a defined need: a. With teacher guidance, student will 1. Identify and locate a variety of sources including printed materials, personal interviews, oral reports, forums, and technological forms of information; 2. Use procedures to gather information and ideas. b. Independently, extract information to achieve a specific purpose. P02. Organize, manipulate, and express the information and ideas relevant to a defined need:	By the end of the eight grade students will be able to: P01. Identify, locate, and select sources of information relevant to a defined need: a. With support from the teacher as a resource and facilitator, students will 1. Use a variety of sources including printed materials, personal interviews, oral reports, forums, and technological forms of information; 2. Develop and use procedures to gather information and ideas. b. Independently, extract information relevant to a specific purpose. P02. Organize, manipulate, and express the information and ideas relevant to a defined need:

Language Arts

a With direct teacher assistance, students will 1. Follow a process for research completion; 2. Use technology to synthesize information into a meaningful format to express ideas and experiences, and to create text, drawings, graphs, diagrams, photographs, videos and graphics. b. Independently, students will present information, which is sufficient in quantity and depth to achieve a specific purpose. P03 Evaluate both sources and information: a. With direct teacher assistance, students will 1. Establish criteria to use to differentiate between authoritative and non-authoritative sources; 2 Establish criteria by which sources and information can be analyzed for accuracy, bias, stereotypes, and validity. b Independently, draw conclusions based upon information relevant to a specific purpose.	a. With teacher guidance, students will 1. Develop and follow a process for research completion; 2. Use technology to synthesize information into a meaningful format to express ideas and experiences, and to create text, drawings, graphs, diagrams, photographs, videos, and graphics. b. Independently, students will present information, which is sufficient in quantity and depth to achieve a specific purpose, avoiding plagiarism. P03. Evaluate both sources and information a. With teacher guidance, students will 1. Select sources which are authoritative; 2. Analyze sources and information for accuracy, bias, stereotypes, and validity. b. Independently, draw conclusions based upon information relevant to a specific purpose	a With support from the teacher as a resource and facilitator students will 1. Develop and follow a process for research completion; 2. Use technology to synthesize information into a meaningful format to express ideas and experiences, and to create text, drawings, graphs, diagrams, photographs, videos, and graphics. b. Independently, present information, which is sufficient in quantity and depth to achieve a specific purpose, avoiding plagiarism P03. Evaluate both sources and information: a With support from the teacher as a resource and facilitator, students will 1. Select sources which are authoritative 2. Analyze sources and information for accuracy, bias, stereotypes, and validity. b. Independently, 1. Interpret information as appropriate to a specific purpose; 2. Formulate logical conclusions based upon information relevant to a specific purpose.

Standard 4: Literature

All students will read and analyze a wide variety of classic and contemporary literature to seek information, ideas, enjoyment and understanding of their individuality, our common humanity, and the rich diversity in our society. **DEL-L4**

Strand: Using literary Knowledge		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the completion of third grade, using literature appropriate for age, stage, and interests, students will be able to: PO 1. Connect their own experiences to those of literary characters by: **L4.1** a. Explaining the reasons for a character's actions. b. Responding to the sensory, intellectual, and emotional elements of literature. c. Understanding the feelings of characters of varying genders, races, and disabilities. d. relating incidents in the text or media to life's experiences. e. Seeking other literary texts and media as the result of literary experience. PO 2. Respond to literary text and media using interpretive, critical, and evaluative processes by: **L4.2** a. Making inferences about content, events, characters, settings. b. Identifying the differences between genre.	By the completion of fifth grade, using literature appropriate for age, stage, and interests, students will be able to: PO 1. Connect their own experiences to those of literary characters by: **L4.1** a. Explaining the reasons for a character's actions. b. Responding to the sensory, intellectual, and emotional elements of literature. c. Understanding the feelings of characters of varying genders, races, and disabilities. d. relating incidents in the text or media to life's experiences. e. Seeking other literary texts and media as the result of literary experience. PO 2. Respond to literary text and media using interpretive, critical, and evaluative processes by: **L4.2** a. Making inferences about content, events, characters, settings. b. Identifying the differences between genre.	By the completion of eighth grade, using literature appropriate for age, stage, and interests, students will be able to: PO 1. Connect their own experiences to those of literary characters by: **L4.1** a. Explaining the reasons for a character's actions. b. Responding to the sensory, intellectual, and emotional elements of literature. c. Understanding the feelings of characters of varying genders, races, and disabilities. d. relating incidents in the text or media to life's experiences. e. Seeking other literary texts and media as the result of literary experience. PO 2. Respond to literary text and media using interpretive, critical, and evaluative processes by: **L4.2** a. Making inferences about content, events, characters, settings. b. Identifying the differences between genre.

PO 3. Demonstrate an appreciation for a broad range of culturally diverse literary texts and media created by historical, modern, and contemporary authors through: **L4.3** a. Responding to literary texts and media representing the diversity of American cultural heritage inclusive of ages, genders, nationalities, races, religions, and disabilities. b. Responding to literary texts and media representative of various nations and cultures. PO 4. Apply knowledge gained from literature as a basis for understanding self and society by: **L4.4** a. Using Literature as a resource for shaping decisions. b. Using literature as a resource for understanding social issues.	PO 3. Demonstrate an appreciation for a broad range of culturally diverse literary texts and media created by historical, modern, and contemporary authors through: **L4.3** a. Responding to literary texts and media representing the diversity of American cultural heritage inclusive of ages, genders, nationalities, races, religions, and disabilities. b. Responding to literary texts and media representative of various nations and cultures. PO 4. Apply knowledge gained from literature as a basis for understanding self and society by: **L4.4** a. Using Literature as a resource for shaping decisions. b. Using literature as a resource for understanding social issues.	PO 3. Demonstrate an appreciation for a broad range of culturally diverse literary texts and media created by historical, modern, and contemporary authors through: **L4.3** a. Responding to literary texts and media representing the diversity of American cultural heritage inclusive of ages, genders, nationalities, races, religions, and disabilities. b. Responding to literary texts and media representative of various nations and cultures. PO 4. Apply knowledge gained from literature as a basis for understanding self and society by: **L4.4** a. Using Literature as a resource for shaping decisions. b. Using literature as a resource for understanding social issues.

Standard 1: Civics

Students will examine the structure and purpose of governments with specific emphasis on constitutional democracy. **(DEL- SS1)**

Strand: Government		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to: 1. Demonstrate an understanding that leaders are sometimes chosen by election, and those elected officials are expected to represent the interests of the people who elected them. **(SS1-1.1)** PO1. After reading or listening to a demonstration of how a person in authority gained his/her office, students will identify the means of selection as either election, appointment, or family- related. 2. Understand that positions of authority, whether elected, appointed, or familial, carry responsibilities and should be respected. **(SS1-1.2)** PO1. Write a job description for teachers and students, which demonstrates an understanding of basic responsibilities. 3. Understand that respect for others, their opinions, and their property is a foundation of civil society in the United States. **(SS1–1. 3)**	By the end of the fifth grade, students should be able to: 1. Demonstrate an understand that governments have a variety of structures and exist for many purposes and that in America these are explained in the United States and State Constitutions. **(SS-1.1)** PO1. Create a diagram, which explains the structure of the Federal government under the U.S. Constitution. PO2. Explain the purpose of the Preamble to the Constitution. 2. Understand that the United States government is divided into executive, legislative, and judicial branches, each with specific responsibilities and powers. **(SS1-1.2)** PO1. Research current members of the three branches of government write the responsibility of each.	By the end of the eighth grade, students should be able to: 1. Understand the governments have the power to make and enforce laws and regulations, levy taxes, conduct foreign policy, and make war. **(SS- 1.1)** 2. Analyze the different functions of federal, state, and local governments in United States and examine the reasons for the different organizational structures each level of government employs. **(SS-2.1)** PO1. Investigate the kinds of laws and Regulations that local, state, and federal governments enact. Given a list of possible laws, students would break up into groups and research which level of government was the appropriate one to deal with the issue. PO2. Compare the manner in which a head of state acquires power in different political systems (e.g., President of the United States, Chairman of the Communist Party in the People's Republic of China)

Standard 2: Civics

Understand the principles and ideals underlying the American political system. **(DEL- SS2)**

Strand: Politics

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
By the end of the third grade, students will be able to:	By the end of the fifth grade, students should be able to: 1. Explain that the principle of "due process" means that the government must follow its own rules when taking actions against a citizen. **(SS-2.1)** PO1. Analyze the Bill of Rights to see how extensive a list of rights they can find in the first ten amendments. PO2. Discuss school and classroom rules as the basis for investigating the concept of due process. The students would try to determine what responsibilities these rules place on those who enforce them (e.g., to hear witnesses; investigate evidence fairly, allow an appeal of decisions). They would then try to figure out how not having due process rights weakens all other rights. 2. Understand that a society based on the ideal of individual liberty requires a commitment on the part of its citizens to the principles of civic responsibility and personal civility. **(SS-2.2)** PO1. During any election year, students could break into groups and research the background and positions of candidates in national, state, and local elections. Each student or group of students would be made responsible for compiling a scrapbook containing campaign paraphernalia and news items concerning that candidate. Students would each be required to prepare and present a speech, song, or ad which would	By the end of the eighth grade, students should be able to: 1. Understand that the concept of majority rule does not mean that the rights of minorities may be disregarded and will examine and apply the protections accorded those minorities in the American political system. **(SS- 2.1)** 2. Understand the principles and content of major American state papers such as the Declaration of Independence; United States Constitution (including the Bill of Rights); and the Federalist Papers. **(SS-2.2)** PO1. Examine the Constitution and the Bill of Rights to determine which safeguards protect political rights, and which ones protect property. PO2. Interview family members to find out what political and property rights protections they enjoy under the Constitution and Bill of Rights. Using this information they might write a story about their family's life if one or more of these protections did not exist. PO3. Examine the Delaware State Constitution and note the similarities and differences between that document and the U.S. Constitution; based on knowledge of the federal system they might suggest some reasons for these differences

Standard 3: Civics

Students will understand the responsibilities, rights, and privileges of United States citizens. **(DEL- SS3)**

Strand: Citizenship

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
By the end of the third grade, students will be able to: 1. Understand the American citizens have distinct responsibilities such as voting rights such as free speech freedom of religion and privileges such as driving. **(SS-3.1)** PO1. After interviewing or listening to two people presenting opposing viewpoints on some issue, students could be asked to summarize each position. PO2. Through role-playing, art, or other demonstrations, students could show how acts like theft or vandalism hurt other people, and explain why they are wrong.	By the end of the fifth grade, students should be able to: 1. Identify the fundamental rights of all American citizens as enumerated in the Bill of Rights. **(SS-3.1)** PO1. Identify individuals and/or groups within their community who work for the common good on a voluntary basis (civic associations; booster clubs; hospital volunteers, church charities; volunteer fire and rescue workers) and describe the contributions made, as well as the reasons people give for volunteering their time. 2. Apply the protections guaranteed in the Bill of Rights to an analysis of everyday situations. **(SS-3.2)** PO1. Parent Partnership Project: Students might take a list of classroom rules and responsibilities home and sit down with their parents to compare them with home rules and responsibilities. This would prompt student discussions of similarities and differences between the two sets of rules.	By the end of the eighth grade, students should be able to: 1. Understand that civil rights secure political freedom while property rights secure economic freedom and that both are essential protections for United States citizens. **(SS-3.1)** 2. Understand that American citizenship includes responsibilities such as voting, jury duty, obeying the law, service in the armed forces when required, and public service. **(SS-3.2)** PO1. Participate in a class debate to explore "What does it take to make a good citizen?" PO2. Interviewing parents on "What does it take to make a good citizen?" and develop a list of parental answers in order to search for common characteristics. PO3. Write essays concerning one or two responsibilities which explain the reasons why citizens should perform a specific responsibility (e.g. voting) and the consequences of large segments of the population not doing so.

Standard 1: Civics

Students will develop and employ the civic skills necessary for effective, participatory citizenship. **(DEL. SS4)**

Strand: Participation

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
By the end of the third grade, students will be able to: 1. Students will acquire the skills necessary for participating in a group, including defining an objective, dividing responsibilities, and working cooperatively. **(SS-4.1)** PO1. Explain several ways in which a group could choose a leader (taking turns, drawing straws, voting, consensus), and demonstrate each process through role-play. PO2. Participate in a cooperative group charged with a specific responsibility (planning a class activity, organizing materials for a project, etc.) After completing the task, each student would be asked to describe the contribution made by every group member, as well as the process or rules used for work assignments, decision-making, and reporting.	By the end of the fifth grade, students should be able to: 1. Identify and employ the formal and informal methods by which democratic groups function. **(SS-4.1)** PO1. Conduct a public opinion survey in the school or community on an issue of local, state, or national interest, express the results in graphic form, and report the results in a news article, video presentation, or oral report. 2. Understand that in order to select effective leaders, citizens have to become informed about candidates' qualifications and the issues of the day **(SS-4.2)** PO1. Students might organize their class, elect officers, select standing committees with an on-going responsibilities, and special committees for specific projects; they might also elect a representative to student council. Each student selected for a position would be responsible for developing a job description and providing periodic reports of their progress to classmates. PO2. Parent Partnership Project: Students might attend a school board or local government meeting with a parent and give a report on the event.	By the end of the eighth grade, students should be able to: 1. Follow the actions of elected officials, and understand and employ the mechanisms for communicating with them while in office. **(SS-4.1)** PO1. Select an important political issue (e.g., health care, income taxes, environment, etc.).Then examine news reports to find out what position different office-holders take on the issue; research the issue and prepare a letter to one of the office-holders advocating a particular course of action. PO2. Develop a questionnaire on a given political issue which would be used in interviewing family and neighbors, or even use the same questions reported in newspaper or television polls in order to compare the results.

Standard 2: Economics

Students will analyze the potential costs and benefits if personal economic choices in a market economy. **(DEL- SS2)**

Strand: Microeconomics		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to: 1. Understand that individuals and families with limited resources undertake a wide variety of activities to satisfy their wants. **(SS- 2.1)** PO1. List as many strategies as possible that families might use to acquire food (work for money and buy at the supermarket; garden; fish and hunt, etc.); and then identify which of these strategies would be more likely to be pursed in rural, urban, or suburban area. PO2. Apply the concept that economic choices require balancing of costs incurred. PO3. Using a price list provided by the teacher, each student might be asked to prepare a budget for a classroom party with fixed maximum expenditure. After listening to the plans of classmates, the student might be asked to identify what each person valued most on the menu, and what items were "given up" in order to stay within the budget.	By the end of the fifth grade, students should be able to: 1. Explain that prices in a market economy are determined by the interaction if supply and demand, with governments intervening to deal with market failures. **(SS- 2.1)** PO1. Using the "mini-society" model, students might be asked to decide on a product to produce and sell within the classroom market. 2. Explain that consumers and producers make economic choices based on supply, demand, access to markets, and the actions of the government. **(SS-2.2)** PO1. Design a survey to find out how many times a week the average student buys a certain commodity (ice cream, video rentals, etc.), and then draw a conclusion about how these rates of purchase would be affected if the price increased by 10%, 50%, or 100%.	By the end of the eighth grade, students should be able to: 1. Analyze how changes in technology, costs and demand interact in competitive markets to determine or change the price of goods and services.**(SS- 2.1)** PO1. Working in teams, students will imagine that they were Europeans living in the 17th or 18th centuries. They would study the economic resources of the various American colonies in order to gather information to create a promotional campaign to convince their neighbors to leave for a particular colony.

Standard 2: Economics

Students will examine the interaction of individuals, families, communities, business, and government in a market economy **(DE1.- SS2)**

Strand: Macroeconomics		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to 1. Understand how barter, money, and other media are employed to facilitate the exchange of resources, goods, and services.(**SS- 2.1)** PO1. Participate in a classroom simulation where in students use scrip, chip or other symbols for trade. PO2. Generate and compare a list of needs and wants for a family in their area. Then compare it with lists for families from other regions.	By the end of the fifth grade, students should be able to: 1. Understand the role of the bank and other financial institutions in the economy.(**SS- 2.1)** PO1. Participate in a "mini-society" project. (Barter Day) on which no money is used. Discuss the impact barter has on banks. PO2 Describe the costs and benefits of government regulations on the production of goods and services. PO3. Investigate the various taxes used to provide support for local schools, and for each tax suggest a possible effect the tax might have on personal economics decisions (e.g., high property taxes might discourage home ownership) in order to examine the application of cost-benefit analysis to government policy-making.	By the end of the eighth grade, students should be able to: 1. Analyze the role of money and banking in the economy, and the ways in which government taxes and spending affect the functioning of market economies.(**SS- 2.1)** PO1. Gather information concerning the economic cost of homelessness to their city or town, and then research various potential policies for reducing or eliminating the problem. PO2. Interview household members in order to determine the prices at which parents, grandparents, or other family members purchased specified goods when they were teenagers. Compare the costs of being a teenager today with that being a teenager in the past.

Standard 2: Economics

Students will examine the interaction of individuals, families, communities, business, and government in a market economy. (DEL- SS2)

Strand: Economic Systems		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to: 1. Identify human wants and the various resources and strategies which have been used to satisfy them over time.(SS- 2.1) PO1. Participate in a group to produce a product that someone would want. Students would answer basic economic questions due to scarcity; WHAT, HOW, and FOR WHOM. PO2. Discuss the importance of special classroom jobs, and how each student who performs a specific job is a specialist producing a service the class needs.	By the end of the fifth grade, students should be able to: 1. Identify different means of production, distribution, and exchange used within economic systems in different times and place.(SS- 2.1) PO1. Participate in a class activity. The teacher might bring one candy bar to class and ask how many students would like to eat it. When students discovered that scarcity existed—the wants for the candy bar are greater than the resources-they would have to offer possible solutions to the problem. PO2. Explain the means of production, distribution, and exchange of agricultural commodities and manufactured products in use in Delaware during colonial times might be contrasted with those employed today.	By the end of the eighth grade, students should be able to: 1. Demonstrate the ways in which the means if 2. production, distribution, and exchange in different economics systems have a relationship to cultural values, resources, and technologies.(SS- 2.1) PO1. Gather information and evaluate data from various sources to describe the economy of a particular nation. Use the data to make a case for classifying the economy as market, mixed, or command. PO2. Develop a set of questions, which might be used to make a comparison between different types of economics and gather economic data to answer these questions (e.g., U.S. and Sweden; Taiwan and the People's Republic of China). PO3. Interview household members in order to determine the prices at which parents, grandparents, or other family members purchased specified goods when they were teenagers. Compare the costs of being a teenager today with that being a teenager in the past.

Standard 2 Economics

All students will examine the patterns and results of international trade. **(DE1 - SS2)**

Strand: International Trade		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to: 1. Understand that the exchange of goods and services around the world creates economic interdependence between people in different places.(SS-2.1) PO1. Participate in a class activity to determine where specific commodities (shirts, shoes, jewelry, etc.) were made. Use a world map to find and location from which each of the commodities is produced.	By the end of the fifth grade, students should be able to: 1. Demonstrate how international trade links countries around the world and can improve the economic welfare of nations.(SS- 2.1) PO1. Examine the goods and service produced within the American colonies prior to the Revolutionary War, and then evaluate the various restrictions on trade which were part of the British colonial relationship with the colonies. PO2. Create maps and charts which demonstrated how this policy might benefit individuals and businesses if Great Britain and limit economic choices in the colonies. PO3. Use the maps and charts to address the question of who benefited most from the policies, who the least.	By the end of the eighth grade, students should be able to: 1. Examine how nations with different economic systems specialize and become interdependent through trade and how government policies allow either free or restricted trade.(SS- 2.1) PO1. Sketch maps of one of the world's regions from memory (these maps need not be precise in boundaries or scale, but should display correct relative location between features shown). PO2. Explain the possible reasons for differences among a set o f world maps drawn from memory by students from the different parts of the world. PO3. Apply their knowledge of the world's regions to identify the probable location of landscapes displayed in a set of photographs or satellite images, and then provide reasons for the location chosen. PO4. Plot an explorer's (or modern traveller's) route on a map, using a list of locations described only by latitude and longitude.

Standard 3: Geography

All students will develop a personal geographic framework, or "mental map" and understand the uses of maps and other geo-graphics. **(SCI - SS1)**

Strand: Maps		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to: 1. Demonstrate an d understanding of the nature and uses of maps, globes, and other geo-graphics. **(SS –3.1)** PO1. Compare air photos with different kinds of maps of the local area (road map, topographical map, population distribution map) to compare uses and understand map-making techniques. PO2. Create a "history" map of their lives marking their birthplace, different places they have lived, and places to which they have traveled. Different colored stars or other symbols could be utilized to identify categories in places. PO3. Use a map and follow a directed route through the local community of their school, which would help them understand the use of compass point and map scale. PO4. Using spherical object, such as balloons or styrofoam balls, construct a globe, and label the equator, the pole, the prime meridian, and the continents and oceans. PO5. Make a map from memory of the journey to school (or the journey from classroom to the cafeteria), and then compare that map with those of other students to discuss how each is different and why certain features may be common.	By the end of the fifth grade students will be able to: 1. Development of mental maps of Delaware and of the United States which include the relative location and characteristics of major physical features, political divisions, and human settlements. **(SS –3.1)** PO1. Identify on an outline map major features of the physical environment, such as major river systems, oceans and seas, mountain systems, deserts, plateaux, and plains for the United States and for Delaware. PO2. Identify on an outline map important human settlements and political divisions within the United States and Delaware. PO3. Sketch maps of Delaware and the United States from memory. The maps need not display precise boundaries or uniform scale, but should correctly identify the relative location of features. PO4. Demonstrate and/or explain the relationship between maps and globes, and explain why all maps are distorted images of the information displayed on the globe.	By the end of the eighth grade students will be able to: 1. Demonstrate mental maps of the world and its sub-regions which include the relative location and characteristics of major physical features, political divisions, and human settlements. **(SS –3.1)** PO1. Produce rough sketch maps of one of the worlds regions from memory (these maps need not be precise in boundaries or scale, but should display correct relative location between features shown). PO2. Explain the possible reasons for differences among a set of world maps drawn from memory by students from different parts of the world. PO3. Apply their knowledge of the world's regions to identify the probable location of landscapes displayed in a set of photographs or satellite images, and then provide reasons for the locations chosen. PO4. Plot an explorer's (or modern traveler's) route on a map, using a list of locations described only by latitude and longitude.

Standard 3: Geography
All students will develop a knowledge of the ways humans modify and respond to the natural environment. (SCI – SS2)

Strand: Environment		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to: 1. Distinguish different type of climate and landforms and explain why they occur. **(SS – 3.1)** PO1. Create a model or drawings of various landforms (mountain, hill, river, plain, etc.) and explain in simple terms how features were formed. PO2. Observing differences in weather patterns over a long period of time, create a graph to describe the observed differences. PO3. Investigate ways water is used today, and where water comes from. They would then compare this information with water use and sources of water in the past. PO4. Enlist their parents and other family members in recording home water usage for several days, and compare their families' usage with state and national averages. PO5. Classifying a series of photos by climate region, students might be asked to identify vegetation, animal life, types of human activity, and topographic features likely to be found in each climate region.	By the end of the fifth grade students will be able to: 1. Apply a knowledge of topography, climate, soils, and vegetation of Delaware and the United States to understand how human society alters, and is affected by, the physical environment. **(SS –3.1)** PO1. Compare early and modern maps of any major port city or prominent coastal feature, such as Cape Henlopen, and offer reasons for the changes in waterfront or coastline over time. PO2. Match pictures of different types of vegetation with a United States map of climates. 2. In selecting the best location for various economic activities or sporting events, students would be expected to base their decisions on data from topographic or climate maps, climographs, statistical data, etc., and give reasons for the site selected. (SS - 3.2)	By the end of the eighth grade students will be able to: 1. Apply a knowledge of major processes shaping natural environments to understand how different people have changed and been affected by, physical environments in the world's sub-regions. **(SS- 3.1** PO1. Which shape topography (tectonic forces and erosion) and climate (dispersal of solar energy in the atmosphere and oceans) to explain the characteristics of the local environment. PO2. Describe how the Earth is moved and reshaped by river and streams, or how the atmosphere and oceans are interrelated. PO3. Explain the causes of monsoon seasons (or other distinctive climate occurrence) and identify the parts of the world where they occur. PO4. Compare with a map of tectonic plates and explain the reasons for the close association of the two maps. PO5. Examine agricultural practices in several of the world's sub-regions in order to identify practices which affect the environment through erosion by wind and water, depleting underground reserves, cutting down forests, etc., to identify practices which conserve water and topsoil.

Standard 3: Geography
All students will develop an understanding of the diversity of human culture and the unique factor of places. **(SCI – SS3)**

Strand: Places

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
By the end of the third grade students will be able to: 1. Identify types of human settlement, connections between settlements, and types of activities found in each. **(SS – 3.1)** PO1. Use photos, movie clips, books and other material to gather information about cities, towns, suburban settlement and rural areas in the United States and around the world. They would then describe the size building and styles, economic and cultural activity of each type of settlement. PO2. Parent Partnership Project: Students could map trips to other settlements taken by their families of students in the class during the past month, gather information about the reasons of travel, and deduce the settlements depending upon each other. PO3. Comparing photographs of small towns and villages in various regions of the United States, students might identify the ways in which they are distinctive.	By the end of the fifth grade students will be able to: 1. Understand the reasons for the locations of human activities and settlements and the routes connecting them in Delaware and in the United States. **(SS – 3.1)** PO1. Explain how the founders of a settlement might have evaluated a site in terms of its resources and environmental characteristics relative to their needs and availability of technology. (e.g., its proximity to resources, markets opportunities, etc.) PO2. Describe how changing technology, resources, etc. can affect settlements, and how places compete to maintain their importance under changing conditions. PO3. Compare a map of Colonial trade in Delaware with a present day map, students might explain changes in road patterns, water transport patterns, port facilities, and settlements in terms of changing technology. PO4. Sketch maps of the same area e.g., school and neighborhood, and then compare the maps and discuss the reasons why perceptions of the same place differ. PO5. Examine a map of population distribution in Delaware, or the United States, and offer reasons for areas of dense and relatively sparse settlement	By the end of the eighth grade students will be able to: 1. Identify and explain the major cultural patterns of human activity in the world's sub-regions. **(SS – 3.1)** PO1. Using thematic maps of religion, language, political affiliation, and economic activity to identify places with similar culture, students could draw boundaries around these places and explain origin of these distinctive cultures. PO2. Use the concept of cultural hearth and map the direction of intensity of the spread of cultural traits to surrounding places. PO3. Prepare a briefing paper for a company about to send employees overseas. PO4. Use the internet to obtain descriptions by people in different parts of the world of what they mean by common words about places, such as "beautiful" or "ugly", students could compare these descriptions and explain reasons for the different ideas about places. PO5. Map the openings of a movie in the worlds major cities and contrast the ways cultural diffusion occurs today with the methods of cultural spread in the past.

Standard 3: Geography
All students will develop an understanding of the diversity of human culture and the unique factor of places. **(SCI – SS3)**

Strand: Regions		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to: 1. Use the concepts of place and region to explain simple patterns of connections between and among places across the country and the world. **(SS – 3.1)** PO1. Use maps of the world climate regions to predict the type of clothing, housing, outdoor activity, etc., which might be found in a specified area. Investigate through references to see if those predictions are correct. PO2. Gather evidence of interaction between their hometowns and other places in the world, such as clothing worn, mail received, goods in stores, etc. Map the information and use simple concepts of distance, direction, available means of transport, and cultural or historical association between places. Explain the mapped patterns which emerge.	By the end of the fifth grade students will be able to: 1. Apply geographic skills to develop a profile of the local community by placing it in context of physical, cultural, and other types of regions. **(SS – 3.1)** PO1. Explain changes in the use of land in a community over time, using air photos, historical documents, interviews with representative citizens, etc., in order to determine what makes the community distinctive, or similar to others in the region. PO2. Compile a list of local businesses and services; then map a selection and explain their location in terms of why some establishments cluster, and others are attracted to locate next to their markets or other suppliers. PO3. Compare the home places to immigrants to Delaware, either today or in the past, with the profile of the local area. They would then identify adjustments individuals or families might have to make in moving from one region to another. PO4. Write a story about the consequences for the community if it was completely cut off for three days from the rest of the world: no fuel, no food from the outside, no mail, etc. PO5. Using an atlas, students might develop a list of characteristics which apply to the local region (rainfall patterns, population distribution, topography, etc.) and find other regions in the world with similar characteristics.	By the end of the eighth grade students will be able to: 1. Develop an understanding of the character and use of regions and the connections between and among them. PO1. Understand the process affecting the location of economic activities in different world regions. PO2. Explain how cooperation and conflict among people contributes to the division of the Earth's surface into distinctive cultural regions and political territories. PO3. Map the location of different types of economic activities (agriculture, industry, services) and draw boundaries lines to decide where regions of common economic activity are found. PO4. Use news reports, historical data, thematic maps, resource surveys and aerial photos to report on a current border dispute between nations. PO5. Select an international regional cooperative venture, such as an international river navigation system, and identify the advantages and pitfalls of such ventures for the parties involved.

Standard 4: History

All students will employ chronological concepts in analyzing historical phenomena. **(DE1.- SS1)**

Strand: Chronology		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to 1. Use clocks, calendars, schedules, and written records to record or locate events in time.(**SS-4.1)** PO1. Record temperature readings, as well as observations of clouds and weather conditions over several months and draw conclusions about general trends based on their observations. PO2. Retell or dramatize a story with the events in the correct sequence. PO3. Construct a travel itinerary for the team. Using a map of North America and an atlas, the students could then plot the probable travel route for the team over a two-week period. PO4. Use a written schedule of classroom activities to help them predict what visitors could expect to see if they visited the classroom on a randomly chosen day at any given hour [Chronology]. PO5. Compile a schedule of planned events during after-school hours for the course of a week (TV shows—when they are on; family trips and events).	By the end of the fifth grade, students should be able to 1. Study historical events and persons within a given time-frame in order to create a chronology and identify related cause-and-effect factors. **(SS-4.1)** PO1. Select a significant historical figure from Delaware history and research the period of his or her life to discover what events that person might have witnessed or participated in. Then the students would compile a list of that individual's contemporaries throughout the rest of the United States and in selected other regions of the world. PO2. Examine descriptions, maps, drawings, or photos of several Delaware communities representing different chronological periods in order to analyze ways in which those communities have changed. Groups might be assigned to concentrate on specific areas such as transportation, technology, family living, or working.	By the end of the eighth grade, students should be able to: 1. Examine historical materials relating to a particular region, society, or theme; analyze change over time, and make logical inferences concerning cause and effect. **(SS-4.1)** PO1. Create alternate time line of significant event in world history. PO2. Trace the movements of pastoral peoples (e.g., the Hebrews, Turks, Huns, or Mongols) by examining references to them in chronologies of other peoples, and use these references to build a time-line specifically for the group chosen.

Standard 4: History

All students will gather, examine, and analyze historical data. **(DEL- SS2)**

Strand: Analysis		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to: 1. Use artifacts and documents to gather information about the past.(**SS- 4.1)** PO1. Given a collection of toys, games, and children's literature from another time, students might be asked to draw conclusions about the lives and activities of children then [Analysis; content]. PO2. Parent Partnership Project: Students might collect the items for the activity listed above from parents or grandparents, including explanations of rules or usage. PO3. Viewing a collection of old photographs, maps, or aerial photographs from the local area or school building, students could be asked to identify changes in clothing, building styles, land use, and technology which have occurred since the photos were taken [Analysis]. PO4. Construct a time capsule in which they place artifacts and documents, which they feel, would serve as an accurate guide to life in the late twentieth century for future students. PO5. Given one type if technology (methods of measuring time; transportation modes; lighting, etc.), students might be asked to first place them in chronological order, and then to discuss ways in which each particular item has affected everyday life in a given period.	By the end of the fifth grade, students should be able to: 1. Identify artifacts and documents as either primary or secondary sources of historical data from which historical accounts are constructed. **(SS-4.1)** PO1. Construct a museum display, which includes primary and secondary sources for the theme material. Topics could include such items as favorite sports, changes in clothing styles, or the life of a well-known individual. 2. Investigate a specific historical legend (George Washington and the cherry tree; the travels of Johnny Appleseed; the adventures of Davy Crockett, etc.), and determine the factual basis (if any) for the specific deeds of the people in question. **(SS-4.2)**	By the end of the eighth grade, students should be able to: 1. Master the basic research skills necessary to conduct an independent investigation of historical phenomena. **(SS- 4.1)** PO1. Compare an autobiographical narrative with several historical assessments of the subject in order to analyze the credibility of the autobiography. PO2. Create a map, which shows the patterns and extent of those migrations on a decade basis. 2. Examine historical documents, artifacts, and other materials, and analyze them in terms of credibility, as well as purpose, perspective, or point of view for which they were constructed. **(SS-4.2)** PO1. Read a series of letters or documents written by a significant historical personage and suggest possible motivations for writing the documents or the objectives toward which the documents were aimed. PO2. Express opinions and beliefs about fundamental questions of policy, government, or citizenship. PO3. Examine representative samples of poetry, folk-tales, drama, or literature from several different world civilizations. PO4. Explore the commonalities of different cultures. PO5. Examine the philosophy, literature,

		religion, and artwork of an ancient civilization and look for persistent themes and influences on the modern world.

Standard 4: History

All students will interpret historical data. **(DE1 - SS3)**

Strand: Interpretation		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to: 1. Understand that historical accounts are constructed by drawing logical inferences from artifacts and documents. **(SS- 4.1)** PO1. After studying the life of a famous person from the past, students could be asked to pack a pouch with objects which would suggest important attributes or accomplishments of that person, and make an oral presentation supporting their choices. PO2. Students might be give a bag of "evidence" gathered in a mock-trial of Goldilocks or Jack (or the Beanstalk) for trespassing and destruction of property. They would then have to interpret whether or not a case could be made for the character's guilt or innocence based on that evidence. PO3. After reading or listening to stories about families in other times and cultures, students might first create a list of the major differences between their own families and those in the story, and then create their own stories about what life might have been like had they been born in a foreign country or another time.	By the end of the fifth grade, students should be able to: 1. Explain why historical accounts of the same event sometimes differ and will relate this explanation to the evidence presented or the point-of-view of the author. **(SS-4.1)** PO1. Using drawings, paintings, oral histories, and literary sources, which illustrate the experiences of African-Americans in the 18th and 19th centuries, students might write an essay about their struggle to retain cultural cohesion within the confines of slavery. PO2. Select single historical event or person and interview their parents, grandparents, and other family members to determine their opinions on the subject. Then in class the students could examine the different responses and suggest how different personal perspectives might have led to different interpretations. PO3. After reading several accounts of the Battle of Trenton (a diary entry from a participant, a newspaper account, a textbook description, or others), students could be asked to look for similarities and differences. Then the students could be asked to give an explanation for differences noted, based on point of view or access to information.	By the end of the eighth grade, students should be able to: 1. Compare different historians' descriptions of the same societies in order to examine how the choice of questions and use of sources may affect their conclusions. **(SS- 4.1)** PO1. Students might read explanations for the decline and fall of the Roman Empire (or Han China) and create a chart, which shows the different factors emphasized by each historian. PO2. After watching the move "Gettysburg," students might then be assigned to groups to select different accounts of the battle, written by participants and historians. Each group would then compare these accounts to the narrative presented in the movie, and offer a conclusion about the interpretive viewpoint of the movie. PO3. Compare newspaper coverage in different regions of the same events.

Standard 4: History

All students will develop historical knowledge of major events and phenomena in world, United States, and Delaware history. **(DEL- SS4)**

Strand: Content		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade, students will be able to: 1. Develop an understanding of the similarities between families now and in the past. **(SS- 4.1)**	By the end of the fifth grade, students should be able to: 1. Develop an understanding of Delaware history and its connections with United States history, including: -- Native American inhabitants before European contact -- Exploration and settlement (1609-1775) -- From the First State to the Civil War (1776-1865) -- Growth of commerce, industry, transportation, and agriculture (1865-1945) -- Modern Delaware (1945-present) **(SS-4.1)** 2. Develop an understanding of selected themes in United States history, including: -- Who are the American people? (demographics, immigration) -- **How** did the United States develop its form of government? -- How have advances in technology changed our lives? -- Important people in American history **(SS-4.2)** PO1. Visit the "touch-it" room at the Winterhur Museum to examine artifacts from the colonial period. Guess what many of them were, and how they were used. Discover the real purpose of the items (either through pictures, demonstrations, or guided experimentation); create a report, a talk, or a poster showing how life would have been different for them if had they not utilized these	By the end of the eighth grade, students should be able to: 1. Develop an understanding of pre-industrial United States history and its connections to Delaware history, including: -- Three worlds meet (Beginnings to 1620) -- Colonization and Settlement (1585-1763) -- Revolution and the New Nation (1754-1820s) -- Expansion and Reform (1801-1861) -- Civil War and Reconstruction (1850-1877)**(SS- 4.1)** PO1. Compile a table comparing different forms of social and political institutions (individuals, families communities, governments, etc.) in the primary ancient civilizations. 2. Develop an understanding of ancient and medieval world history, and the continuing influence of major civilizations, including: -- The beginnings of human society -- Early civilizations and pastoral peoples (4,000-1,000 BC) -- Classical traditions, major religions, and great empires (1,000BC-300AD) -- Expanding zones of exchange and encounter (300-1,000AD) -- Intensified hemispheric interactions (1,000-1,500AD) **(SS-4.2)** PO1. Compare the relationship of government and religion in two or more

implements. PO2. Construct a Delaware "Fact Book" which includes important individuals and significant events from Delaware history. Share with their classmates their reasons for including each item.	major civilizations. Investigate the rise of Christianity in the Roman Empire following the breakdown of the Pax Roman.

Standard 1 Nature and Application of Science and Technology

All students will ask questions that help learn about the world, design and conduct investigations using appropriate methodology and technology, learn from books and other sources of information; communicate their findings using appropriate technology; and technology, and reconstruct previously learned knowledge. **(DEL-SCI)**

Strand: Science as Inquiry		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students are expected to : 1. Generate questions about the natural world and how things work. **(SCI – 1.1)** PO1. Formulate questions about objects, organisms, events, and relationships in the natural world. 2. Categorize objects, organisms and events by different characteristics. **(SCI – 1.2)** PO2. Organize (e.g. sort, classify, sequence objects, organisms and events by different characteristics. 3. Perform simple measurements and comparisons. **(SCI – 3.1)** PO1. Use simple tools such as thermometers, balances, clocks, magnifiers, and computers to observe, measure and compare information about the natural world. 4. Use graphs and charts to better visualize the results of observations and measurements; describe what counts as suitable evidence in answering questions. **(SCI – 4.1)**	By the end of the fifth grade students are expected to: 1. Use scientific inquiry methods during field and laboratory investigations. **(SCI – 1.1)** PO1. Plan and implement descriptive and simple experimental investigations including asking well-defined questions, formulating testable hypothesis and selecting and using equipment and technology. 2. Use a variety of tools and methods to observe and gather information. Tools including calculators, safety goggles, microscopes, cameras, sound records, computer books, rulers, thermometer, and timing. **(SCI – 1.2)** 3. Communicate valid conclusions, construct simple graphs, tables, maps, and charts using tools including computers to organize, examine and evaluate information; and share information with class. **(SCI – 1.3)**	By the end of the eight grade students are expected to: 1. Ask reasonable, relevant, and testable scientific questions about topics of interest and determine the type and complexity of the investigation required to answer them. **(SCI – 1.1)** PO1. Conduct a series of investigations with sufficient complexity to require the use of various experimental techniques and strategies; the separation and control variables; the consolidation, organization and display of data; the investigation to allow peer review of the results. PO2. Develop the competence to use a variety of tools and techniques in order to solve a wide range of practical problems. PO3. Use calculators to compare amounts proportionally (e.g., proportion of fat, protein, and carbohydrates in foods). PO4. Use computers to store and retrieve information in topical, alphabetical, numerical, and key word files and to create and manipulate individual files.

PO1. Construct simple graphs and charts to organize, examine and evaluate information; compare data and determine what charts or graphs provide reasonable evidence.		PO5. Read analog and digital meters in instruments used to make direct measurements of length, volume, weight, elapsed time, and temperature and choose appropriate units for reporting magnitudes. PO6. Use cameras and tape recorders for capturing information. PO7. Deciding what evidence from an investigation is useful. PO8. Organizing and summarizing information and data in tables and graphs in order to identify relationships.

Standard 1. Nature and Application of Science and Technology

All students will ask questions that will help learn about the world; design and conduct investigations using appropriate methodology and technology; learn from books and other sources of information; communicate their findings using appropriate technology; and technology; and reconstruct previously learned knowledge. **(DEL-SCI 1)**

Strand: Science, Technology, and Society		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
1. Distinguish between natural and man made objects. **(SCI –1.1)** PO1. Identify natural objects PO2. Identify man-made objects PO3. Describe differences between natural and man-made objects. 2. Use simple technology (e.g., scales, balances, magnifies, computers) PO1. Demonstrate the proper use of simple technology. **(SCI – 1.3)** 3. Identify occupations that require the application Of science and technology. **(SCI - 1.3)** PO1. Describe occupations that require the application of technology.	1. Explain how science relates to other disciplines such as biology, chemistry, geology and physics. **(SCI – 1.1)** 2. Identify and describe how technology contributes to solving problems. **(SCI – 1.2)** PO1. Identify various technologies (e.g., zipper, paper clips, computers) PO2. Describe how various technologies contribute to solving problems. 3. Explain how technology improves our quality of life. **(SCI – 1.3)**	By the end of the eighth grade students are expected to: 1. Explain how social, cultural, environmental, Influence the use of technology throughout the world. **(SCI – 1.1)** PO1. Investigate the relationship of factors such as resource availability and cultural tradition on the kinds of science and technologies pursued. Examples could include: a – An analysis of transportation methods and expertise around the world. b - The emergence of the United States as a world power in the polymer industry. a - The global war on cancer and other serious diseases. 2. Explain how issues surrounding science, technology, and society are complex and involve many risk/benefit considerations. PO1. Explore and discuss various problems which have faced society and the technologies developed to deal with such problems. PO2. Identify the products and processes

		developed to solve these problems and consider the benefits delivered and the risks created by these new technologies.

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
	situation.														
	115. Recognize the need to create goals and objectives.								I	R	R	R	R	M
	116. Understand the significance of controls in the planning process.								I	R	R	R	R	M
	117. Describe the features of hybrid forms of ownership; limited partnership, S corporation, limited liability company and joint ventures.									I	R	R	R	M
	118. Analyze types of franchising.									I	R	R	R	M
	119. Research the benefits and limitations of franchising for both the franchiser and the franchisee.									I	R	R	R	M
	120. Review the law pertaining to franchises and the provisions of a franchise contract.										I	R	R	M
17. All students will analyze the concepts of cash flow management, pricing and creative advertising/promotions; understand the international opportunities for small business.	121. Review and summarize the advantages and disadvantages of purchasing an exiting business.								I	R	R	R	R	M
	122. Understand the five critical areas to investigate when purchasing a business.										I	R	R	M
	123. Examine the methods for computing the value of a business.										I	R	R	M
	124. Describe five cash management roles of entrepreneurs.										I	R	R	M
	125. Differentiate between cash and profit.										I	R	R	M
	126. Develop a cash budget.										I	R	R	M
	127. Discuss the fundamental principles involved in managing receivables, payables and inventory.										I	R	R	M
	128. List tools utilized to obtain the maximum benefit from available cash.										I	R	R	M
	129. Interpret the effects of pricing.										I	R	R	M
	130. Explain the objectives and strategies applied when pricing new product.										I	R	R	M
	131. Recognize the effects of pricing on image.										I	R	R	M
	132. Evaluate the pricing techniques employed by retailers, manufacturers, service firms and wholesalers.										I	R	R	M
	133. Relate the impact of credit on pricing.										I	R	R	M
	134. Define advertising and distinguish it from publicity and										I	R	R	M

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
13. All students will demonstrate an understanding of applied concepts in entrepreneurship.															
	103. Create systems to gather input from every team member for simulation decisions.							I	R	R	R	R	R	M	
14. All students will strengthen communication skills by creating a visually effective presentation.	104. Reach and implement decisions in a timely manner.							I	R	R	R	R	R	M	
	105. List key issues in various case studies.							I	R	R	R	R	R	M	
15. All students will demonstrate an understanding of the concepts of entrepreneurship including challenges of small business ownership and ethic/social responsibility.	106. Participate in hands-on simulation reinforcing those concepts.						I	R	R	R	R	R	R	M	
	107. Use charts, graphs, matrices, and color to enhance presentation.							I	R	R	R	R	R	M	
	108. Use graphics to represent business concepts and ideas.									I	R	R	R	M	
	109. Analyze ways to avoid and overcome the major pitfalls involved in small business management.									I	R	R	I	M	
16. All students will demonstrate an understanding of the basic techniques of strategic management and the form of business ownership, in addition to the opportunities of franchising or purchasing an existing business.	110. Identify the circumstances that contribute to the small business failure record.								I	R	R	R	R	M	
	111. List three levels of ethical standards.								I	R	R	R	R	M	
	112. Understand the concept of social responsibility and business's responsibility to the environment, employees, customers, investors and the community.									I	R	R	R	M	
	113. Interpret the importance of strategic planning.								I	R	R	R	R	M	
	114. Demonstrate how to assess a firm's competitive										I	R	R	M	

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
	ethically.														
	82. Recognize business behavior.							I	R	R	R	R	R	M	
	83. List ten ways to improve quality for a business.									I	R	R	R	M	
	84. Explain why quality leads to profit.								I	R	R	R	R	M	
	85. List the four A's of an effect contract. Explain how a contract can be used to strengthen a business plan.								I	R	R	R	R	M	
	86. List the pros and cons of franchising.								I	R	R	R	R	M	
). All students will demonstrate in understanding of the way iability, taxation, technology and he economy affects businesses.	87. Describe the content of a basic franchise agreement.										I	R	R	M	
	88. Contrast licensing with franchising.										I	R	R	M	
	89. Explain the concept of synergism.								I	R	R	R	R	M	
	90. Explain how insurance can protect a business.								I	R	R	R	R	M	
	91. Determine when and what kind of insurance a business needs.										I	R	R	M	
10. All students will demonstrate an understanding of the market potential of a business of the student's choosing.	92. Define gross national product and gross domestic product.										I	R	R	M	
	93. Explain the relationship between taxes and incentive.										I	R	R	M	
	94. Demonstrate knowledge of new computer technologies and methods to access these technologies.					I	R	R	R	R	R	R	R	M	
	95. Define a business or a business opportunity to pursue.					I	R	R	R	R	R	R	R	M	
	96. Identify ad access sources of information on the business							I	R	R	R	R	R	M	
	97. Describe the opportunity, threats, and key success factors in the industry in which the business will operate.										I	R	R	M	
1. All students will demonstrate problem solving skills and decision-making ability.	98. Recognize competitors and compare on the basis of key success factor.										I	R	R	M	
2. All students will operate efficiently in a team environment.	99. Identify and describe customer segments.										I	R	R	M	
	100. Relate the information gathered to a strategic plan for the business.								I	R	R	R	R	M	
	101. Successfully participate in a Dino Park simulation.										I	R	R	M	
	102. Develop roles and responsibilities for team members.							I	R	R	R	R	R	M	

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
All students will demonstrate understanding of financial ncepts essential to operate a all business.	60. Relate cost/benefit analysis to personal and business decisions.									I	R	R	R	M
	61. Demonstrate the opportunity cost of an investment.										I	R	R	M
	62. Complete a personal budget.									I	R	R	R	M
	63. Summarize the difference between the present and future of a dollar.						I	R	R	R	R	R	R	M
	64. Contrast bonds and stocks.									I	R	R	R	M
	65. Explain the effects of inflation have on the value of a dollar.								I	R	R	R	R	M
	66. Demonstrate an understanding of a bond table.										I	R	R	M
	67. Calculate debt-to equity ratio and debt ratio.										I	R	R	M
	68. Evaluate a balance sheet using ratio.										I	R	R	M
	69. List new sources of capital and explain equity financing.							I	R	R	R	R	R	M
All students will apply basic iantitative skills to practical isiness situations.	70. Analyze accounts payable.										I	R	R	M
	71. Explain the purpose of venture capitalists and determine a company's total value.									I	R	R	R	M
	72. Identify the components of a business plan.					I	R	R	R	R	R	R	R	M
	73. Perform simple calculations quickly to facilitate negotiations.								I	R	R	R	R	M
	74. Demonstrate how a business obtains raw materials for resale.									I	R	R	R	M
	75. Demonstrate an understanding of the basic economics and sale dynamics involved in flea market/kiosk-type selling.								I	R	R	R	R	M
	76. Develop a simple income statement.							I	R	R	R	R	R	M
	77. Track inventory and cash revenue								I	R	R	R	R	M
All students will understand e legal and ethical lationships between a business id its customers and anchisees/licensees.	78. Explain the importance of establishing a personal credit history.										I	R	R	M
	79. Describe how to use charge accounts and layaways.							I	R	R	R	R	R	M
	80. List the four C's of business credit.										I	R	R	M
	81. Explain the value of treating customers and employees							I	R	R	R	R	R	M

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
	39. Determine which form of business is most suitable for selected business ideas.								I	R	R	R	R		
	40. Develop plans for test marketing a new invention.										I	R	R	R	M
	41. Compare and contrast copy, trademark and patent.										I	R	R	M	
4. All students will analyze and apply the basic principals of business communication and marketing,	42. List and explain the four steps by which an invention becomes a real product.										I	R	R	M	
	43. Calculate mark-up percentage, price, profit, margin and cost.										I	R	R	M	
	44. Identify factors involved in choosing a business name.									I	R	R	R	R	M
	45. Compose and type a business memo and letter; recollect the significance of proofreading and editing for spelling, punctuation, accuracy of content and clarity of expression.					I	R	R	R	R	R	R	R	R	M
	46. Develop product features and customer benefits.					I	R	R	R	R	R	R	R	R	M
	47. Apply the seven principles of selling.								I	R	R	R	R	R	M
	48. Explain the seven steps of a sales call.								I	R	R	R	R	R	M
5. All students will demonstrate an understanding of basic accounting concepts necessary to operate/manage a business.	49. Identify and apply the four elements of a marketing plan.								I	R	R	R	R	R	M
	50. Recognize the five parts of a printed advertisement and develop an advertising concept.								I	R	R	R	R	R	M
	51. Apply market research to understand customer needs.							I	R	R	R	R	R	R	M
	52. Explain start-up costs, cost of goods sold and operating costs.							I	R	R	R	R	R	R	M
	53. Differentiate between fixed costs and variable costs.									I	R	R	R	R	M
	54. Calculate profit and profit per unit.					I	R	R	R	R	R	R	R	R	M
	55. Prepare a monthly income statement and compute net profit or loss.					I	R	R	R	R	R	R	R	R	M
	56. Analyze income statement line items as a percentage of revenue.							I	R	R	R	R	R	R	M
	57. Perform a break-even analysis.									I	R	R	R	R	M
	58. Find the return on investments and compare risk and returns.									I	R	R	R	R	M
	59. Interpret stock tables.									I	R	R	R	R	M

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks													
. All students will demonstrate n awareness of and a basic)undation for starting a small usiness.	17. Think of a creative idea; complete an interest inventory to assess ability to produce idea.	I	R	R	R	R	R	R	R	R	M			
	18. Create a written or picture business plan.	I	R	R	M									
	19. Complete a written or picture interest – inventory.	I	R	R	R	R	R	R	R	R	M			
	20. Recognize skills needed to practice record keeping such as inventory of materials and supplies, expenses, letters and banking transactions. .	I	R	R	R	R	R	R	R	M				
	21. Orally present individual or group plan to class.	I	R	R	R	R	R	R	R	R	R	M		
	22. Define enterpreneurship, and economics.	I	R	R	R	M								
	23. Practice creative, vertical thinking.				I	R	R	R	M					
. All students will demonstrate n understanding of problem olving skills and decision-aking ability.	24. Analyze methods by which business solve problems and meet consumers' needs.		I	R	R	R	R	R	R	M				
	25. Understand basic principles of free enterprise economy.		I	R	R	R	R	R	R	R	R	M		
	26. Explain the relationship between supply and demand.						I	R	R	R	M			
	27. Explain the difference between product and services.				I	R	R	R	R	R	M			
	28. Analyze personal characteristics and relate them to common traits of successful entrepreneurs.										R	M		
	29. Practice negotiation.						I	R	R	R	R	M		
	30. Construct business ledgers.						I	R	R	R	R	R	M	
	31. Utilize reference materials useful in starting a business.					I	R	R	R	R	R	R	M	
	32. Develop inventions and learn the procedures for protecting them.						I	R	R	R	R	R		
	33. List, define and contrast the four types of businesses.						I	R	R	R	R	R		
	34. Introduce the production/distribution chain and analyze its effect on price.							I	R	R	R	M		
	35. Introduce possible business ventures for young entrepreneurs.		I	R	R	R	R	R	R	R	R	R		
	36. Compare and contrast sole proprietorship and partnerships.							I	R	R	R	M		
	37. Understand corporate structure and management.							I	R	R	R	M		
	38. Simulate the steps necessary for registering a sole proprietorship.									I	R	R		

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard **Benchmarks**

Content Standard	Benchmark	K	1	2	3	4	5	6	7	8	9	10	11	12
1. All students will demonstrate an awareness of entrepreneurship and why it is the foundation of America's economy.	1. Recognize a variety of jobs people perform.	I	R	R	M									
	2. Describe work performed by family and community members; describe how they work.	I	R	R	R	M								
	3. Define entrepreneur; explain the difference between entrepreneur and employee.	I	R	R	R	M								
	4. Identify characteristics of a successful entrepreneur.	I	R	R	M									
	5. Listen to, read, discuss and role-play stories about young entrepreneurs.	I	R	R	R	R	M							
	6. Demonstrate an understanding of free enterprise.		I	R	R	R	R	M						
	7. Recognize and describe the three basic human needs.	I	R	R	R	R	M							
	8. Explain and demonstrate the difference between needs and wants.	I	R	R	R	R	M							
	9. Explain how needs and wants influence the American economy.			I	R	R	R	M						
	10. Describe the difference between consumers and producers.	I	R	R	R	R	R	M						
	11. Demonstrate and explain how people have unlimited wants but limited resources to satisfy them.		I	R	R	R	R	M						
	12. Recognize that people must make choices among alternatives.	I	R	R	R	R	M							
	13. Recognize the need for more goods and services impact supply and demand.			I	R	R	R	R	M					
	14. Recognize how goods are transported both within and outside the country.	I	R	R	R	M								
	15. Recognize how money is used as an exchange for goods and services.	I	R	R	R	R	R	R	M					
	16. Explain the difference between product and service.	I	R	R	R	R	M							

ENTREPRENEURIAL

Standard 8: Ecology

All students will understand that organisms are linked to one another in an ecosystem by the flow of energy and the cycling of materials. Humans are an integral part of the natural system and human activities can alter the stability of ecosystems. Students will acquire a basic understanding of the structure of ecosystems and how they function and how they change. They will also study how humans can apply scientific and technological knowledge about ecosystems in making informed decisions about the use of natural resources. **(DEL – 8)**

Strand: Technology and its Influence on the Environment

Early Elementary K-3	Late Elementary 4-5	Middle 6 – 8
1. Explain how technology allows many different kinds of materials to be reduced, recycled, and reused. **(SCI – 8.1)** PO1. Identify a variety of ways to change personal habits to reduce, reuse, and recycle resources. 2 Explain how technology enables farmers to increase crop production. Technology also allows food to be stored for long periods and transported long distances without spoiling. PO1. Use Delaware maps to locate the primary growing areas of the state. Explain the various technologies used on the farm to improve crop yields as well as the various technologies required in transporting and distributing the crops from the farm to the store.	Demonstrate how various technologies are used to access resources or create conveniences needed by society, such as logging, building of highways, shopping centers, and dams. PO1. Use current or past issue that has been discussed in the media such as the building of Delaware Route 1, spraying for mosquito larvae, damming or various rivers, and the building expansion in Sussex County. Debate the pros and cons of the issue.	1. Explain how agriculture relies heavily on technology to increase productivity. Advances in irrigation allow crops to grow in areas where there is not enough precipitation. Chemicals are used to fertilize crops and to control damage done by rodents, fungi, insects, and weeds. The need to increase agricultural production results in environmental trade-off (e.g., saltwater intrusion, water table lowering, agricultural runoff into rivers/streams, elimination of beneficial insects, desertification). **(SCI – 8.1)** PO1. Investigate the economic and environmental trade-off involved in implementing agricultural technology as well as farmers' efforts (e.g., hedge rowing, ditching) to minimize the environmental impact of these technologies.

Standard 8 Ecology

All students will understand that organisms are linked to one another in an ecosystem by the flow of energy and the cycling of materials. Humans are an integral part of the natural system and human activities can alter the stability of ecosystems. Students will acquire a basic understanding of the structure of ecosystems and how they function and how they change. They will also study how humans can apply scientific and technological knowledge about ecosystems in making informed decisions about the use of natural resources. **(DEL – 8)**

Strand: Changes in Environment

Early Elementary K-3	Late Elementary 4-5	Middle 6 – 8
1 Understand that living things change the area in which they live. **(SCI – 8.1)** PO1. Participate in a field trip to a natural area such as a State Park. Prior to the trip prepare a series of questions for the Park Ranger or field biologist concerning how living things influence and are influenced by their surroundings. Keep a record of the examples cited and discuss if the changes are beneficial or harmful.	1 Explain how organisms adopt to live and reproduce in certain environments. **(SCI – 8.1)** PO1. Observe a variety of local plants and animals in several different habitats. Identify structures, features, and behaviors of the organisms that make them suitable for survival in these habitats. 2. Describe changes in an organism's environments that can either be beneficial or harmful. Organisms may be affected by others resulting from physical factors (e.g., rainfall, temperature), by physical forces (e.g., storms, earthquakes), and by daily, seasonal, and annual cycles. **(SCI – 8.1)** PO2. Investigate how a particular environment (e.g., field, and playground) changes over time. Classify the changes as either resulting from physical forces or from the action of living organisms, and determine whether the changes are beneficial or harmful to the organisms. 3. Observe your environment. Explain how pollution and human activities can change the environment and adversely affect the health and survival of humans and other species. **(SCI – 8.1)** PO3. Design a simple brochure, poster, booklet, or video to increase public awareness about the impact of altered habitats or land development on various Delaware species (e.g., Piping Plover, Bluebird, Delmarva Fox Squirrel, Bald Eagle,	1 Explain changes in the physical or biological conditions of an ecosystem that can alter the diversity of species in the system. **(SCI – 8.1)** PO1. Investigate local areas (disturbed and undisturbed) that are undergoing natural cycles of succession such as abandoned gardens, uncut areas beneath power lines, areas along ditch banks and fences, and the edge of a forest. PO2. Predict how plant communities that grow in the area may change over time and how their presence determine what kinds of animals may move into or out of the area. 2. The size of populations in an ecosystem may increase or decrease as a result of the interrelationships among organisms, availability of resources, natural disasters, habitat changes, and pollution. PO1. Construct a graph showing the carrying capacity of a single species in a closed system (brine shrimp, fruit fly). Record the change in population over a period of time. Explain how the carrying capacity affects the population growth of the system.

All students will understand that organisms are linked to one another in an ecosystem by the flow of energy and the cycling of materials. Humans are an integral part of the natural system and human activities can alter the stability of ecosystems. Students will acquire a basic understanding of the structure of ecosystems and how they function and how they change. They will also study how humans can apply scientific and technological knowledge about ecosystems in making informed decisions about the use of natural resources. **(DEL – 8)**

Strand: Interactions Within The World Around Us		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to: 1. Explain the interaction of living and non-living components within ecosystems. **(SCI – 8.1)** PO1. Identify living components within ecosystem PO2. Identify non-living components within ecosystems PO3. Describe the interaction among living and non-living components in an ecosystem 2. Living things depend on each other in many ways. Animals use plants for shelter, and eat plants and other animals for food. Plants depend on animals to carry their pollen and to disperse their seeds. **(SCI – 8.1)** PO1. Explore a simple natural system such as a classroom aquarium or an outdoor habitat. (See also Life Processes B. Requirements for Survival.) Identify common basic needs of plants and animals and investigate ways in which they depend on each other for these needs.	By the end of fifth grade students will be able to: 1. Demonstrate how living organisms interact with the living and non-living parts of their surroundings to meet their for survival. **(SCI – 8.1)** PO1. Illustrate a food chain or a web of food chains by sequentially ordering pictures or samples of a variety of living things (e.g., fungi, insects, plants, and animals).	

Strand: Health and Technology Applications		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6 – 8**
		1. Understand that selective breeding is used to produce new varieties of cultivated plants and domesticated animals with enhanced traits. **(SCI – 7.1)** PO1. Use a variety of resources to develop a report on selective breeding. Select a cultivated plant (e.g., "Super Sweet Corn" "Sugar Baby Watermelon") or domesticated animals (e.g., "Ovenstuffer Roaster", n Low Fat Hogs) and trace its history of development and the traits of the plant or animal that were enhanced by selective breeding. 2 Understand that knowledge gained from research in genetics is being applied to areas of human health. PO1. Select one area of genetic, reproductive, or embryonic research. Explain the human benefits as well as the economic, social, and ethical issues raised by such research.

Strand: Reproduction and Development		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
		1. Explain asexual reproduction: A new organism grows from a single cell or a cluster of cells provided by the parent and results in offspring genetically identical to the parent. **(SCI – 7.1)** PO1. Observe asexual reproduction in a variety of organisms (e.g., yeast, hydra, and plants) and discuss important characteristics of this form of reproduction in preparation for an in-depth comparison with sexual reproduction. **2.** Explain how sexual reproduction, gametes (egg and sperm), which are produced in specialized structures of the parents, fuse during fertilization to form an organism. Since each gamete contributes a set of chromosomes, the offspring have traits of both parents. **(SCI – 7.2)** PO1. Describe sexual reproductive patterns in flowering plants and a variety of animals. Discuss the difference between sexual and asexual reproduction. 3. Explain what happens to an egg after it is fertilized. It undergoes an orderly series of changes involving cell division and differentiation as a new organism is formed. Each of the new cells in the developing organism receives an exact copy of the genetic information contained in the fertilized egg. **(SCI – 7.2)** PO1. Observe, describe, and measure changes that occur in an organism (e.g., bean plant, butterfly, frog, chicken) as it develops from a seed or fertilized egg into an adult.

Standard 7 Diversity and Continuity of Living Things

Strand Evolution

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
1. Recognize that plants and animals have features that help them survive and reproduce in different places. **(SCI – 7.1)** PO1. Investigate and describe specific features of plants and animals that help them survive in different places (e.g., fish gills for breathing in water, feathers for flying and warmth, protective coloration for hiding). 2. Explain how fossils provide evidence that present-day plants and animals are both similar to and different from those that lived in the past. These fossil records indicate that some plants and animals that once lived on Earth no longer exist. **(SCI – 7.2)** PO1. Examine a variety of Delaware fossils or fossil replicas. Compare them to present day plants and animals and draw reasonable conclusions about the similarities and differences between the fossils and present day plants and animals.	1. Explain that organisms of the same species have variations, which may provide an advantage in reproduction and survival. **(SCI – 7.1)** PO1. Observe and describe variations in a species (e.g., length of bean seeds, height in radishes, leg length in grasshoppers). Predict how these variations may affect the ability of the organism to survive	1. Recognize that natural selection is the process by which some individuals with certain traits are more likely to survive and produce greater numbers of offspring's than other organisms of the same species. Conditions in the environment can affect which individuals survive in order to reproduce and pass their traits on to the future generations. Small differences between parents and offspring accumulate over many generations and ultimately new species may arise. **(SCI – 7.1)** PO1. Conduct a natural selection simulation to demonstrate that a specific trait has selective advantages for an organism. For example, study the advantages of protective coloration of a species that is pried upon. Scatter different colored toothpicks in the grass, role-play a predator, and quickly pick up as many toothpicks as possible. Collect data on the remaining colors and discuss the advantages of protective coloration in the survival of organisms. PO2. Investigate and discuss how short term physiological adaptations of an organism (e.g., skin tanning, muscle development, and formation of calluses) differ from long term evolutionary adaptations that occur in a group of organisms over generations.

Standard 7 Diversity and Continuity of Living Things

Strand: Biotechnology and It's Application		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6 – 8**
By the end of third grade, students will be able to: 1. Humans have always applied knowledge of the varied characteristics of plants and animals to satisfy their needs. PO1. Identify the plants or animals associated with particular items of food, shelter, or clothing and discuss how similar plants or animals can be used in different ways (e.g., cattle for meat, milk, leather; trees for fruit and wood; dogs for hunting, protection, and transportation).	By the end of fifth grade, student will be able to: 1. The climate and soils in Delaware are ideal for growing a great variety of fruits and vegetables. Delaware scientists continue to explore ways to improve the growing conditions and quality of these crops. **(SCI – 7.1)** Invite a person from the community such as a farmer, an agricultural extension agent, or an agricultural scientist to talk about how specific varieties of fruits and vegetables grown in Delaware changed over the past decade. Discuss future plans for improving the quality and yields of these crops.	

Strand Diversity		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
1 Classify and sort plants and animals based on appearance and behavior. **(SCI – 7.1)** PO1. Construct or classification systems that allow the sorting of plants and animals into groups based on external features or patterns of behavior (e.g., animals that build nests, plants that have broad leaves/plants with needle-like leaves).	1. Distinguish between organisms based on their distinct and unique features. Explain how specialized features are used for survival. **(SCI – 7.1)** PO1. Examine a variety of common plants and animals for similarities and differences in features such as animal tracks, beak shape, leaf structure. Use the similarities and differences of the features to develop appropriate classifications that sort and group these organisms. For example, birds can be categorized according to the shape of their beaks and the type of food they eat (e.g., berry eaters, seed eaters, meat eaters)	1. Classify organisms into five kingdoms (monera, protista, fungi, plantal, animals) based on similarities in structure and behavior. **(SCI – 7.1)** PO1. Examine a variety of common organisms representing the five kingdoms, and construct and use a dichotomous key to classify these organisms. 2. Understand that a species is an important biological grouping of organisms, whose members have similar structures, normally interbred, and produce fertile offspring **(SCI – 7.2)** 3 Explain how each structure in an organism is uniquely adapted to perform a particular function for enhancing the ability of the organism to survive. **(SCI —7.3)** PO1. Examine selected internal and external structures of different plant and animals species. Describe and compare those structures that perform a common function, (e.g., teeth of herbivores/carnivores, leaves in deciduous structure enable the organism to survive in its particular environment)

All students will study how living things reproduce, develop, and transmit traits, and how theories of evolution explain the unity and diversity of species found on Earth. Students will also study how knowledge of genetics, reproduction, and development is being applied to improve agriculture and human health

CM-SC17

Strand: Heredity and Reproduction

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
By the end of third grade students will be able to: 1. Explain how the offspring of plants and animals resemble their parents in many ways although they are not exactly like their parents or each other. **(SCI – 7.1)** PO1. Observe parents and offspring from a variety of species such as dogs, cats, rabbits, and bean plants. Identify characteristics that the offspring have in common with their parents and characteristics, which are different from their parents. 2. Explain that the offspring of some plants and animals look very different from their parents when they are first born. Similarities between parents and their offspring become more apparent as the offspring develops. **(SCI – 7.2)** PO2. Observe and compare similarities and differences in characteristics of a wide range of mature and immature organisms such as tadpoles/frogs, caterpillars/butterflies, and seedlings/mature plants. Keep a journal describing the changes that occur in the appearance of the plants and animals as they develop. 3. Explain that the phases in the life cycle of plants and animals (i.e., birtih, growth, reproduction, and death) are predictabe and describable but differs from species to species. **(SCI – 7.3)** PO3. Discuss the human life cycle and generate some reasonable questions about differences in development during the various stages – newborn, child, adolescent, adult, elder.	By the end of fifth grade students will be able to: 1. Explain how physical characteristics are passed on from parent to offspring and organisms with two parents inherit characteristics of both. **(SCI – 7.1)** PO1. Observe parents and offspring from a variety of species (e.g., hamsters, mice, fish) and draw reasonable conclusions about the inheritance of traits such as body shape, coloration, and behavior	By the end of eighth grade students will be able to: 1. Explain that chromosomes, which are components of cells, occur in pairs and carry hereditary information and the subunits of chromosomes are genes, which direct the formation of an organism's traits. **(SCI – 7.1)** PO1. Use models to demonstrate that chromosomes and genes come in pairs and that chromosomes are composed of many genes. Use these same models to discuss how genetic material is transmitted from cell to cell or from parent to offspring. PO2. Use Punnett squares and pedigree charts to demonstrate and predict how single gene traits, such as seed shape in peas and tongue rolling in humans, are transmitted to offspring.

Standard 6: Life Processes

Students understand the characteristics of living things, the diversity of life and how organisms change over time in terms of biological adaptation and genetics. Students understand the interrelationships of matter and energy in living organisms and the interactions of living organisms with their environment. Students understand how knowledge about life processes can apply to improving human health and well being. **(DEL – SCI6)**

Strand: Health and Technology Application

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
1. Demonstrate how a well-balance diet, adequate rest, exercise, and good hygiene are essential for people to stay healthy. **(SCI – 6.3)** PO1. Collect, records, and chart information relating to personal health using simple devices such as thermometer, scale a measuring tape. Use this information to discuss individual, group or class trends and patterns.	1. Explain technological advances in medicine, the development of various safety devices and protective equipment, and improvements in hygiene, that have helped in the diagnosis and treatment of illness and have reduced the number of damaging and life threatening injuries. **(SCI – 6.1)** PO1. Investigate, discuss, and generate questions about the contributions of science and technology to good health. Give consideration to the following: water purification, personal hygiene, sanitation, antibiotics, tools for diagnosis, repair and replacement of body parts, and sports and auto safety.	1. Explain the function and health or organisms, including humans, are influenced by heredity, diet, lifestyle, bacteria, viruses, parasites, and the environment. Certain body structures and systems function to protect against disease and injury. **(SCI – 6.1)** PO1. Select a relevant health topic (e.g., diet, drugs, exercise, disease), write a research-based paper that explains how normal life processes are affected by your selection, and give an oral presentation on the results of the research. 2. Explain how sanitation measures such as the use or sewers, landfills, quarantines, and safe food handling are important in controlling the spread of organisms that cause disease. **(SCI – 6.2)** PO2. Investigate the impact of improved sanitation measures on the health of the local population using a full range of community resources such as guest lecturers, field trips, libraries, and community agencies.

Standard 6: Life Processes

Students understand the characteristics of living things, the diversity of life and how organisms change over time in terms of biological adaptation and genetics. Students understand the interrelationships of matter and energy in living organisms and the interactions of living organisms with their environment. Students understand how knowledge about life processes can apply to improving human health and well being. (DEL-SC16)

Strand: Regulation and Behavior		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to:	By the end of the fifth grade students will be able to: 1. Understand that living organisms are composed of parts that work together to ensure the survival of the whole organism. The behavior of an organism is influenced by internal clues such as hunger and external clues such as air temperature. (SCI-6.1) PO1. Use human models to locate internal organs. PO2. Describe the effect one organ can have on another organ and how each organ contributes to the well being of a person. PO3. Describe how organs detect changes in the environment.	By the end of the eighth grade students will be able to: 1. Understand that all organisms obtain and use resources to grow, reproduce, and maintain a relatively stable environment while living in a constantly changing external environment. Regulation of an organism's internal environment involves sensing external changes in the environment and changing physiological activities to keep within the range required to survive. (National Science Education Standards, 1994) **(SCI-6.1)** PO1. Conduct a simple investigation to determine factors that affect pulse rate. Work with a partner and record pulse rates while sitting quietly, lying on the floor, running in place, and doing jumping jacks. Construct a graph of your pulse rate over time and describe how the graph indicates that you might be observing a system in dynamic balance. (Investigating Systems and Change. BSCS, 1994)

Standard 6 Life Processes

Students understand the characteristics of living things, the diversity of life and how organisms change over time in terms of biological adaptation and genetics. Students understand the interrelationships of matter and energy in living organisms and the interactions of living organisms with their environment. Students understand how knowledge about life processes can apply to improving human health and well being. **(DEL – SCI6)**

Strand: Flow of Matter and Energy / Matter and Energy Transformation		
Early Elementary K-3	**Late Elementary 4-5**	
	1. Demonstrate how living organisms interact with living and non-living parts of their surroundings to meet their needs for survival. These interactions lead to a constant exchange of matter and energy. **(SCI – 6.1)** PO1. Develop a list of food items offered for lunch by the school cafeteria. Work in-groups to construct a food chain that traces the source of each food items from plant origin to the product eaten.	1. Demonstrate how plants make their food by the process of photosynthesis. **(SCI – 6.1)** PO1. Conduct simple experiments with green plants to determine the requirements and products of photosynthesis. For example, place elodea in a clean inverted funnel and place both the elodea and funnel in a beaker of water. Place a test tube over the spout end of the funnel and measure oxygen bubble production as evidence of photosynthesis. 2. Explain how living things obtain energy from food. Energy is needed for living cells to carry out all the processes of life such as growing, disposing of wastes, making new cells, and using food. **(SCI – 6.2)** PO1. Read a variety of articles, which address the relationship of human energy requirements to diet. Develop tables which describe the content (e.g., fiber, fat, carbohydrates, protein) of the foods routinely consumed by the class. PO3. List the daily activities of the class and their energy requirements (rank order from highest to lowest) and describe the various diets, which satisfy the energy required to support such activities

Star Life Processes

Students understand the characteristics of living things, the diversity of life and how organisms change over time in terms of biological adaptation and genetics. Students understand the interrelationships of matter and energy in living organisms and the interactions of living organisms with their environment. Students understand how knowledge about life processes can apply to improving human health and well being. **(DEL – SCI6)**

Strand: Survival Structure / Function Relationship		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
1. Understand how the human body has parts that perform many different functions. **(SCI – 6.2)** PO1. Identify the five senses and the function of each (e.g., eyes for seeing). PO2. Explain how the senses work together to seek, find and consume food.	1. Understand how living things have structures that function to help them reproduce, grow, and survive in different kinds of places. **(SCI – 6.2)** PO1. Observe and describe how organisms such as plants or crickets, snails or fish take in substances, grow, reproduce, and respond to stimuli. Explain how different structures perform specific functions in order for the organism to me its need for survival.	1. Understand how the basic unit of all living organisms is the cell. Different cells specialized to perform various tasks and cells similar in shape and functions are organized into groups (e.g., muscle cell, motor nerve cells). **(SCI – 6.10)** 2. Understand that cells contain a set of observable structures called organelles (e.g., cell wall, cell membrane, nucleus, chloroplast, and vacuole) that control the various functions of the cell such a structural support, photosynthesis and storage of materials. PO1. Use microscopes to observe a plant or animal cell. Draw the cells and label any observable organelles. PO2. Describe how specific groups of cells differ in structure from other groups of cells. PO3. Explain how the distinctive structure of the cells determines their function.

Students understand the characteristics of living things, the diversity of life and how organisms change over time in terms of biological adaptation and genetics Students understand the interrelationships of matter and energy in living organisms and the interactions of living organisms with their environment Students understand how knowledge about life processes can apply to improving human health and well being. **(DEL – SCI6)**

Strand: Characteristics of Living Things		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade student will be able to: 1. Identify characteristics of plants and animals (including extinct organisms) that allow them to live in specific environments. **(SCI – 6.1)** PO1. Identify adaptations of plants that allow them to live in specific environments. PO2. Identify adaptations of animals that allow them to live in specific environments. PO3. Keep a journal describing living things and where they live. 2. Identify the basic structures and functions of plants and animals. **(SCI – 6.1)** PO1. Identify basic animal structures. PO2. Describe the functions of basic animal structures. PO3. Identify basic plant structures. PO4. Describe the functions of basic plant structures. 3. Recognize and distinguish similarities and differences in diverse species **(SCI – 6.1)** PO1. Identify observable similarities among diverse species (e.g., number of legs, body coverings, size). PO2. Identify observable differences among diverse species. PO3. Compare the observable similarities and differences among diverse species.	By the end of fifth grade students will be to: 1. Students know and are able to do all K – 3 skills.	

Standard 5: Earth's Dynamic Systems

Strand: Technology and Applications		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
1. Demonstrate an understanding of how technology enables meteorologists to predict changing weather patterns. Weather forecasts influence decisions concerning human activity. (SCI – 5) PO1. Use a variety of simple instruments such as a thermometer, barometer, wind vane, and rain gauge to measure changes in the weather. Construct charts and graphs which track weather changes on a daily basis. Relate how changes in the weather influence daily activities. PO2. Construct charts and graphs which track weather changes on a daily basis. PO3. Relate how changes in weather influence daily activities.	1. Explain why many of Earth's resources are limited or non-renewable. Careful planning and use are necessary to extend their availability. (SCI – 5.1) PO1. Design a survey for friends and family to determine how they use a variety of natural resources such as water, fossil fuels, metals, and air. Analyze the survey results to determine ways of extending the availability of natural resources (e.g., recycling, conserving, changing habits, using an alternative product)	1. Demonstrate how instrumentation e.g., pH meters, water analysis kits) and computer models enable the measure and analysis of environmental pollution. Sources of environmental pollution can be tracked using maps and satellite imagery. (SCI – 5.1) PO1. Use technology (e.g., maps, satellite imagery, and instrumentation) to locate possible sources of environmental pollution. Compare sources with meteorological data to locate the probable origin of regional contamination.

Standard 5: Earth's Dynamic Systems

All students will study and learn to identify components of the various Earth systems and understand the changes and patterns that result from interactions within and between these systems. **(DEL – 5)**

Strand: Interactions Among Earth's System		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
		PO1. Use U.S. weather maps to identify and describe air masses, fronts, and their movement. PO2. Perform daily weather measurements over an extended period of time using a variety of instruments (e.g., barometer, anemometer, sling psychrometer). Compare and contrast the measurements to local and regional weather data. PO3. Discuss the origin and impact of the great storms of the east coast (e.g., hurricanes, "nor'easter", snow and ice storms). Assess adequacy of emergency planning procedures to respond to the damage, which such storms can cause. 5. Explain how ocean currents affect the weather and long term climatic patterns of a region. Large bodies of water (oceans, the Great Lakes, inland seas) can also affect the weather and climate of an area. **(SCI – 5.5)** PO1. Investigate the influence of the Atlantic Ocean on erosion of coastal areas, commerce, and the climate of Delaware. PO2. Examine maps of ocean currents and trace the origin and flow of such currents to explain the transport of heat energy Speculate which currents have dominate influence on the Delaware coast

Standard 5: Earth's Dynamic Systems

All students will study and learn to identify components of the various Earth systems and understand the changes and patterns that result from interactions within and between these systems. **(DEL – 5)**

Strand: Interactions Among Earth's System		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
		PO2. Design tests to study the effects of physical processes (freezing and thawing of water, erosion) and chemical processes (oxidation, acidification) on the structure of rocks, and speculate on the impact of climate, topography, and airborne and water pollutants on these processes. PO3. Investigate factors influencing erosion and deposition and relate the results to local areas of erosion. Apply this information to economic decisions concerning the use of land for construction, farming, industry, and recreation. 3. Explain the cycling of water in the atmosphere is driven by energy transfer processes, such as convention and radiation, and is constantly changing the location and phase of water. **(SCI – 5.3)** PO1. Design simple experiments to demonstrate the influence of wind and temperature on the hydrologic cycle. 4. Describe the uneven heating and cooling of Earth's surface produce various air masses, which differ in density, humidity, and temperature. The origin, movement, and interaction of these air masses result in significant weather changes. **(SCI – 5.4)**

Standard 5: Earth's Dynamic Systems

All students will study and learn to identify components of the various Earth systems and understand the changes and patterns that result from interactions within and between these systems. **(DEL – SCI-5)**

Strand: Interactions Among Earth's System		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
1. Describe the surface of the Earth changes constantly. Some of these changes happen slowly and are difficult to detect on a daily basis. Other changes happen quickly and result from events such as heavy rainstorms, ice storms, hurricanes, and tornadoes. **(SCI – 5.1)** PO1. Cite a disturbance or natural hazard, which has recently happened or is in progress locally. Such events could include a hurricane, snowstorm, "nor'easter", drought, tornado, or heat wave. Identify changes that have occurred to the surroundings as a result of this event and the impact on wild life, human activity, and the economy. 2. Describe how repeating patterns can be found in weather and seasonal changes. Plant, animal, and human activities are influenced by these patterns. **(SCI – 5.2)** PO1. Describe weather conditions (e.g., sunny, foggy, rain) and the impact these conditions; have on plant, animal, and human activity.	1. Describe geologic features of Earth's surface such as mountains, plateaus, plains, lakes, streams, oceans, and glaciers are constantly changing, making the surface of the land different from location to location. **(SCI – 5.1)** PO1. Use globes, maps, and posters to identify major landforms and geological features. Compare and contrast the topography of Delaware to the topography of other states. PO2. Explore changes occurring in local surroundings that are brought about by natural forces (e.g., erosion, wind, ice, and sunlight) and by the activity of plants, animals, sea life, and humans. Distinguish between changes, which occur rapidly, and those, which occur over longer periods of time (years, decades, or longer). PO3. Simulate the effect of erosion of the Earth's surface using small trays of soil or stream tables. Relate the results of this simulation to changes that take place in local surroundings due to erosion.	1 Explain how volcanoes, earthquakes, and other mountains-building processes are responsible for most major features of the Earth's crust. **(SCI – 5.1)** PO1. Plot the location of earthquakes, volcanoes, trenches, and oceanic ridges to account for patterns of activity associated with tectonic plates. 2. Explain how rocks are changed by erosion and deposition and by exposure to heat and pressure. There are a variety of physical and chemical processes that lead to the decomposition and breakdown of rocks and the eventual formation of soils and sediments. These soils and sediments can then be transported to other places by wind, flowing water, waves, and ice. **(SCI – 5.2)** PO1. Design and build models to demonstrate how wind and water shape the land. Explain how erosional agents such as water and ice produce distinctive landforms (e.g., water and bad lands, ice and glacial valleys, waves and sea cliffs)

Standard 5: Earth's Dynamic Systems

All students will study and learn to identify components of the various Earth systems and understand the changes and patterns that result from interactions within and between these systems. **(DEL – SCI-5)**

Strand: Components of Earth		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
3. Describe how water exists in different states (solid, liquid, and gas) and in different forms such as rain, snow, hail, and vapor. Water is stored in reservoirs, lakes, oceans, ponds, bays, and ice and is a valuable natural resource essential to all living things. **(SCI – 5.3)** PO1. Use a globe or map to locate where water is stored locally and elsewhere in the world. Identify how life style and human activity are different for people who live near water vs. those who don't. PO2. Identify all the ways people use water. Construct posters or collages, which promotes the responsible use of water resources. Use the posters to make a presentation to students in other classrooms and to display ideas about wise water use.	3. Demonstrate how water exists in the air as water vapor (e.g., clouds and fog) and is found on the surface as a liquid or solid, and below the surface as ground water. **(SCI – 5.3)** PO1. Design simple tests to investigate factors that affect the rate of evaporation and condensation (e.g., temperature, sunlight, and wind). Use the results to explain how atmospheric conditions determine the rate of evaporation and condensation.	PO1. Perform daily weather measurements over an extended period of time using a variety of instruments (e.g., barometer, anemometer, sling psychrometer). Compare and contrast the measurements to local and regional weather data. 4. Explain water falling to Earth flows over the surface as run-off and collects in ocean basins, river, lakes, ice caps, and underground. Water stored underground (sub-surface) and water stored above ground (surface) form a continuum, each supplying water to the other. Human activity and natural events can introduce chemicals affecting the quality of the water supply **(SCI – 5.4)** PO1. Identify water sources for the Delaware Estuary and the impact of human activities upon it. PO2. Determine the compositions and suitability for use of various local water sources (e.g., rivers, streams, and wells), investigate reasons for differences in the results and determine how regulations affect water use.

Standard 5: Earth's Dynamic Systems

All students will study and learn to identify components of the various Earth systems and understand the changes and patterns that result from interactions within and between these systems. **(DEL – SCI-5)**

Strand: Components of Earth		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of third grade students will be able to:	By the end of fifth grade students will be able to :	By the end of eighth grade students will be able to:
1. Understand that Earth's materials include rocks, soil, water, and air. Differences exist in all these materials and these differences can be used to sort and classify them. **(SCI – 5.1)** PO1. Identify and collect a variety of Earth's materials, such as rocks, sand, soil, and water (salt water, rain water, tap water). Develop classification systems that allow these materials to be sorted into groups with similar properties. PO2. Collect and label soil samples taken from various locations surrounding the school block. Record and describe in your journal the nature of the location and surroundings for these samples. Use a magnifier or other tests to examine the samples. Record the differences (e.g., color, grain size, texture, ability to hold water) and develop reasonable explanations why these differences are important. 2. The surface of Earth is surrounding by the atmosphere, a thin layer of air that supports life and has physical properties that are measurable and predictable **(SCI – 5.2)** PO1. Keep daily records of temperature and weather conditions and use these records to identify patterns over short and long period of time	1. Explain how rocks are natural combinations of one or more minerals and are formed under a variety of conditions. Rocks, minerals, and soils are classified according to their physical properties. **(SCI – 5.1)** PO1. Sort and classify samples of Earth materials according to physical properties such as color, luster, density, particle size, and shape. Differentiate between those materials that are composed of a single substance (mineral) and those that are composite materials (e.g., rocks, soil, and sand). 2. Describe how soil is composed of rock material and of rock material broken down by weathering an erosion and organic material that is decomposed. A soil's composition varies from place to place and helps determine which plants grow in a particular area. **(SCI – 5.2)** PO2. Conduct simple investigations to determine how different types of soil (e.g., sand, clay, organic) affect plant growth and development. Use the results of this investigation to depend the reasons a farmer might fertilize or irrigate crop land.	1. Describe how rocks and minerals are classified according to their chemical and physical properties. Rocks also are classified according to how they are formed. PO1. Sort and group rocks and minerals into natural classification systems using physical and chemical tests. 2. Explain how sedimentary rocks, which are made of particles from other rocks and organic remains, are laid down in horizontal layers. Fossilized remains and successive layering of sedimentary rocks provide evidence of the Earth's history. Absolute age is determined by radioactive dating. **(SCI – 5.2)** PO1. Construct model and geological profiles to demonstrate the age relationship of sedimentary rock layer 3. Explain how the atmosphere has properties that can be observed, measured, and used to predict changes in weather and to identify climatic patterns. **(SCI – 5.3)**

Standard 4: Earth in Space

Students will learn that even though the distributions and types of materials differ from planet to planet, the chemical composition of material is identical and the same laws of science apply across the universe.

Strand: Technology and Applications		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
	By the end of the fifth grade students will be able to: 1. Explain how people who live and work in space need special clothing and equipment, designed and constructed by Delaware scientists to protect themselves from the extreme conditions in space. PO1. Examine picture in a space suit or samples of materials used in its construction. Explain the different parts, their functions, and why certain materials were chosen for these parts.	By the end of the eighth grade students will be able to: 1. Understand that technology allows scientists to explore the Solar System and to observe and measure features of the Earth, Moon, and other solar objects. PO1. Examine a variety of resources (e.g., NASA photographs, satellite images) to identify some interesting features of the Moon and other planets (e.g., craters, Red Spot of Jupiter). PO2. Study photographs or satellite images of Earth to identify unique features of our planet (e.g., continents, land forms, weather systems). Discuss what can be learned and predicted by studying this information.

Standard 4: Earth in Space

Students will learn that even though the distributions and types of materials differ from planet to planet, the chemical composition of material is identical and the same laws of science apply across the universe.

Strand: Interactions in the Solar System		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to: 1. Demonstrate how every 24 hours the Earth makes a full rotation on its axis which causes the day and night cycle. **(SCI – 4)** PO.1 Use spherical objects and a light source to develop models which demonstrate the cycle of day and night in Earth's rotation. 2. Identify the objects in the sky such as the Sun, Moon, and stars and classify them as cyclic. **(SCI – 4)** PO1. Observe the day and night sky over an extended period of time. Record or chart the observations and identify those objects whose patterns of movement are cyclic.	By the end of the fifth grade students will be able to: 1. Demonstrate how the Earth is one of several planets that orbit the Sun. As the Earth orbits the Sun different patterns of stars can be seen in different seasons. **(SCI – 4)** PO1. Select several constellations and, through the use of models, illustrate how the Earth's position relative to the Sun determines which constellations are visible at different times of the year. 2. Explain how rotation of Earth on its axis once every 24 hours causes day and night and makes the Sun, Moon, planets, and stars appear to move across the sky from east to west each day. **(SCI – 4)** PO1. Study the shadow of the school flagpole. Observe and measure the shadow different times of the day. Determine when the shadow is shortest or longest, what direction the shadow points in relation to the Sun, and what path the Sun appears to take. PO2. Observe and record the apparent path of the Sun and chart the times and directions of sunrise and sunset over an extended period of time	By the end of the eighth grade students will be able to: 1. Explain how the nuclear processes that take place in the Sun continuously convert matter to energy. A small portion of this energy which is intercepted by Earth drives biological, chemical, and physical processes on Earth. **(SCI – 4)** PO1. Design experiments to demonstrate that light from a source such as the Sun has color and brightness and directions of travel. Explain the colors and their order in terms of energies and wavelength – See also Energy and Its Effects. 2. Conduct an experiment that shows how the gravitational attraction that exists between all forms of matter holds objects on Earth, causes tides, keeps the Solar System and galaxy together, and controls the movement of the planes in the Solar System. PO1. Compare a person's weight and mass on the Earth, on the Moon, and in an orbiting satellite and explain the similarities and differences. Discuss the importance of these to the work of astronauts.

		photographs, computer simulations, satellite images) to compare the physical properties (e.g., size, surface, features, tilt of axis) of the planets as well as their similarities and differences. 3. Explain how the yearly revolution of earth in its orbit around the sun and the tilt of earth on its axis (23.5 degrees) cause the angle at which sunlight strikes the Earth to vary at different locations. This causes differences in the heating of Earth's surface, which produces seasonal variations in weather and a variety of climates. **(SCI –4.1)** PO1. Use the Earth/Sun/Moon model to demonstrate how seasonal changes relate to the tilt of the Earth in relationship to the earth's orbit around the Sun and to predict the season in different hemispheres of the earth at any given time.

Standard 4: Earth in Space

Students will learn that even though the distributions and types of materials differ from planet to planet, the chemical composition of material is identical and the same laws of science apply across the universe.

Strand: Solar System Model

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
By the end of the third grade students will be able to 1. Identify objects in the Solar System including the Sun, Moon, planets, and comets. Most of the objects are separated by vast space and enormous distances. **(SCI – 4.1)** PO1. Use scale sized spherical objects placed at different distances to model the Solar System. PO2. Demonstrate the size and distance between the planets. 2. Recognize the size of an object appears to change as the observer moves closer to or farther away from the object.	By the end of the fifth grade students will be able to: 1. Demonstrate the Earth's position relative to the suns affects on Earth. **(SCI – 4.1)** PO1. Prepare a model or design which demonstrates the tilt of Earth in relation to the Sun and use it to explain seasons at different locations on Earth.	By the end of the eighth grade students will be able to: 1. Explain how the Solar System forms part of the Milky Way Galaxy, which is one of many galaxies that comprise the Universe. Some galaxies are so far that their light takes billions of years to reach Earth. **(SCI – 4.1)** PO1. Use scale drawing or triangulation to determine distance between specific points. Explain how these methods can be used to estimate astronomic distances. PO2. Use a variety of visual aids to study the approximate location of the Solar System in the galaxy. Explain how the Solar System moves relative to the Milky Way Galaxy. 2. Explain how the nine planets, their respective Moon(s), comets and many asteroids, and meteorites orbit the sun which is the gravitational center of the Solar System. **(SCI – 4.1)** PO1. Construct scale models of the Solar System. Use the models to describe the relative sizes of the planets (as viewed from the Earth) and their distances from the sun. PO2. Use a variety of resources (e.g., NASA

Standard 3 Energy and Its Effects

All students will study, discuss, and learn the factors that govern the flow of energy throughout the universe, the transformation of natural resources into useful energy forms, and the conservation of energy during interaction with materials. **(DEL – SC3)**

Strand Interaction of Energy with Materials		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
		By the end of the eighth grade students will be able to: 1 Demonstrate how energy can travel as waves which are characterized by wave length, frequency, amplitude, and speed Waves have common properties of absorption, reflection, when they interact matter. They are either mechanical (e.g., sunlight, radio waves) ; only electromagnetic waves will travel through a vacuum. **(SCI – 3.1)** PO1. Generate waves (e.g., in water) and demonstrate common wave properties when the waves interact with surfaces and with each other. 2. Explain the resistance to flow of an electric current through a material depends on the mobility of electrons in the material The resistance to flow converts electric energy to heat energy. **(SCI –3.2')** PO1 Compare the efficiency of different materials as electrical conductors and insulators.

	PO1. Observe and describe changes in kinetic and potential energy in common activities such as bouncing a ball or swinging on a swing. 3. Explain how the motion of an object can be described as its change in position, direction, and speed realitive to another object. **(SCI – 3.3)** PO1. Determine the speed of the objects (e.g., students running, walking, riding a bike) using measurements of distance and time. Compare the results with both numerically and graphically. 4. Demonstrate how simple machines (e.g., levers, inclines, pulleys, and gears) are used to change the force on an object and its speed or direction in order to make work easier. **(SCI – 3.4)** PO1. Explain and demonstrate how common tools (e.g. pliers, crowbars, hammers, pulleys, and can openers) incorporate simple machines in their designs. Discuss the forces and motions involved. PO2. Use simple machine principles to design a device, which performs a task (e.g. lift a weight or move a heavy object) that cannot be accomplished without the machine. Explain the forces and motions involved.	PO1. List a variety of energy sources which provide alternatives to the use of fossil fuels, compare their relative ease of renewability, and explain their advantages and disadvantages. Discuss the various sources of energy used around the world and explain the basis for the differences. 3. Describe how most energy used by industrial societies is derived from fossil fuel sources. Such sources are inherently limited on the earth and are unevenly distributed geographically. Responsible use of energy requires consideration of energy availability, efficiency, environment issues, and alternative sources. **(SCI – 3.3)** PO1. Use available information (e.g , from power companies) to conduct a personal audit of energy consumed by a family. Determine the amounts, types, and cost of energy (e.g., electricity, oil, gas, gasoline) used and the total energy use over a given period. Considering the efficiency of different applications, propose approaches to reduce energy use by a significant amount

Standard 3: Energy and Its Effects

All students will study, discuss, and learn the factors that govern the flow of energy throughout the universe, the transformation of natural resources into useful energy forms, and the conservation of energy during interaction with materials. **(DEL – SC3)**

Strand: Force and Motion		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
	By the end of fifth grade students will be able to: 1. Demonstrate how force must be used to change speed or direction (or both) of a moving object. In the absence of such a force, the object will continue to move with the same speed and in the same direction. Forces have directions and magnitudes that can be measured. Any change in motion depends upon the amount of force causing the change and the mass of the object. **(SCI – 3.1)** PO1. Measure and compare the magnitude and direction of forces used in common activities such as lifting objects, stretching springs or rubber bands, and arm wrestling. PO2. Give examples which show how the relationship among force, mass, and acceleration are important in common situation (e.g., hammering a nail, comparing rates at which a car and a heavily loaded truck can pull away from a stop sign). 2. Explain how mechanical energy comes from the motion and/or the position of physical objects. The work done on an object depends on the applied force and on the distance that the object moves.	By the end of the eighth grade students will be able to: 1. Explain how technological advances throughout history (e.g., electric light, steam engine, internal combustion engine, radio, TV) have led to new applications which use different forms of energy. Such advances have led new applications which use different forms of energy, and in some cases, unanticipated effects on society. **(SCI – 3.1)** PO1. Work in groups to investigate and chart the impact of the development of the internal combustion engine (or other major change in technology) on life in America. Identify and report on the advantages and the unintended or unexpected, consequences which resulted. 2. Describe how energy is obtained from a variety of source, some of which are finite and some of which are renewable. The major source of energy for society is chemical energy stored in fossil fuels created many years ago through the process of photosynthesis. Another source is nuclear energy. Renewable sources (e.g., wind, geothermal, waves, biomass) vary in their availability and ease of use. **(SCI – 3.2)**

PO1. Observe and discuss ways in different forms of energy (e.g., electricity, heat, sunlight, microwaves) can be used safely.		PO1. List a variety of energy sources which provide alternatives to the use of fossil fuels, compare their relative ease of renewability, and explain their advantages and disadvantages. Discuss the various sources of energy used around the world and explain the basis for the difference. 3. Describe how most energy used in industrial societies is derived from fossil fuel sources. Such sources are inherently limited on the earth and are unevenly distributed geographically. Responsible use of energy requires consideration of energy availability, efficiency, environmental issues, and alternative sources. **(SC1 – 3.3)** PO1. Use available information (e.g., from power companies) to conduct a personal audit of energy consumed by a family. Determine the amounts, types, and costs of energy (e.g., electricity, oil, gas, gasoline) used and the total energy use over a given period. Considering the efficiency of different applications, propose approaches to reduce energy use by a significant amount.

Standard 3: Energy and Its Effects

All students will study, discuss, and learn the factors that govern the flow of energy throughout the universe, the transformation of natural resources into useful energy forms, and the conservation of energy during interaction with materials. **(DEL – SC13)**

Strand: Production/Consumption/Application of Energy		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to: 1. Describe how people burn fuel such as wood, oil, coal, or natural gas or use electricity to cook their food and warm their homes. **(SCI – 3.1)** PO1. Compare life today with life in Colonial America; classify and explain how energy is used differently today (e.g., transportation, lighting, heating, communication, manufacturing). 2. Understand how production of heat, light, and electricity uses natural resources. PO1. Develop a diagram that traces the use of natural resources (e.g., oil, coal, gas) and their conversions into a variety of energy applications (e.g., heating, lighting, and other electrical uses). Speculate which application consumes the greatest amount of natural resources and identify the steps that could be taken home and at school to reduce the consumption of these resources. 3. Explain how heat, light, electricity, or any form Of energy can harmful or even dangerous if misused.	By the end of fifth grade students will be able to: 1. Explain how society uses energy to perform work and improve the quality of life. **(SCI – 3.1)** PO1. Describe how and where electricity is generated for the local community. Use a map that shows the sources of raw materials, and explains the transportation modes required to get raw materials to the power plant.	By the end of the eighth grade students will be able to: 1. Explain how technological advances throughout history (e.g., electric light, steam machine, internal combustion engine, radio, TV) have led to new applications which use different forms of energy. Such advances have led to increased demand for energy, and in some cases, unanticipated effects on society. **(SCI – 3.1)** PO1. Work in groups to investigate and chart the impact of the development of the internal combustion engine (or other major change in technology) on life in America. Identify and report on the advantages and the unintended or unexpected consequences which resulted. 2. Describe how energy is obtained from a variety of sources, some of which are finite and some of which are renewable. The major source of energy for society is chemical energy stored in fossil fuels created many years ago through the process of photosynthesis. Another source is nuclear energy. Renewable sources (e.g., wind, geothermal, waves, biomass) vary in their availability and ease of use. **(SCI – 3.2)**

	3. Explain how materials are able to conduct and transfer heat. **(SCI – 3.3)** PO1. Work in small groups to design tests to determine the best type of cup (e.g., styrofoam, ceramic mug, glass cup) to use to keep hot chocolate warm. Measure the heat loss through a variety of cups and use graphs of the result to support the team's choice of cup.	radiation, and conduction in weather changes- see also Earth's Dynamic Systems

Standard 3: Energy and Its Effects

All students will study, discuss, and learn the factors that govern the flow of energy throughout the universe, the transformation of natural resources into useful energy forms, and the conservation of energy during interaction with materials. **(DEL – SC13)**

Strand: Transformation/Conservation of Energy		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
	By the end of fifth grade students will be able to: 1. Explain why most of the energy reaching the Earth's surface comes from the sun as light. It is stored, transferred, or transformed in a variety of ways. Some of the Sun's light is transformed into heat when it hits object. **(SCI – 3.1)** PO1. Demonstrate how the sun's energy can be used to perform certain tasks (i.e., melting ice faster, making sun tea, activating a photo cell in a calculator or other devices, burning a hole in a piece of paper, and heating a room). 2. Demonstrate how warmer things are put in cooler ones, the warm ones lose heat, and the cool ones gain it until they are all at the same temperature. **(SCI – 3.2)** PO1. Use a light bulb as a heat source and a thermometer as a detector to compare the rate of heat flow through different materials (e.g., aluminum, air, different colored papers, cloth insulation). PO2. Explore how heat flows from hotter regions to colder regions and reduce temperatures differences. PO3. Discuss how these differences are used in everyday life.	By the end of the eighth grade students will be able to: 1. Demonstrate how almost all events in the universe involves the transformation of one form of energy into another form with the release of heat. Regardless of the transformation, the total amount of energy remains constant. **(SCI – 3.1)** PO1. Measure and qualitatively compare the heat changes involved in different kinds of energy transformation (e.g., temperature increases from different sizes of incandescent and fluorescent lights, temperature increases when different colored objects are exposed to the sun, temperature increases when a cup of metal balls is vigorously shaken or a nail hammered). 2. Heat energy is transported through materials by conduction, by convection in fluids (e.g., air or water), or across space by radiation. The addition or removal of heat from a material changes its temperature or its physical state (e.g., ice melting). **(SCI – 3.2)** PO1. Use weather maps and reports over an extended period of time to show the effect of uneven heating and cooling of the Earth's surface on weather. Discuss the role of

		organic materials (e.g., wax, peanut, polyethylene). Discuss the importance of chemical energy as an energy source to meet societal needs in transportation, heating, lighting, batteries, and food; PO2. Measure the changes in temperature resulting from chemical reaction which release and absorb heat (e.g., "HOT PACK" and a "COLD PACK"). Discuss the results in terms of chemical and energy changes involved.

pull, the greater the change in position, motion, and direction. **(SCI – 3.3)**

PO1. Keep a journal describing all daily activities that require the use of force (pushing or pulling) in order to move an object or to change the direction of a moving object.

4. Demonstrate how moving objects can exhibit different kinds of motion such as fast, slow, back and forth, circular, and zig-zag. The application of pushes or pulls is required to produce any change in the type of motion, including stopping and starting an object in motion. **(SCI – 3.4)**

PO1. In your journal identify all kinds of moving things such as birds, insects, automobiles, fans, swings, bicycles, and baseballs; describe and discuss the different ways in which these objects move or can be made to move.

5. Some forces (e.g., magnetism, static electricity) can make things move without touching them.

PO1. Identify materials in the home or classroom that are attracted to or moved by a magnet. Identify those materials which are not attracted to or moved by a magnet. Discuss the common features of both groups. **(SCI – 3.5)**

the sand in each container. Cover the containers and shake them vigorously 100 times, 200 times, or more. Compare and record the temperature in each of the containers and graph the results.

3. Demonstrate how electricity in circuits can produce light, heat, sound, and magnetic effects. Electrical circuit require a complete loop through which the electrical current pass. (Natural Science Education Standards. Nov. 1994) **(SCI – 3.3)**

PO1. Use a battery, wires, and a light (or electric motor or buzzer) to demonstrate the requirements for a complete electric circuit. Observe the effect of replacing a section of wire with other metals (e.g., aluminum, steel) and with non-metals (e.g., string, cloth, plastic).

4. Describe when an object is set in motion by a force, its position is defined with reference to the distance it travels and the period of time it takes to travel that distance. Speed is the measure of the distance traveled by a moving object in a given period of time (distance divided by time) **(SCI – 3.4)**

5. Demonstrate why force must be applied to change the speed or direction of a moving object. The greater the force, the greater the change in motion. **(SCI – 3.5)**

PO1. Vary the conditions of a tug-a-war (or other example of force) to observe the affect of force on the motion of objects. Identify the source of the force and the motion that results.

voltage through a complete circuit. Electrical energy can be readily generated, transmitted over great distances, and transformed into heat, light, sound, and motion. Electrical systems can be designed to perform a variety of tasks, using series, parallel, or combination circuits. **(SCI – 3.1)**

PO1. Design and assemble simple series and parallel circuits. Cite the advantages and applications of each.

PO2. Research and compare various sources of energy (e.g., waterpower, fossil fuel, nuclear) for the generation of electric power. Discuss the advantages and disadvantage of each.

3. Explain how static electricity represents Potential energy stored in a collection of separated negative and positive charges. Similar charges repel each other; opposite charges attract each other and can lead to a sudden flow of electrons (e.g., a spark, s lighting bolt). **(SCI – 3.3)**

PO1. Generate static electricity from various sources (e.g., by rubbing a plastic tube with a cloth) and investigate conditions that promote its production. Discuss the application and hazards of static electricity

4. Demonstrate the chemical energy stored in Elements and compounds. In most chemical reactions, energy is released or added to the system in the form of heat, light, eletrical, or mechanical energy. **(SCI – 3.4)**

PO1. Measure the energy content of typical

Standard 3: Energy and Its Effects

All student will study, discuss, and learn the factors that govern the flow of energy throughout the universe, the transformation of natural resources into useful energy forms, and the conservation of energy during the interaction with materials. **(DEL-SC13)**

Strand: Forms/Sources of Energy

Early Elementary K-3	Late Elementary 4-5	Middle 6-8
By the end of the third grade students will be able to: 1. Understand why the sun is the source of heat and light that warms the earth. **(SCI-3.1)** PO1. Investigate the influence of the sun on temperature. Record and compare air and water temperatures at day and night, temperatures at various times of day, and temperatures on a cloudy day. 2. Demonstrate how sound is produced when glasses filled with different amounts of water, or different sized bells, in order to create objects vibrate. Various characteristics of sound such as loudness/softness and high pitch/low pitch can be changed by altering the material producing the sound. **(SCI – 3.2)** PO1. Experiment with strings of different lengths differences in sound. Based on these experiments, predict the kind of sounds that would be created with additional variations of the experimental set-ups. 3. Demonstrate how force is any push or pull exerted from one body to another. Pushes and/or pulls change the position, motion, direction (and occasionally the shape) of an object. The greater the push or	By the end of the fifth grade students will be able to: 1. Explain why light is a form of energy which is visible to the eye, spreads from a source, and travels in straight lines. Light is transmitted, reflected, refracted, or absorbed by different materials. Materials that do not transmit light cast shadows. **(SCI-3.1)** PO1. Experiment with different materials to determine which one transmit light well, which partially transmit light, and which cast shadows (e.g., glass, clear plastic, cloudy plastic, paper). Observe the changes in shadows at different distances from the light source and at different angles between a light source and object. 2. Explain why many objects, which give off light also produce heat. Heat can also be produced by electrical and mechanical machines and by one object rubbing against another. **(SCI- 3.2)** PO1. Identify a variety of heat sources in school or at home. Discuss how this heat is created, whether the heat is beneficial or harmful, and the various methods that can be used to reduce or increase the amount of heat generated. PO2. Investigate and measure the heat produced by motion. Fill jars or tin cans about one-third full with dry sand and record the temperature of	By the end of the eighth grade students will be able to: 1. Explain how electromagnetic spectrum is composed of different wavelength domains. The radiation in the spectrum comes from various sources and spans energy levels from radio waves (longest wavelengths, lowest energy) through microwaves, infrared, visible, ultraviolet, x-rays (shortest wavelengths, highest energy). White light from the sun consists of a mixture of wavelengths and energies in the visible part of the electromagnetic spectrum (red to violet). **(SCI – 3.1)** PO1. Demonstrate the existence of the colored components of white light by using a prism or diffraction grating. Explain the colors and their order in terms of energies and wavelengths. PO.2 Identify uses of non-visible forms of electromagnetic radiation such as microwaves, UV, and x-rays. Discuss the relationship between the energy of each form of radiation as well as its application and potential hazards. 2. Electrical energy results from the movement of electric charges (electrons) driven by a

Standard 2: Materials and their Properties

All students will investigate, describe and analyze ways in which matter changes; describe how living things and human technology change matter and transform energy; explain how visible changes in matter are related to atoms and molecules; and how change in matter are related to changes in energy. **(DEI. S2)**

Strand: Transformation and Conservation of Matter **Early Elementary K-3**	**Late Elementary 4-5**	**Middle 6-8**
		By the end of the eighth grade students will be able to: 1. Demonstrate how substances react chemically in characteristic ways with other substances to form new substances. **(S2 1)** PO1. Conduct a laboratory activity or observe everyday events (e.g., rusting, cooking) to see how the properties of new substances formed during chemical change differ from the properties of the original material. Report the observation that indicates the chemical change

Standard 2: Materials and Their Properties

All students will investigate, describe and analyze ways in which matter changes; describe how living things and human technology change matter and transform energy; explain how visible changes in matter are related to atoms and molecules; and how change in matter are related to changes in energy (DEL S2)

Strand: Material Technology		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to: 1. Demonstrate why some materials are more suitable than others for making a particular product or device. **(S2 – 4)** PO1. Investigate the properties of materials that make them useful for a given purpose (sun glasses, water repellant) 2. Explain how technology has created new materials to help solve problems for some caused problems for others. PO.1 Investigate examples of how material innovation solves one problem but causes another (plastic bottles, styrofoam cups).	By the end of fifth grade students will be able to: 1. Demonstrate how science and technology have created new materials that function and perform better than natural materials that benefit society. **(S2 – 4)** PO1. Investigate examples of new material inventions and how and why they displace or enhance the performance of natural materials. (glass vs. plastic)	

Standard 2: Materials and their Properties

All students will investigate, describe and analyze ways in which matter changes; describe how living things and human technology change matter and transform energy; explain how visible changes in matter are related to atoms and molecules, and how change in matter are related to changes in energy. **(DEL, S2)**

Strand: Changes in Materials		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to: 1. Describe common physical changes in matter when exposed to heat, light, pressure, and chemicals or cutting, mixing, and grinding. **(S2 – 1)** PO1. Describe the physical changes: a. newspaper to light b. section of apple to light c. candy to heat	By the end of fifth grade students will be able to: 1. Demonstrate how the weight of an object changes when broken into parts; parts together weigh the same as the original object. **(S2 – 1)** PO1. Construct an object out of small parts, take them apart and rearrange them. Explain how the weight of an object is equal to the sum of the weight of the parts. 2. Demonstrate how properties of materials and objects can be changed by interaction with air, moisture, light, heat, and other substances or materials. **(S2 – 2)** PO1. Conduct investigations properties that occur when common materials interact with the environment (melting, freezing, dissolving, weathering, shrinking, and rusting.	

materials that are only visible with the use of the magnifier. Discuss and compare observations with classmates.		PO1 Conduct experiments to differentiate between physical properties that are characteristics of materials and those that depend upon the amount of material present.

Standard 2: Materials and their Properties

All students will investigate, describe and analyze ways in which matter changes; describe how living things and human technology change matter and transform energy; explain how visible changes in matter are related to atoms and molecules; and how change in matter are related to changes in energy. **(DEL S2)**

Strand: Properties and Structure of Materials		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
By the end of the third grade students will be able to: 1. Classify common objects and substances according to observable attributes: color, size, shape, weight, texture and composition such as wood, metal, plastic or cloth. **(S2 –1)** PO1. Perform measurement and describe physical properties of common objects. PO2. Construct classification systems which sort and group objects by physical properties. 2. Demonstrate and explain that materials exist in different states (solid, liquid and gas) and change from one to another. **(SCI – 2)** PO1. Demonstrate that matter can change and exist in one or more states (show how heating and cooling change matter). 3. Demonstrate how objects and materials may be composed of structures too small to be seen without the use of a tool such as a magnifier. **(SC – 3)** PO.1 Use a magnifier to inspect a variety of common objects and materials. PO2. Describe features of the objects or	By the end of fifth grade students will be able to: 1. Observe and measure properties of materials such as solubility, transparency, magnetic characteristics, strength, and the ability to conduct heat and electricity. It can to used to identify, and classify materials. **(S2 – 1)** PO1. Use common household materials such as salt, sugar, flour and starch to design simple test to determine their solubility in common solvents such as water, oil and alcohol. 2. Perform simple investigations with and without magnification; record descriptions of investigations. Compare results and share with class. **(S2 – 2)** PO1. Compare and contrast results of two investigations.	By the end of the eighth grade students will be able to: 1. Describe common chemical changes in terms of properties reactants and products. Common chemical changes-burning paper, rusting iron, formation of sugars during photosynthesis. Chemical changes- burning, photosynthesis, digestion, corrosion. **(S2 –1)** PO1. Keep a journal over an extended period of time to identify and describe everyday such laboratory events that involve chemical reactions. PO2. Discuss how the properties of these changes differ from the properties of the original elements. 2. Explain physical changes in terms of the arrangement and motion of atoms and molecules. **(S2 – 1)** PO1. Conduct a simple test to investigate the various factors that affect the melting of ice cubes. Record the results and identify the factor that contributed to differences in melting rate. 3. Differentiate physical properties of materials.

		who work in science related occupations. Report and discuss the variety of opportunities for practicing science. PO2. Investigate research projects which have been or are presently conducted in the State of Delaware (e.g., agriculture, material, medical, marine. Explore how individuals with different abilities contribute to the success of these projects.)

Standard 1: Nature and Application of Science and Technology

All students will ask questions that help learn about the world; design and conduct investigations using appropriate methodology and technology; learn from books and other sources of information; communicate their findings using appropriate technology; and technology; and reconstruct previously learned knowledge. **(DEL-SCI)**

Strand: History and Context of Science		
Early Elementary K-3	**Late Elementary 4-5**	**Middle 6-8**
1. Recognize that scientific contributions have been made by all kinds of people in the world. **(SCI – 1.1)** PO1. Read short stories and describe how people and cultures, past and present, have made important contributions to scientific knowledge. PO2. Interview a scientist from the community. Record the scientist responses to questions. PO3. Use books, computers, films, and television programs to learn about science-based occupations.	1. Understand that scientific inquiry has produced much knowledge about the world, that much is still unknown, and that some things will always be unknown. **(SCI – 1.1)** PO1. Read and describe the results of scientific inquiry in the world (e.g., a timeline of inventions, progression from simple to mechanized tools, and understanding weather patterns). PO2. Use a variety of resources (books, films, computers, field trips, guest scientists) to explain how inquiry develops into future exploration of the unknown; to identify different kinds of science based occupations and the diversity of individuals involved.	1. Describe how people from different cultures have contributed to the history of science. **(SCI – 1.1)** PO1. Research the life, work, and contributions of a contemporary or historical scientist. Compare the background, human qualities, and factors that influenced the work of the scientist as part of a discussion of contemporary and historical variations of people, who practice science. PO2. Explore the historical under representation of women and minorities, many fields of science and engineering, and the strategies that education, business, and the government in Delaware are employing to increase their representation in the scientific work force of the future. 2. Explain how people in the field of science are found in many occupations and institutions such as hospitals, universities, classrooms, industry, and farms. **(SCI – 1.2)** PO1. Participate in visits to local facilities where science is practiced or participate in classroom discussion with community individuals, including women and minorities.

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
	personal selling.														
	135. Identify the key questions to consider before selecting advertising media.									I	R	R	R	M
	136. Identify the advantages and disadvantages of the various advertising media.									I	R	R	R	M
I. All students will analyze the urce of equity financing and :bt financing for a small isiness.	137. Demonstrate the steps in creating an advertising plan and budget.										I	R	R	M
	138. Review the seven principle strategies for going global.										I	R	R	M
	139. Discuss the major barriers to international trade and their impact on the global economy.									I	R	R	R	M
	140. Define the types of capital.								I	R	R	R	R	M
	141. Describe the source of equity capital and the advantages and disadvantages of each.										I	R	R	M
). All students will understand ıe concepts for managing ventory in a small business, cluding purchasing, quality ıntrol, and vendor analysis and ist – in – time techniques.	142. Identify the various sources of debt capital and the advantages and disadvantages of each.										I	R	R	M
	143. Understand the sources of government financial assistance and loans programs offered.										I	R	R	M
	144. Discuss internal methods of financing.										I	R	R	M
	145. Explain Total Quality Management and how to implement it.										I	R	R	M
	146. Describe the economic order Quantity analysis.										I	R	R	M
	147. Identify three types of purchase discount vendors offer.										I	R	R	M
	148. Compute a firm's reorder point.										I	R	R	M

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
20. All students will understand techniques for enhancing a business's profitability through controlling crime, computerization and risk management.	149. Apply the 80/30 rule to inventory management.										I	R	R	M
	150. Differentiate between perpetual inventory systems, visual inventory control systems, partial inventory control systems and physical inventory count.										I	R	R	M
	151. Discuss the just-in-time inventory control technique.								I	R	R	R	R	M
	152. Describe the problem and impact of employee theft.							I	R	R	R	R	R	M
	153. Identify the common reasons for employee theft and methods to minimize its occurrence.										I	R	R	M
	154. List the type of shoplifters and techniques for deterring them.										I	R	R	M
	155. Discuss methods for securing a facility to decrease the risk of burglary.								I	R	R	R	R	M
	156. Compare the advantages and disadvantages of computerization.								I	R	R	R	R	M
	157. Summarize the steps to computerize a small business.									I	R	R	R	M
	158. Recognize the seven major software applications used among small business.							I	R	R	R	R	R	M
	159. Interpret the importance of computer security and how to achieve it.							I	R	R	R	R	R	M
21. All students will understand the concepts of human resource management and the skills required for managing a growing business.	160. Understand the importance of preparing and planning for management succession.							I	R	R	R	R	R	M
	161. Examine the financial options available for smooth management succession.										I	R	R	M
	162. Analyze the major types of business insurance.										I	R	R	M
	163. Perform a job analysis, which includes the creation of job descriptions and job specifications.										I	R	R	M
	164. Evaluate techniques available for recruiting the best								I	R	R	R	R	M

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
	employees.														
	165. Compare the advantages and disadvantages of the various sources of potential employees.							I	R	R	R	R	R	M	
	166. Explain the theoretical and critical aspects of determining employee compensation.										I	R	R	M	
	167. Analyze the use of employee stock ownership plans.										I	R	R	M	
	168. Understand the laws that directly impact the human resources management function.										I	R	R	M	
	169. Recognize the need for redefining the role of management in a growing business.										I	R	R	M	
2. All students will understand he legal aspects of small business anagement.	170. Discuss the benefits of owners becoming mentors and employee developers.										I	R	R	M	
	171. Describe the strategic and operational challenges in a growth market.										I	R	R	M	
	172. Examine the financial options available for smooth management succession.										I	R	R	M	
	173. Define and explain the six elements of a contract.									I	R	R	R	M	
	174. Summarize the major components of the Uniform Commercial Code.										I	R	R	M	
	175. Interpret the workings of the law of agency.										I	R	R	M	
3. All students will review basic oncepts of economics and xpound upon the knowledge of hose concepts.	176. Explain the forms of bankruptcy.										I	R	R	M	
	177. Describe the process of applying for a patent, trademark or copyright.										I	R	R	M	
	178. Discuss the government regulation of business in competition and consumer protection.									I	R	R	R	M	
	179. Understand the concept of scarcity and determine its effect on the creation of business opportunities.									I	R	R	R	M	
	180. Evaluate entrepreneurial opportunities suggested for responding to a specific problem involving scarcity.									I	R	R	R	M	
	181. Give examples of the productive resources needed to take advantage of a specific entrepreneurial opportunity.									I	R	R	R	M	
	182. Identify and analyze problems in the local community to determine opportunities that they provide for entrepreneurs.									I	R	R	R	M	

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
	183. Define opportunity cost and understand why every choice has a cost.										I	R	R	R	M
	184. Describe common economic choices and the opportunity costs involved.										I	R	R	R	M
	185. State the opportunity costs of the students' chosen business ideas.										I	R	R	R	M
	186. Identify steps in a given decision-making model.										I	R	R	R	M
	187. Demonstrate how entrepreneurs making rational choices can use the decision-making model.										I	R	R	R	M
	188. Define the four functional activities of business and provide examples of each.										I	R	R	R	M
4. All students will understand ıe effects that market forces ave on entrepreneurs and their usinesses.	189. Define the four factors of production and demonstrate how they can be combined to produce goods and services.										I	R	R	R	M
	190. Analyze mistakes made by entrepreneurs and determine possible means of correcting them.										I	R	R	R	M
	191. Relate the problems described in the reading to the problem of scarcity.										I	R	R	R	M
	192. Identify and define the types of economic systems.										I	R	R	R	M
	193. Identify the basic characteristics of our mixed-market economy.										I	R	R	R	M
	194. Compare and contrast the role of entreprenuership in market and command economies.										I	R	R	R	M
	195. Describe the functioning of competitive markets, including the efficient allocation of resources, the production of goods and services society wants most and the reduction of transaction costs.										I	R	R	R	M
	196. Explain the relationship between entrepreneurship and the successful functioning of a market economy.										I	R	R	R	M
5. All students will review basic oncepts of business forms and xpound upon those concepts.	197. Define intrapreneurship and compare it to entrepreneurship.										I	R	R	R	M
	198. Interpret graphs and trends regarding entrepreneurial opportunities for individuals.										I	R	R	R	M
	199. Explore not-for-profit organizations.											I	R	R	M
	200. Identify sources of market information that are available											I	R	R	M

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
	to entrepreneurs and learn the uses of such information.														
	201. Compare and contrast the three forms of business organizations.										I	R	R	M	
	202. Compare forms of business organizations to learn the process for deciding, which is most appropriate for a given situation.										I	R	R	M	
	203. Evaluate relative advantages of starting a new business, buying an existing business or purchasing a franchise.										I	R	R	M	
. All students will understand e financial and operational quirements of trepreneurship.	204. Identify possible sources of financing for entrepreneurs.										I	R	R	M	
	205. Analyze factors that influence the cost of financing.									I	R	R	R	M	
	206. Evaluate alternative methods of financing and determine the best method for the students' chosen enterprises.									I	R	R	R	M	
	207. Distinguish between fixed and variable costs.										I	R	R	M	
	208. Learn to predict changes in cost, and control cost.						I	R	R	R	R	R	R	M	
	209. Contrast marginal cost, marginal revenue & diminishing returns.							I	R	R	R	R	R	M	
	210. Identify the opportunity costs of various alternatives available to entrepreneurs for maintaining or improving cash flow.							I	R	R	R	R	R	M	
	211. Determine possible causes and consequences of specified cash flow problems.							I	R	R	R	R	R	M	
'. All students will learn ethods of managing the factors production.	212. Distinguish between consumer credit and commercial credit.										I	R	R	M	
	213. Compare and contrast the costs and benefits of various types of commercial and consumer credit practices.						I	R	R	R	R	R	R	M	
	214. Analyze data on the use of credit by an entrepreneurial enterprise and recommend actions to prevent business failure.										I	R	R	M	
	215. Distinguish between primary and derived demand and relate those concepts to circular flow.									I	R	R	R	M	
	216. Predict the number of employees necessary for a given business.							I	R	R	R	R	R	M	
	217. Describe the management functions of business and identify them in real-world applications.							I	R	R	R	R	R	M	

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
	218. Predict the effects of events in the product market on the ability to make purchases in the factor market.							I	R	R	R	R	R	M
	219. Define productivity and diminishing marginal productivity.								I	R	R	R	R	M
28. All students will understand the marketing considerations of entrepreneurs.	220. Predict the effects of specified changes on productivity.							I	R	R	R	R	R	M
	221. Describe the costs associated with employee absenteeism, apathy and turnover.									I	R	R	R	M
	222. Identify different methods of solving human resource management problems.								I	R	R	R	R	M
	223. Compare the behavior of businesses within perfect competition markets to those in imperfect competition markets.										I	R	R	M
	224. Analyze the advantages and disadvantages of perfect and imperfect competition markets.										I	R	R	M
	225. Define and learn to determine market structure.										I	R	R	M
29. All students will understand several external factors, which affect the entrepreneur and techniques for dealing with those factors.	226. Evaluate methods of product differentiation and determine the benefits yielded by each.										I	R	R	M
	227. Determine how specific management functions are applied in the innovative process.										I	R	R	M
	228. Establish business objectives and determine methods of meeting those objectives.									I	R	R	R	M
	229. Identify examples of government goods and services.									I	R	R	R	M
	230. Describe methods the government uses to finance programs that provide government goods and services.									I	R	R	R	M
	231. Determine the effect of government programs on entrepreneurs.										I	R	R	M
	232. Identify and describe examples of federal, state and local government policies, including fiscal policies and tax incentives that influence entrepreneurs.										I	R	R	M
	233. Evaluate specific government policies in terms of their										I	R	R	M

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks													
	costs and benefits for entrepreneurs and for the society as a whole.													
	234. Predict the effects of changes in government taxing or spending policies on entrepreneurial enterprises.										I	R	R	M
	235. Define inflation, recession and business cycle.										I	R	R	M
. All students will list the mponents of a business plan d understand how such a plan ntributes to small business ccess.	236. Identify important economic indicators and the effects of changes of those indicators on specified businesses.										I	R	R	M
	237. Analyze the effects of unemployment and inflation on entrepreneurs.										I	R	R	M
	238. Analyze effects of recession and expansion on different sectors of the economy.										I	R	R	M
. All students will identify the ctors that should be considered determining the location of a siness.	239. Identify the components of a business plan.							I	R	R	R	R	R	M
	240. Relate the significance of each of the components.									I	R	R	R	M
:. All students will develop a arketing strategy for a small siness.	241. Complete a business plan worksheet.									I	R	R	R	M
	242. List the factors to be considered when selecting a specific site for a business.							I	R	R	R	R	R	M
	243. Relate the importance of these factors to the potential for success for the business.							I	R	R	R	R	R	M
	244. Define the key customer segments that the business is targeting.							I	R	R	R	R	R	M
	245. List the "four P's."									I	R	R	R	M
	246. Explain the importance of brand equity as it relates to the business.									I	R	R	R	M
	247. Compare and contrast pricing strategies.									I	R	R	R	M
	248. Explain the importance of creating and articulating a customer service policy.								I	R	R	R	R	M
	249. Discuss the advantages and disadvantages of different promotional venues.									I	R	R	R	M

Entrepreneurial Content Standards And Benchmarks

I - Introduce R – Reinforce M – Mastery

Content Standard	Benchmarks														
3. All students will develop a inancial plan for a small usiness.	250. Develop an advertising and promotional plan for the business.											I	R	R	M
	251. List the distribution options available for the business.											I	R	R	M
	252. Choose and justify a means of distribution for the business.											I	R	R	M
	253. Define capital.											I	R	R	M
	254. Estimate the dollar amount needed to open a business.											I	R	R	M
4. All students will develop and nplement a community service ction project.	255. Project monthly and annual business income for the first year of operation.											I	R	R	M
	256. Estimate annual and monthly cash flow for the first year of operation.											I	R	R	M
	257. Explain how financial ratio analysis can signal the health of a business.											I	R	R	M
5. All students will develop resentation, public speaking nd general communication kills.	258. Identify service needs for community immediately surrounding business.											I	R	R	M
	259. Create a realistic implementation timetable and action plan for project.											I	R	R	M
6. All students will internalize nformation form practicum and ientor.	260. Work with area community service agencies (if necessary).											I	R	R	M
	261. Create presentation-outlining experiences for class discussion.											I	R	R	M
	262. Actively participate in on-going class discussions.							I	R	R	R	R	R	R	M
	263. Document experiences of the practice in an Entrepreneur's Journal.											I	R	R	M
	264. Exchange ideas regularly with mentor (including on-going correspondence).											I	R	R	M

Special Education Forms

THE INDIVIDUALIZED EDUCATIONAL PLANNING PROCESS

REFERRAL

When a student is suspected of having a disability,
a written or verbal referral is submitted to the school district.

PARENT NOTIFICATION

A consent form and required information is given to the parent
within 10, calendar days of receiving the referral.

PARENT CONSENT RECEIVED

Parent returns the consent form giving permission to evaluate the child.

MULTIDISCIPLINARY EVALUATION TEAM (MET)

The Multidisciplinary Evaluation Team (MET) completes a comprehensive evaluation. The Team develops a written report, which includes a recommendation of eligibility. A member of the team will share its findings at the initial IEPC and each IEPC following subsequent MET evaluations.

INDIVIDUALIZED EDUCATIONAL PLANNING COMMITTEE (IEPC) MEETING

The IEPC is convened within 30 schools days of consent to evaluate. The parent is invited to attend at least 7 calendar days prior to the meeting. Eligibility is determined and an Individualized Education Plan (IEP) is developed.

PARENT NOTIFICATION

Written notice of intent to implement the IEP must be provided to the parent within 7 calendar days of the IEP.

IEPC IMPLEMENTED

The IEP is implemented (and written parental consent) within 15 school days of the written parent notice.

ANNUAL REVIEW

The IEPC is convened at least every 12 months to review and update the IEP.

THREE YEAR RE-EVALUATION

The MET completes a new comprehensive evaluation at least every 36 months to review eligibility.

STUDENT SCREENING REPORT

Name of Student_____ DOB_____ Student ID#_____

Date of Entry _____ Date of Screening _____ Teacher_____ Grade _____

---

1. Vision

Yes	No	
__	__	Holds book too close or too far
__	__	Squints or has trouble seeing board
__	__	Has trouble with eyes
__	__	Has weak note taking skills
__	__	Other

2. Emotional Behaviors

Yes	No	
__	__	Displays obsessive or compulsive behaviors
__	__	Behaves impulsively
__	__	Is withdrawn
__	__	Other

3. Psychomotor Skills

Yes	No	
__	__	Has short attention span
__	__	Is clumsy or awkward
__	__	Has poor coordination
__	__	Other

4. Academic Progress

Yes	No	
__	__	Learns very slowly
__	__	Below grade level in reading
__	__	Below grade level in math
__	__	Does not remember concepts taught from day to day
__	__	Other

5. Communication Skills

Yes	NO	
__	__	Has poor speech habits
__	__	Articulates poorly
__	__	Often stutters
__	__	Has difficulty expressing ideas
__	__	Other

6. Hearing

Yes	NO	
__	__	Does not respond name, directions, or questions in class
__	__	Frequently asks for information to be repeated or asks "What"
__	__	Has significantly delayed language
__	__	Has frequent earaches
__	__	Seems not to pay attention
__	__	Other

Administrative Action

Yes	No	
__	__	Referred for evaluation
__	__	Made accommodations (list) _____
__	__	Modified program (list) _____
__	__	Other (list) _____

Comments:_____ Teacher's Signature_____

Building Administrators Signature _____

Please return this form to the Building Administrator by: _____

REFERRAL FOR EVALUATION

Referral Date:_____

Student Name: _____ **DOB:** _____
School:_____ **Grade:** _____
Language Proficiency of Student: _____ **Student ID#**_____
Parent/Guardian:_____ **Home Phone:** _____ **Work:** _____
Address:_____
Referred by: _____ **Title:** _____
Reason for Referral:

_____

_____

1. Check the specific areas of concern. Next to each of the concerns list information that will help the referral team.

__ **Cognitive abilities (including academic test performance):** _____

_____

__ **Reading (word attack, vocabulary, comprehension):** _____

_____

__ **Written language (composition, spelling):** _____

_____

__ **Mathematics (calculation, reasoning):** _____

_____

__ **Oral language and speech (receptive/expressive, articulation):** _____

_____

__ **Classroom performance (including grades):** _____

_____

__ **Social behavior (specifying any behavior that impedes learning):** _____

_____

__ **Physical/motor skills (note problems):** _____

_____

__ **Hearing (note problems):** _____
__ **Vision (note problems):** _____

_____

__ **Other:** _____

_____

2. Review the cumulative folder for relevant information: _____

_____

__ **Previous educational history:** _____

_____

__ **Group achievement tests and scores:** _____

_____

__ **Attendance records:** _____

_____

__ **List of services/programs and modifications tried:** _____

_____

__ **Developmental ages (walking, talking, etc.)** _____

_____

__ **Vision screening date:**_____ **Results: Left:**_____ **Right:** _____

__ **Hearing screening date:** _____ **Results: Left:** _____ **Right:** _____

__ **Health/Medical status:** _____

_____

__ **Hospitalization / Illness History:** _____

_____

__ **Developmental ages (walking, talking, etc.)** _____

_____

__ **Other educationally relevant medical information:** _____

_____

Referral Decision:

__ **Conduct full and individual evaluation**

__ **Do not conduct evaluation**

__ **Consider other appropriate adaptations, services, or programs**

Signature of Referral Team_____ **Title** _____ **Date** _____

• **Use additional pages as needed.**

PRIOR WRITTEN NOTICE
(34 CFR 300.504)

Student Name: _____ **Date:** _____

Agency: _____ **Date Prior Written Notice Sent/Given to Parents:** _____

__ Proposes to initiate or change the areas as described below; or
__ Refuses to initiate or change the areas as described below;

Description of the action proposed or refused relative to identification, evaluation/re-evaluation, review/revision of the Individualized Education Program (IEP), educational placement, or provision of a Free Appropriate Public Education (FAPE) by the agency:_____
_____
_____

Explanation of why the agency proposes' or refuses to take this action: _____
_____
_____

Description of any options the agency considered and the reasons why those options were rejected: _____
_____
_____

Description of each evaluation's procedure, test, record, or report the agency used/will use as a basis for the proposed or refused action: _____
_____
_____

Description of any other factors that are relevant to the agency's proposal or refusal:_____
_____
_____

Parents of a child with a disability have protection under the procedural safeguards:

__ A copy of your procedural safeguards is attached to this notice (**required for initial evaluation, re-evaluation, IEP meeting notification, and upon registration of a due process complaint at a minimum**).

__ A copy of a description of your procedural safeguards may be obtained by contacting the agency at, _____.

PARENT CONSENT FOR EVALUATION

Student: _____ **DOB:** _____

1. Your informed consent is required before your child can be evaluated for special education.

2. If you return this form and give your consent, a team will evaluate your child. You will be a member of that team.

3. You and other members of the team will consider the results of the evaluation. The team will determine your child's eligibility and need for special education and related services.

I have been fully informed of all information relevant to the proposed evaluation and have had an opportunity to ask questions about the proposed evaluation. I have received a copy of the Procedural Safeguards Notice and Prior Written Notice.

Please sign the appropriate statement:

- I give permission for the evaluation of my child for special education. I understand that the information from the evaluation is confidential.

Parent Signature_____ **Date** _____

- I do not give permission for the evaluation of my child.

Parent Signature_____ **Date** _____

FEDERAL EVALUATION AND ELIGIBILITY REQUIREMENTS

An initial evaluation consists of procedures to determine whether a student has a disability and to determine the educational needs of the student. The LEA conducts a full and individual initial evaluation before the provision of special education and related services to a child with a disability.

Indicate "Y" for yes and "N" for no, as appropriate

Yes/NO	EVALUATION CRITERIA
	1. Written notice to the parent as indicated in 20 U.S.C. Section 1415 is provided.
	2. No single procedure is used as a sole criterion for determining eligibility of a child with a disability.
	3. A variety of assessment tools and strategies to gather relevant functional and developmental information are used.
	4. Assessment tools and strategies that provide relevant information to determine the educational needs of the student are used.
	5. Technically sound instruments that assess the contribution of cognitive, behavioral factors, physical, and developmental factors are used.
	6. Test are selected and administered to a student with impaired sensory, manual, or speaking skills so as to ensure that the test results accurately reflect the student's aptitude or achievement in whatever the test purports to measure, rather than the student's disability.
	7. Tests are provided and administered in the students native language or other mode of communication, unless it is clearly not feasible to do so.
	8. Tests are selected and administered so as not to discriminate on a racial or cultural basis.
	9. Tests given to a student have been validated for the specific purpose for which they are used.
	10. Tests are administered by trained and knowledgeable personnel.
	11. Tests are administered in accordance with any instructions provided by the producer of such tests.
	12. Information provided by the parent is included.
	13. Information related to enabling the student to be involved in a progress in the general curriculum is included.
	14. The student is assessed in all areas related to the suspected disability.
	15. The evaluation report is developed.
	16. The results of the evaluation are provided to the parent prior to eligibility determination.
	DETERMINATION OF CATEGORY OF ELIGIBILITY
	1. Upon completion of tests and other evaluation strategies, a team of professionals and the parent determine whether or not the student has a disability.
	2. The team determines whether or not the student needs special education and related services.
	3. Eligibility is documented and copies of the eligibility determination and evaluation report are provided to the parents.
	4. A student is not a child with a disability if the deciding facto is lack of instruction in reading, math, or limited English proficiency.

Sample IEP

Individualized Education Program

Student Name _____ **Date of Meeting** _____

Student Demographics

IEP Team Meeting Participants		
Role	**Name**	**Date**
Student		
Parent/Guardian/Surrogate		
LEA Representatives		
Special Education Teacher		
Regular Education Teacher		
Individual to Interpret the results of the evaluation		
Agency Representative		
Interpreter		
Language		

Present Levels of Educational Performance (PLEP)

Clearly, specify the student's current functional performance in the areas identified. Include a description of how the student's disability affects his/her involvement and progress in the general curriculum. For preschool children, consider how the disability affects the student's participation in appropriate activities.

Areas to Consider
(Check all that apply)

_____ __ Adult Living

_____ __ Behavior
(Social and Emotional)

_____ __ Cognition

_____ __ Communication

_____ __ Community Experiences

_____ __ Comprehensive Health

_____ __ Daily Living Skills

_____ __ Employment

_____ __ Language Arts

_____ __ Mathematics

_____ __ Motor Skills

_____ __ Physical Education

_____ __ Technology

_____ __ Workplace Skills

Student Name: ______________________________ IEP Date: ____________________

Present Levels of Educational Performance (PLEP), continued
Attach as many copies of this page as needed.

Student Name: _____ **IEP Date:** _____

Present Levels of Educational Performance (PLEP), continued	
Consideration of Other Factors	
The need for assistive technology devices and services has been considered.	__ Needed __ Not Needed, See PLEP
The communication needs of the student have been considered.	__ Needed __ Not Needed, See PLEP
Transition service (school to adult life) needs of the student have been considered.	__ Needed __ Not Needed, See PLEP
For a student whose behavior impedes his/her learning, or that of others, positive behavioral interventions, strategies, and supports have been considered.	__ Needed __ Not Needed, See PLEP
For a student with Limited English Proficiency, the effect of his/her language needs on the content of the IEP have been considered.	__ Student is not LEP __ Not Needed __ Needed, See PLEP
For a student who is Blind or Visually Impaired, an evaluation, the need for instruction, and the use of Braille have been considered.	__ Student is not VI __ Not Needed, See the Explanation Attached __ Needed, See PLEP
For a student who is deaf or hard of hearing, his/her need for communicating with peers and professional personnel in his/her mode of communication have been considered.	__ Student is not HI __ Not Needed __ Needed, See PLEP

Student Name: _____ **IEP Date:** _____

Measurable Annual Goal, Short Term Objectives, or Benchmarks Goals, objectives, and benchmarks must be related to meeting the student's needs to enable the student to be involved in and progress in the general curriculum and to meet other educational needs that result from the students disability. Number each objective or benchmark. **This annual goal is targeted for ESY Yes No**		
Measurable annual goal, including how the student's progress toward this annual goal will be measured.	**Met**	**Not Met**
Short Term Objectives or Benchmarks	**Met**	**Not Met**

Attach as many copies of this page as needed.

Student Name: _____ **IEP Date:** _____

Document the services the student needs to advance appropriately toward attaining the annual goals; to be involved and progress in the general curriculum and to participate in extracurricular and other nonacademic activities; and to be education with other children with and without disabilities.

Statement of Special Education Services to be Provided					
	Initiation Date	**Frequency / Amount**	**End Date**	**Location**	**Provider's Agency/Position**

Statement of Related Services to be Provided					
☐ Check if none are needed	Initiation Date	Frequency/ Amount	End Date	Location	Provider's Agency/Position
Transportation					
Speech and Language Pathology					
Physical Therapy					
Occupational Therapy					
Counseling Services					

Supplementary Aids and Services to be Provided					
☐ Check if none are needed	Initiation Date	Frequency/ Amount	End Date	Location	Provider's Agency/Position

Student Name: _____ **IEP Date:** _____

Program Adaptations (Accommodations or Modifications)					
☐ Check if none are needed Indicate(*) those that will be used for standardized assessments	Initiation Date	Frequency / Amount	End Date	Location	Provider's Agency/Position

Program Supports for School Personnel					
☐ Check if none are needed	Initiation Date	Frequency/ Amount	End Date	Location	Provider's Agency/Position

Provide an explanation of the extent, if any, to which the student will NOT participate with non-disabled students in the general curriculum, extracurricular and nonacademic activities, and program options. If Necessary, attach an additional page.					
☐ Check if none are needed	Initiation Date	Frequency/ Amount	End Date	Location	Provider's Agency/Position

Extended School Year Services	
☐ Yes ☐ No ☐ Inadequate data available. The IEP team will reconvene on _____ to review the need for ESY.	Explain: Clearly identify the annual goals targeted for ESY.

Student Name: _____ **IEP Date:** _____

How will the parents be regularly informed of their child's progress toward annual goals and the extent to which that progress is sufficient to enable the child to achieve goals by the end of the year?

Participation in State or District-selected Norm referenced Tests	
☐ Yes, the student will participate and no adaptations (accommodations or modifications) are needed.	
☐ Yes, the student will participate with adaptations (accommodations or modifications) as listed in the Program Adaptations section.	
☐ No, the student will not participate	Explain why each assessment is not appropriate
How will the student be assessed?	

Participation in State or District Criterion Referenced Tests	
☐ Yes, the student will participate and no adaptations (accommodations or modifications) are needed.	
☐ Yes, the student will participate with adaptations (accommodations or modifications) as listed in the Program Adaptations section.	
☐ No, the student will not participate Explain why each assessment is not appropriate	
How will the student be assessed?	

For Students in a Private Residential Facility
☐ The Exit Criteria have been developed and are attached.
☐ An Integration Plan has been developed and is attached.
☐ Not applicable, the student is not placed in a private residential facility.

This placement is as close as possible to the student's home and is based on the student's IEP
☐ Yes
☐ Parent(s) selected a charters school or another school under open enrollment.
☐ No, explain the arrangements made by the IEP team. _____

Consider any potential harmful effects of this placement for the child or on the quality of services that he or she needs.

Sample Transition Driven IEP

Individualized Education Program

Student Name _____ **Date of Meeting** _____

Student Demographics

IEP Team Meeting Participants		
Role	**Name**	**Date**
Student		
Parent/Guardian/Surrogate		
LEA Representatives		
Special Education Teacher		
Regular Education Teacher		
Individual to Interpret the results of the evaluation		
Agency Representative		
Interpreter		
Language		