Integration of Expeditions Across Content Areas[1]

Mapleton Charter School

Kindergarten – Fall Expedition
The People and Places of Mapleton Charter School

Students will collaboratively create interview questions and prepare to interview adults in their school community. Students will learn the proper way to conduct an interview by bringing in professionals from the local community. Students will conduct interviews, collect data and collectively decide which information would be appropriate for the purpose of representing the most important aspects of the school and its people. After students have a solid knowledge of their school building and the school staff, they will brainstorm an ABC list of Mapleton Charter School people and places. Students will use their knowledge of letters and letter sounds to suggest a place or a staff member for each letter of the alphabet. Students will examine numerous ABC books to determine the qualities and organization that they want in their book. They will be given a square piece of drawing paper with a letter of the alphabet in the upper left hand corner. They will illustrate their person or place with a drawing or photograph and write a sentence following this format: "A is for Al, our bus driver. He…" Students will create multiple drafts of their work and receive feedback from their classmates to ensure quality work.

Science Kits[2]	Social Studies[3]	ELA	Visual Arts	Performing Arts
Trees Kit As students move through this expedition, they will pay particular attention to the trees that live in their community. They will observe, compare and describe the physical properties of the trees and their structures throughout the seasons. Students will develop a beginning awareness of the characteristics and life cycle of trees and an awareness of trees in their environment. Students will use the knowledge	**Thinking About Maps and Globes** Within this expedition, students will be working on making models of the classroom and school, and will be making more formal maps. Students will understand necessary components of maps including scales, titles and keys/legends. **Participating in a Group** Within the expedition, students will work together to gather information for the common good, about the places and people	Students will collaboratively create interview questions to ask adults in their school community. Students will learn the proper way to conduct an interview by inviting community members into the classroom for advice and practice. Students will conduct interviews, collect data and collectively decide which information would be appropriate for the purpose of representing the most important	**Creating Three Dimensional Classroom Models-** Students will sketch their classrooms, paying special mind to the relationship of objects. From a collaborative look at student sketches, students will construct three dimensional maps of the classroom. They will employ various mediums including recycled materials to represent aspects of and places in the classroom. Maps will include a title, key and compass rose.	With the collaboration of the music teacher or parent participation, students will create a song from the information they collected from interview questions and facts about their classroom, school, and surrounding environment, as discovered during their field work and interviews. Students will perform the song at the Celebration of Learning when they display their 3-dimensional maps and ABC books.

[1] This map articulates the content to be integrated during each of the fall and spring expeditions. Content will also be taught to students when they are "off expedition" at the beginning and end of the school year and during "intersession," which is the time between expeditions in December – January each school year. A full curriculum map for each content area (excluding science) is included in the application.

[2] The science kits will be taught as outlined by the Science Coalition. Connections to other contents areas will be additive and deepen students' knowledge of the science content.

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gained through this expedition to build and plan a community garden.	within their school. Achieving the end results require that students develop collaboration skills.	aspects of the school and its people. After students have a solid knowledge of their school building and the school staff, they will brainstorm an ABC list of Mapleton Charter School people and places. Students will use their knowledge of letters and letter sounds to suggest a place or a staff member for each letter of the alphabet. Students will examine numerous ABC books to determine the qualities and organization that they want in their book. They will illustrate their person or place with a drawing or photograph and write a sentence about the person. Students will create multiple drafts of their work and receive feedback from their classmates to ensure quality work.	Students work in pairs to match up classroom furniture shown in birds-eye view and eye-level perspective. They will be given the birds-eye view shapes and will need to walk around the room to discover which items would match their shapes if seen from above. When finished with this activity, students will use the same birds-eye view shapes to map out the design of their classroom. Students will use their page from the alphabet book as a basis for a pop-out creation. The simple step pop-out will be made from two 9" x 12" pieces of construction paper and scraps. Each student or pair is given a piece of copy paper with the name/number of one of the rooms and that teacher's name on it. They then need to figure out where that room would be placed on a large floor map. An investigative walk through the building to find all the rooms and discover where each one is in relation to the others is essential.	

Kindergarten – Spring Expedition
Kindergarten Tools

Throughout this expedition, students will participate in question and answer discussion sessions following a tour of a school community with a member of the staff to learn about the tools used in that person's job. Following this initial model, students will collect information from other members of their school and local community to learn more

about tools. Students will collaboratively create a tool poster and tool categorization card game, and a non-fiction book of carpentry tools, written and illustrated by them. Students will read fiction and non-fiction books about building and construction during guided reading lessons, perform a dramatic reading of the *Three Little Pigs*, and participate in a Celebration of Learning for students and members of their communities at the culmination of the expedition.

Science Kits[4]	Social Studies[5]	ELA	Visual Arts	Performing Arts
The Senses This kit can be overlapped with the exploration and description of tools within the expedition. Students use their senses to identify materials and their properties and learn how tools can intensify their senses (magnifying glass, microscope, hearing aids, etc.). **Wood and Paper Kit** This kit can easily be integrated as students discuss the use of tools as it relates to using and working with paper, cardboard, and wood and explore using tools with materials. Both the exploration and the kit have opportunities for students to build their own structures with wood using tools.	**Houses in the Community** The topic of houses in the community is used to help kindergarten students learn about their urban community and communities around the world. It is an introduction to world geography and natural resources, using house construction as a window into the different natural environments across the globe. The study begins with fieldwork at two different houses in the neighborhood and includes community walks to study nearby houses and help students become comfortable in the community. Students are asked to sketch while they observe, paying attention to the placement of doors, windows, shape of house, etc.	Throughout this expedition, students will participate in question and answer discussion sessions following a tour of a school community member's office, or a classroom visit from a school community member. Students will collaboratively create a tool poster and tool categorization card game, create a non-fiction book of carpentry tools, written and illustrated by students, read fiction and non-fiction books about building and construction during guided reading lessons, perform a dramatic reading of the *Three Little Pigs*, and participate in a Celebration of Learning for students and members of their communities at the culmination of expedition two.	**Explore the use of shape in artwork** What shapes are used to create mountains, trees, houses, fields, etc? Students will use a variety of geometric shapes to create a collage of their community. **Explore the use of form and space** Students can roll triangles (wedge) of corrugated paper to create "screws" (beads) then string the beads to make necklaces. Beads of other forms could be added. **Create 2D and 3D artwork** Students can draw a house observed during the fieldwork using geometric shapes and create a 3-D house to add to a community map. **Perception**	Students will discuss the tools of music and what tools musicians use to make music. Then they will use their knowledge of various tools and their functions to build instruments using recycled objects. Students will compose and perform a mini-recital of original pieces using their instruments. Students will share their music during an evening music concert at the Celebration of Learning.

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			Show students a variety of buildings and have them point out the different shapes that complete the building. Students can choose one of the tools of art and create a repetitive design by over-lapping the same tool a multiple number of times.	

Grade 1 – Fall Expedition
Farms and Food

Students will learn about the growth and care of farms, including the animals that live there, what they provide to people, and how farmers take care of the crops and animals. Students will participate in literacy activities designed to provide in-depth examination into one of the following topics: Bees, Fruits/Vegetables/Grains, Dairy, or Poultry. Literacy activities will include but are not limited to the following: Dramatic play, interviewing, sorting and categorization, targeted word study development, observation and observational sketches, re-telling their experiences to adults and peers, sequencing photos of their activities and experiences, read-aloud, vocabulary development through creation of a "parts-of" booklet (e.g., labeling parts of a rooster, cow, banana, or bee in a mini-book format), labeling sketches/photographs of experiences, and writing about the experiences in a chronological learning journal/log. After completing the hands-on portion, students will draft pages and illustrations for a collaborative non-fiction class farm book. Each study group will be responsible for one chapter of the book with each person in the study group writing and illustrating at least one page for the group's chapter. Each chapter will include but should not be limited to the following: Pictures and descriptions of their study group topic, category titles and examples (e.g., different dairy animals and different kinds of dairy products), observational sketches and labels (e.g., hens', roosters', cows' bodies, fruits and vegetables, bees' bodies, parts of a flower), photos of their experiences in sequential order with labels and/or sentences describing the pictures (e.g., life cycle of a chicken, bee, banana), data collection and explanation (e.g., class preference during a blind taste test of different types of bread or cheese), a time line (e.g., timeline of a banana from planting to harvesting to selling to purchasing to table), interviews and thank you letters (e.g., interviewing an expert in their study group topic and writing a follow-up thank you letter), creating a "parts-of" booklet (e.g., labeling parts of a rooster, cow, apple, or bee in a mini-book format), and writing about their daily experiences in a chronological learning journal/log. Students will work in small groups to create a farm and food calendar based on their learning experiences during expedition one. Whole class interactive, read-aloud discussions, personal reading/listening, and guided reading lessons and activities will focus on fiction and non-fiction texts about farms, bees, fruits, vegetables, grains, dairy, and poultry as well as distribution of food, how people obtain food and obstacles to obtaining food.

Science Kits[6]	Social Studies[7]	ELA	Visual Arts	Performing Arts
Organisms Within the expedition, students will be learning about different	**Schedules** Students work on creating schedules for working on the	Students will create a **"Parts of…" book** (e.g., labeling parts of a rooster, cow, banana, or bee	Study groups are involved in field research and service for the organization they adopted.	Expert student groups will perform a dramatic play of their study team to an audience of

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plants and animals, and discuss basic needs vs. specific needs for various organisms. Students will also be responsible for caring for animals. The content of the science kit will be compared to the needs of plants and animals on a farm. **Solids and Liquids** This unit is tied in due to the solids and liquids used in the farming process – the module description discusses investigating the properties of solids such as cornmeal, lima beans, pinto beans and rice, as well as water as a liquid. Students will think about solids and liquids on farms and in their food.	farms, visiting the orchards, etc. Students work on creating the schedule for what group of experts will do each activity on the farm, based on a pre-determined list of "to-dos" such as animal observations, talks with the farmers, working with and feeding animals, investigating machinery used for planting and farming, etc. Students will investigate the schedules that exist in their lives and their communities. They will understand that schedules are necessary for an efficiently run community. Students will utilize the schedules available to them in their communities, (trash and recycling pick up, bus and train schedules, t.v guide/channel schedules) to organize a journal entry of a "Day in the Life of (fill in student's name)." The class will put together their entries to create a class collage of schedules.	in a mini-book format), labeling sketches/ photographs of experiences, and writing about the experiences in a chronological learning journal/log. After completing the hands-on portion, students will draft pages and illustrations for a **collaborative non-fiction class farm book**. Each study group will be responsible for one chapter of the book with each person in the study group writing and illustrating at least one page for the group's chapter. Each chapter could include pictures and descriptions of their study group topic, category titles and examples (e.g., different dairy animals and different kinds of dairy products), observational sketches and labels (e.g., hens', roosters', cows' bodies, fruits and vegetables, bees' bodies, parts of a flower), photos of their experiences in sequential order with labels and/or sentences describing the pictures (e.g., life cycle of a chicken, bee, banana), data collection and explanation (e.g., class preference during a blind taste test of different types of bread or cheese), a time line (e.g., timeline of a banana from planting to harvesting to selling to purchasing to table), interviews and thank you letters (e.g., interviewing an expert in	Throughout the expedition, expert groups will be responsible for sketching pictures of their topics and labeling parts in a series of sketches. A culminating product of this work will be a full color calendar, professionally printed, with student writing and illustrations depicting student ideas about important ways that we can help all people to get access to healthy food. The calendar can be sold in the community and given to all the organizations that were part of the work. For example, a bee study group can visit local beehives and talk with a beekeeper who can show them the tools of the trade. They will study the life cycle of bees and build models of their life cycles with clay. Each student creates a painting of a Bird's Eye view of a farm on a square piece of paper. Groups put their squares together to create a paper quilt. Students paint flowers with analogous colors of tempera paint. They then draw and paint bees on a separate piece of paper to be cut out and attached in a 3-D manner.	parents, teachers, and local community experts who offered assistance and area expertise along the way. For example, the Bee Group could do a dramatic play acting out the roles of bees (worker bees, nurse bees, queen bee, etc.). Students are challenged to collaborate and write a short play that explains to kindergarteners the benefits of healthy eating.

		their study group topic and writing a follow-up thank you letter), creating a "parts-of" booklet (e.g., labeling parts of a rooster, cow, apple, or bee in a mini-book format), and writing about their daily experiences in a chronological learning journal/log.	A section of one of the flowers is enlarged to create a Georgia O'Keefe style painting.	

Grade 1 – Spring Expedition
Somewhere in the World

This expedition will takes the students on a global "tour" of different places on the map of the world to introduce them to factors that influence the scientific and cultural view of people and places. Students begin with the anchor text, *Somewhere in the World Right Now*, by looking at different communities around the world, including their natural resources, housing, and weather. Students will find those communities on maps and investigate why it is summer in the U.S. when it is winter in Australia, why it is day in Africa when it is night in the U.S. This will lead to a case study of the relationship between the sun, moon, and Earth. Finally, students explore the Earth under their feet with a case study on soil, landforms, and geologic events. Through field work, books, the internet, and hands-on experiments, students will learn about where soil comes from. They are also introduced to technology skills and the features of print used to highlight and emphasize important information in non-fiction.

Science Kits[8]	Social Studies[9]	ELA	Visual Arts	Performing Arts
Weather Students will be studying the effects of weather on the types of homes built within communities. Students will identify characteristics of architecture that are modified to fit the climate and weather of a region. Students will explore the weather of other regions and identify housing characteristics that are specific to the natural weather elements of a region. Students will understand the natural forms and sources of	**Thinking Chronologically** Students will investigate the concept of time as an invention for talking about key events in our lives or throughout time. The calendar and the clock, for example, are creations that we find useful in referring to time specific events. Students will extend their understanding of time by applying it to the scientific concepts of day/night and why it is summer in one place yet winter in another.	Students create **non-fiction picture books** to help them learn and recall the characteristics of geography and how geography plays a part in daily life and culture. The students create their own **weather books**, with separate pages for the different types of weather and climates found both locally and around the world and record their gained knowledge on the types of	After learning about homes, students will uncover the reasons why architecture from place to place differs. Students will build a model house representative of a country/culture of their choosing. Their models should demonstrate what they learned about specific homes from around the world. Students will follow a structured process for	Since students will be investigating different cultures and time zones and be introduced to the notion that some are simply dreaming of what tomorrow will bring at the same time others have already begun their day, the students will be teamed by country within a specific time zone and be tasked to create a short skit where they have characters from each of these time zones and cultures interact. Students can investigate music from the various cultures they are studying and work together as

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energy and determine how these forms and sources are used in reference to construction and maintenance of homes (i.e solar energy used to heat homes.)	**Role of a Leader** Students will learn the role and rules of a democratic system and the roles that elected representatives play. They will discuss the impact a leader can have on the culture of a community.	homes that could be built in the different climates by drawing pictures of the homes and finding representations of homes in magazines that depict homes both locally and around the world. Students will engage in a unit of study where they ask and find answers to questions like researchers. They will gather information about the culture, geography and weather of a place to publish a class book highlighting different places in the world. Students will create an original play from their research. They will work with local actors and engage in learning how to "read and write like actors."	completing the drawing necessary to create a class calendar of homes around the world. They can create their own texture plates to simulate the building materials. Place a variety of objects on dark construction paper and place them in the sun. When paper has bleached out by the power of the sun, remove objects and enhance with oil pastels. (Alternative – Use sticks to outline a house shape.) Students make a simple house pattern and trace it four times in squares created by folding a paper in fourths. Each square is a different season. Add background accordingly. Since maps most often show a bird's-eye view, encourage students to think about how things might look to a bird flying overhead and draw from that viewpoint.	culture teams to put music to their skits.

Grade 2 – Fall Expedition
Cycles of Life

Students will begin to see themselves in connection to others through their relationship to the larger, intergenerational community and natural world. Exploration of different life cycles (human and insect) will provide students with a wide range of understanding and knowledge by focusing on two life cycles. Students will visit a local nursing home in the community in order to build relationships and connections as well as learn from the members in residence. Through frequent visits, students will engage in conversations, read with, listen to stories of their own lives as told by the residents, interview a mentor who is a resident of the nursing home community, and write about a moment in their mentor's life. The text, *Wilfrid Gordon McDonald Partridge* by Mem Fox (ISBN-10: 091629126X), will serve as a mentor text and springboard as students prepare to visit the nursing home community and meet their mentors. Through repeated reading activities, interactive read-aloud and discussion, and shared and performance reading, students will notice the poignant moments in Mem Fox's text and discuss ways to include not only the ideas for gathering memories from another person but also the craft techniques in their own writing about and with their nursing home mentors. As the nursing home mentors share their lives with the students, students will collect "artifacts" (copies of originals if

possible) from their mentors lives such as photographs, answers to interview questions, stories, objects, memories, and letters that are essential to the person they are interviewing. Students will learn how to study artifacts closely, observe them, ask questions, and use the artifacts to remind their mentor of experiences or "small moments" in the mentors life (similar to the actions described in the mentor text). During the second part of this expedition, students will form insect "clubs" as they research and study the life cycle of an insect. Each club will gather information from approved internet sites as well as gathering a non-fiction text set on a particular insect. Students will collaboratively study many nonfiction texts written about their insect in order to compare and contrast the information and illustrations within them.

Science Kits[10]	Social Studies[11]	ELA	Visual Arts	Performing Arts
Insects This unit provides investigations that expand student awareness of insects and their diversity. The structured comparison of life cycles and stages of metamorphosis allow students to identify similarities in structures, growth, survival and reproduction among different insects. Additionally, students provide for the needs of the insects generally and specifically and acquire the necessary vocabulary associated with insect life. Fieldwork can include a visit to a state park, such as Cape Henlopen, through the Delaware State Parks programs, for programs such as "Monarchs: Magnificent Migrants" www.destateparks.com	**Respect in Civil Society** Students will understand that respect for others, their opinions, and their property is a foundation of civil society in the United States. Students will use their experiences in working in the Senior Center to come up with their own generalizations and rules for why and how to show respect in our society. Students will record specific nuances and quotes from their Elder partner to include in a class Respect Project. **Writing the Story of the Past** How does studying documents and artifacts from the past help us understand our world? What do they not help me understand? How are artifacts and documents used to write the story of the past? **How Do We Know About Long Ago**	The text, *Wilfrid Gordon McDonald Partridge* by Mem Fox will serve as an anchor text for an integrated study of generations and life cycles. Students will use knowledge of poetic devices and different mediums of print and media to work with members of a nursing home community to create a **class book of oral histories** that students write collaboratively with members of the nursing home community titled, "Memories from the Mouths of….." Through the use of interviewing, music, sounds, and casual conversation, the students will be able to creatively capture the memories shared by the elderly. Students will be expected to write poetry, short stories, compose their own interview questions and deliver them to their resident, all with the assistance of teachers and community volunteers who will	Students form groups and decide what life cycle they would like to represent, be that of insects or of humans, the two life cycles most closely investigated during this expedition. Through these groups, the students will decide the medium through which they will visually represent their rendition of the life cycle. Create radial designs using a symmetrical insect shape on tracing paper. Color with markers, frame with black border and gift to the nursing home residents to hang in their windows. Illustrate haikus with watercolors to be sold at an art show to fund the service project. Each student creates a quilt square with shapes and words that describe how they could show respect. Limit colors to similar hues for harmony. Put together and present at the Celebration of	Students will explore music from the time period most favored by the nursing home resident with whom they visited. Students will choose their best piece of writing from the oral history and present that piece of writing at a culminating event at the nursing home where family members and community members can experience the memories that the children were able to capture. Students will work collaboratively to re-enact scenarios from the oral histories, based on the details provided by the resident. Students will select appropriate background music to accompany the drama.

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	As students conduct research and analyze artifacts to become "Junior Historians" they will come to realize that working with people of older generations help us to understand the changes through which our society has gone? How can working with these individuals help us understand and write a story of our past? How would working with people put the story of the past in a different perspective than a past that is written solely through the use of documents and artifacts?	aid with spelling, grammar, etc. During the second part of this expedition, students will form insect "clubs" to research and study the life cycle of an insect. Clubs will choose a name, create and maintain a club folder for post-its, ideas, and collaborative work in order to produce a presentation using technology such as Animoto, a video slide show with music, or other virtual tool.	Learning night.	

Grade 2 – Spring Expedition
Native Americans and the Lenni Lenape

During this expedition, students will explore the Native Americans native to Delaware, the Lenni Lenape Tribe, and other groups of Eastern Woodland Native Americans, to develop a deep understanding of how early Americans established a society, relied on the land for food, interacted with settlers and recorded and passed on their history. In order to offer a more complex and realistic view of Native Americans, the class will learn about the lives of contemporary Native Americans and investigate the notions, beliefs, and ways of life that have changed as well as the cultural traditions that have remained. The entire second grade will take a trip to the Lenape Tribe Reserve and Museum in Delaware to learn more about how the Lenni Lenape lived and how their culture changed. Students will be able to observe the visible changes that beset the people after settlers arrived in America – changes in tools, village layouts, and travel. This fieldwork is essential to the *Native American Living* magazine product because it provides powerful and memorable imagery students can use to create and critique their own representations of Native American life. This fieldwork will spark engagement and questions in many students, while also affirming how much learning has already taken place in the classroom. Using Native American Mythology, Memoirs, and Storytelling, students will further their understanding of the Native American culture. They will use conversation as a collaborative tool in understanding what they are reading. Finally, students will spend time celebrating their new knowledge by presenting to the class and their guests.

Science Kits[12]	Social Studies[13]	ELA	Visual Arts	Performing Arts
Soils Students investigate the importance of soil on the development and sustainment	**Respect in a Civil Society** Students will examine the terrain and geography of the land of earlier Native American times	Students will engage in a research study of what life is and was like for the Lenni Lenape tribe of Delaware. Students will study	Students will paint a still life of the foods that were available to the Lenape before there were grocery stores.	**The Life of the Corn- A Drama in 5 Dances** *by Alice C. Fletcher* (songs, and stage directions can be adapted from published

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of the Lenape Native American tribes of Delaware by investigating the connections between the soil and the cultivation of crops necessary to sustain the civilization.	and explore typical values and spiritual beliefs, housing, clothing, farming, hunting, and gathering. They will learn about the structure of tribes, their ways of governing, leading their young, trading, and waging war. Students will also be able to relate observances of Native American relationships to relationships that exist within their own lives. **Scarcity and Wants** Students will understand the difference between needs and wants. Students will be able to classify items as services or goods. Students will be able to identify needs that the Native Americans had for survival in both pre-and post-colonial North America. Through research and building of background knowledge through the expedition and visits to the Lenape tribe museum, students will be able to identify how the Native Americans met their needs and wants through use of specialization and use of the land. **Trading Partners** Students can observe specialists in their classroom, school, and community and look at how specialization creates interdependence. Additionally, students will learn how	changes in Native American culture through fieldwork and experts, and through various literary works, including fiction, non-fiction, poetry, songs, and primary and secondary documents. Students will create and write a children's magazine titled *Native American Living*, to capture essential aspects of the Lenape culture. To build background knowledge and writing skills for the magazine, students will compose persuasive writing from the point of view of Native Americans. All students will be asked to produce two written pieces for display at the Celebration of Learning. Selected persuasive writing documents will be used in the magazine as well.	Create beads and a medallion from Sculpey Clay®. String in a symmetrical pattern to make a necklace. Create a Parfleche using natural burlap. Decorate with stitchery and beads. Using the Lenape symbol of a turtle as a resource, create a colagraph printing plate and print several copies using a variety of colors. Create a shield using a radial design. Decorate with colored sand and other materials that were available to the Lenape. Create various shakers using available materials. Use in music class to accompany songs.	version to accommodate the needs and levels of students) www.scienceviews.com/indian/indiangames2.html All dances are accompanied with music that is sung/chanted by the students on the stage. The songs indicate the importance of the soil and the golden corn growing to the sustainment of the Native American people. Mystery Dance with *Native American Ritual Song No. 1, The Planting Dance, Life Stirring Dance, Harvest is Near, and finally, The Harvest*. Each dance is done with a main speaker/singer. All dances are accompanied with music and singing that dictates movement of the actors on the stage.

	specialization creates interdependence and that exchanging goods and services creates interdependence.			

Grade 3 - Fall Expedition
How Do You Get Money from a Stone?

A study of rocks and minerals as an economic resource – students visit the Woodlawn Quarry: A GeoAdventure in the Delaware Piedmont and learn about the process of identifying, collecting, and mining stones. The students will take notes, sketch findings and try to identify rocks based on physical characteristics. They will also engage in fieldwork to include the "Mystery Minerals Outreach" program at White Clay Creek through the Delaware State Parks. Through hands-on experiences and collaboration with local experts, students explore the ways in which rocks and minerals stimulate the economy of a community. Throughout the expedition, students will construct diagrams, posters, informational writing pieces and illustrations that reflect what they have learned about how fossils are formed, rocks, minerals, soils, how humans interact with the environment and the importance of all of these elements to Delaware. Students learn about classification of rocks, the characteristics of rocks and minerals, the effects of erosion on rocks and soil, and the varied uses of rocks and minerals within our world and create their own "Delaware Rock Field Guide." The hands-on work with rocks and minerals in the classroom will include setting up and managing a month long process to produce quality tumbled, polished stones. As a culminating experience and a service learning project, children can create jewelry and bookmarks using rocks and minerals from their studies. Their products can be sold at the Celebration of Learning night when students share their Rock Field Guide and acquired learning with members of their family and community. The proceeds will be used to build a rock garden for the school community.

Students will also learn the text structures of non-fiction, how to use non-fiction books as resources to research topics of interest and how to construct informational writing pieces. Students will apply what they have learned about non-fiction and the writing process by constructing concise paragraphs about the three types of rocks, how fossils are formed and the six types of soil. They will also create illustrations of the rock cycle and how fossils are formed to incorporate into their pamphlets. Finally students will learn about the impact (both positive and negative) humans have on their environment and explain how this impacts our community park and how we as citizens can alter our behavior to save one of our community's treasures.

A collaborative Rocks and Minerals "Game Show" (e.g., *Jeopardy*) will be developed by the students to further demonstrate and deepen their knowledge about rocks and minerals, as well as their writing, reading, and presentation skills. Students will be involved in the creation of categories and questions, developing accurate, factual answers, set design, copy writing, and advertising as they plan for the Game Show. With adult prompting and support, students will determine the roles or "jobs" necessary for a successful game show experience to include, but not limited to: master(s) of ceremonies, director, advertising, question writing, fact checkers (to determine if participants answers will count as correct), producer(s), camera men, props, and sign card holders for the host(s). Students will practice the game show as contestants first, making revisions and changes as necessary to increase the understandability and playability of the game show.

Science Kits[14]	Social Studies[15]	ELA	Visual Arts	Performing Arts
Earth Materials Students learn about twelve of the most common	**Economic Exchange** Students learn about different forms of	This expedition will provide many opportunities for students to practice	The hands-on work with rocks	With the cooperation of the music and ELA teachers,

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rocks and minerals, and how to classify them. Students investigate the physical properties of rocks and minerals. They observe and sketch rocks and minerals and begin to understand how rocks and minerals are different. Tests are conducted to determine the physical properties of minerals including hardness, luster, color, and reaction to acid. Using the acid test to determine if calcite is present, students examine rocks that may contain the mineral calcite. Lastly, students observe a rock and attempt to determine the component minerals. Students transfer knowledge and skills learned in the final assessment in deciding upon a good rock or mineral choice for an outside statue. Fieldwork can include the "Mystery Minerals Outreach" program at White Clay Creek through the Delaware State Parks. www.destateparks.com or Earth Science and Rock Collecting at the Iron Hill Museum www.ironhill-museum.org	exchange, which can be placed in the context of natural resources such as minerals and rocks. Through hands-on experiences and collaboration with local experts, students explore the ways in which rocks and minerals stimulate the economy of a community. **Resources and Production** Students explore the concepts of what to produce, how to produce, and consumerism. Student will come up with a menu of items that they could create using stones and rocks. From this list, they will conduct surveys using an online tool such as Survey Monkey, and poll their local and school communities about what consumers would consider for purchase. Students will analyze survey results and decide what they will produce to sell to their consumers.	their informational reading and writing skills as they study various properties and characteristics of rocks and minerals through observation, classification, and categorization. They will create a written record of their discoveries, record any questions, and document new knowledge as they move through the scientific process of observing, recording data, making predictions, and analyzing changes. Students will create a rocks and minerals field guide that includes descriptions of rocks and minerals as well as identifying characteristics and an illustrated pictures of each type of rock A collaborative Rocks and Minerals "Game Show" (e.g., *Jeopardy*) will be developed and written by the students. Students will practice the game show as contestants first, making revisions and changes as necessary to increase the quality of the game. A Celebration of Learning will be held with the school community invited to visit the classroom displays of the books students read, visuals they studied, the materials they observed, read their writing pieces, and play or watch a live recording of "The Rocks and Minerals Game Show."	and minerals in the classroom will include setting up and managing rock tumblers to produce polished stones. As a culminating experience and a service learning project, children will create jewelry and bookmarks using rocks and minerals from their studies. Their products can be sold at the school's bazaar and students can decide where the proceeds should be, with the only stipulation being that what they decide to spend the money on will better their community. Based on observations, students will use various media to create a visual of their rock or mineral. These will be included in the field guide to illustrate their research. Create a sculpture out of firing clay. Glazes that simulate a variety of rock surfaces should be made available. Make rock shapes out of Egyptian Paste. Make jewelry similar to the pieces made from real rocks. Compare and contrast various sculptures.	students will recreate the folk tale "Jack and the Beanstalk" into a new story. Instead of beans, Jack will sell his cow for three magic rocks. Using songs created by the students, they will describe the rock's characteristics, and share their knowledge of rocks and minerals. The three rocks will lead the students on a magical journey where they will understand the value of rocks and minerals. The students will perform their play during the Celebration of Learning.

Grade 3 – Spring Expedition
Water Explorers

This module focuses on the importance of clean freshwater around the world. Using the children's book *One Well: The Story of Water on Earth* as an anchor text, this unit builds on the background knowledge students developed in second grade regarding cycles in nature, in order to help them deepen their understanding of their overall

dependence on earth's limited water supply. In Unit 1, students will continue to build their geography and map-reading skills (begun in Module 1) by studying where water is found on earth and writing an on-demand paragraph to explain this. In the second half of Unit 1, students will examine the water cycle and watersheds. They will compare how different texts present similar information about the water cycle and water sheds. In Unit 2, students will research challenges facing the earth's clean water supply. Students will read from their central text, *One Well: The Story of Water on Earth*, to identify the specific details about pollution, access, and the demand for water, and then they will research one of these challenges in more depth. In Unit 3, students will use their knowledge to strengthen and support their opinion about "one thing" they can do to conserve, protect, or provide access to clean water in the world. Students will create a public service announcement (PSA), ideally learning how to use VoiceThread technology (a low-tech alternative is provided). (As an optional science extension, students can conduct fieldwork, such as simple water testing in local lakes or streams or visiting local water-treatment plants.) http://engageny.prod.acquia-sites.com/resource/grade-3-ela-module-4

Students will also explore the Christiana Creek, Delaware River, and Delaware Bay as they research the chronological heritage of Delaware in terms of early settlers and the promotion of industrialization along these vital water sources. An in-depth look at the duPont family, the family ties and immense contributions to the development and success of the State of Delaware, will take place through research, interviews, fieldwork, and visits to Hagley Museum, Longwood Gardens, Nemours, and/or Winterthur. Students will research the duPont family history from their arrival in Delaware to their current influence in the state. An interactive, chronological family tree, highlighting significant contributions made by members of the family to Delaware will be created by writing mini-biography "trading cards" about prominent family members and their contributions which will be placed in their proper slot along a timeline. A duPont Family History book with copies of the persuasive essays and trading cards will be created for the classroom.

Science Kits[16]	Social Studies[17]	ELA	Visual Arts	Performing Arts
Water The Water unit explores water through physical, earth, and life science. The unit begins with observations of the interaction of water with materials as water is absorbed or beads up on the material and the speed with which the beads of water flow on sloped surfaces. Next, students examine the properties of water at different temperatures as water changes state. The processes of evaporation and condensation	**Places** Students learn about development of cities and towns, which can also be used as a lens for looking at development of the Delaware Brandywine region and an in depth look at the DuPont family and their influence on the state of Delaware. Students will take trips to the Hagley Museum. Students will investigate the answer to the question as to why cities and towns develop along waterways. **Regions**	Students will research the heritage of the duPont family and their contributions to Delaware over time. They will research the early settling of the family and develop a chronological timeline/ family tree, highlighting members of the family and their contributions to Delaware. Students will write biographies of selected members of the family and showcase those biographies in a on the timeline. Students will transfer their gained knowledge about the duPont family by making connections between	Students will build and sail boats from wood scraps and muslin pieces, testing them in a wading pool of water, racing using a fan as the wind and improving them with adjustments to their design. Create your "life" map, picking and illustrating events from your life that have been important to you, leading up to your future dreams for yourself. What is in store for your future? Create an illustrated timeline of these events. Students will illustrate their	Students will compose an original composition in which they pair the states of matter water can exist, and the different ways that water can fall as precipitation and the many ways that water can be used (i.e as an energy source) with music that represents these different states, uses, and characteristics. Students will identify music that perhaps would sound foreboding and pair that with water in the form of a storm, and so on. Students can choose how they showcase the different forms of water,

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and how the rate of these processes changes with temperature are investigated. Lastly, students examine how moving water can transfer energy to move other objects.	Along with Places, students can look at the development and success of regions, especially regions in the state of Delaware. Students will make connections between the region and the natural resources available in making the region successful and/or a likely place for industrialization. **Using Maps and Globes** Students can study maps and globes in the context of looking at water both locally and around the world and identify the resources and industrialization that has taken place along these resources. Students localize that information by investigating the development of the areas around Delaware's waterways. **Citizenopoly** Students will gain a greater understanding of a citizen's rights, responsibilities and privileges as well as the reasons for exercising rights, meeting responsibilities and appreciating priveleges. Students will extend this understanding to examine the roel that philanthropy plays in the history of Delaware. They will explore the question, "How does privilege benefit society?"	them and the industrialization and growth of Delaware, researching and collaborating to write *A DuPont Family History*. Students will read historical accounts of development along the Christina river and marsh. Students will create a digital story presentation of the life and times along the Christina. Students will engage in close readings of texts on the Earth's Water Cycle and the recycling of water and people's roles in the preservation and conservation of water. Students will create VoiceThreads on their researched challenges and proposed solutions for clean water. From the Engageny unit, as they read and learn about the impact of development on ecosystems, students will investigate "Freaky Frogs" and create trading cards with frog facts as well as create a strong, research based narrative on their findings.	freaky frog trading cards using original artwork.	including movement and dance.

Grade 4 – Fall Expedition
Increase Your Green

Students will explore the science of landfills, recycling, pollution, and their role in reducing the carbon footprint of their community. This expedition consists of in-depth investigations of different types of pollution, earth's increasing landfills, recycling, and ways to reduce human's negative effect on the environment. Students will narrow their focus to one key source of unnatural changes to the environment in their immediate community-excessive solid waste. A trash-tracking project will allow students to sort and classify trash found in the school community (obtained by adults) and their own homes. Careful data collection and analysis combined with solid research will give students the evidence they need to convince key stakeholders to increase the school's recycling efforts. Data collected during the trash-tracking project, research on problems with solid waste, and the costs associated with various recycling programs will be used to create the presentation. Students will develop strong public speaking skills and learn the art of collaboration and consensus building as they identify the roles and responsibilities needed to execute a professional Power Point-type presentation to important community leaders. Roles and responsibilities could include: 1) Researchers and Data Collectors who would engage in activities such as conducting interviews, researching health issues, determining the costs of recycling, explaining the process of recycling, and educating others about what happens at a landfill; 2) Power Point Creators who would research background information and facts, type the information into the presentation, insert graphics (charts, pictures), and format the presentation for cohesiveness and clarity; 3) Presenters would be responsible for presenting the information at various meetings, engaging in question and answer sessions following the presentation, and writing thank you letters to the necessary people following the presentation; 4) Meeting helpers would be responsible for the technological aspect of the presentation, making sure the speakers work, the power point runs smoothly, as well as welcoming individuals and handing out information as needed; and 5) Presentation Pamphlet Creators would create a handout for distribution at the meetings that highlights the information to be covered in the presentation.

Science Kits[18]	Social Studies[19]	ELA	Visual Arts	Performing Arts
Land and Water Students learn about natural earth changes, caused by land interacting with water. Students will investigate how conscious recycling efforts increase the health of their surrounding natural environments.	**Liberty and Citizenship** Students will consider, what qualities and characteristics make a good citizen? How do we know if we are good citizens and what can we do to rectify it if we feel we are not? What role do children play in the functionality of a society? What can children do to make their community a better place for everyone to live? How does "Increasing our Green" help show our positive efforts at citizenship? Students are to come up with their own symbol of freedom or prosperity for Delaware. The	Students will read about the science of landfills, recycling, pollution, and their role in reducing the carbon footprint of their community. Students will be asked to select one key source of unnatural change to the environment in their community and prepare a short presentation to share information with other students. Students will research the Terra Cycle Program (http://www.terracycle.net/en-US) and provide information regarding the program to the	In art class, students will create reusable grocery bags by doing technical drawings of their animals through multiple drafts. The art teacher will emphasize realistic details versus cartoon-like illustrations. Parents will be asked to help sew the bags and volunteer sewing machines. Drawings will be scanned into the computer and iron-on transfers created to put onto the bag. In the absence of skilled parents, canvas bags will be purchased and the images ironed onto the bags.	Students will recreate the musical play *We've Only Got One Planet* as a culminating activity for this expedition. http://www.songsforteaching.com/store/weve-only-got-one-planet-download-pr-5501.html. The students will use the material available to create a unique and exciting production about the need to save the only planet we have. Students will also choreograph movements to accompany each song. Students will share their performance for the school, parents, and families.

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	students must have sound research evidencing their search for what to them signifies freedom and prosperity in the state of Delaware. Students will have the opportunity to both write about their chosen representation of freedom, create, through their own chosen medium their representation of freedom, as well as present their representation of freedom to teachers, families and community members. **Democratic Methods** Students learn that effective citizens can research issues, form reasoned opinions, support their positions, and engage in the political process. Students learn that effective governance requires responsible participation from diverse individuals who translate beliefs and ideas into lawful action and policy. **Economic Systems** Students will identify the different means of production, distribution, and exchange used within economic systems in different times and places. They will extend their thinking to explore how recycling can also have economic benefits on both small and large scales.	Parent Teacher Organization (PTO) and the larger school community. This part of the expedition will require students to engage in meaningful research, create advertisements encouraging the school community to support their recycling efforts, and demonstrate effective communication skills. Students will develop strong public speaking skills and learn the art of collaboration and consensus building as they assume the roles and responsibilities as needed to execute a professional presentation to important community leaders. Roles and responsibilities could include: 1) Researchers and Data Collectors; 2) Power Point Creators; 3) Presenters; 4) Meeting Helpers; and 5) Presentation Pamphlet Creators. Students will complete job applications for all roles and responsibilities and go through an interview process, conducted by peers and adults to obtain the "job" or "role" they want to have during the development and presentation of information obtained. The interview process would include a resume, references, parent permission, and a short speech citing the reasons why the student wants the job and how they know they would be the best person for the position.	Students will be matched with a parent volunteer to make the bags. The canvas grocery bags will have a letter to consumers regarding the environmental threats to the animal. Students bring in boxes of all sizes or socks to make puppets. After puppets are made they can write dialogue about how important it is to reduce, reuse and recycle and present to younger students. Students create sculptures from found and discarded items. Discarded toys, craft items, material, ties, egg cartons, plastic flatware, yogurt containers, soda cans, water bottles, etc. can all be turned into beautiful sculptures.	

Grade 4 – Spring Expedition

Know Your Rights! History Is Happening Now!

This Expedition takes students from the founding of the United States of America to the Civil Rights Movement. Students learn about the three branches of government and the system of checks and balances. They explore the creation of the Bill of Rights and learn about their own rights. An examination of the Civil Rights Movement proves that Rights are not universally applied and that government can be changed. In science, students will study the structures of life and the adaptations that plants and animals must make for survival. From that research, students will compare the scientific definition of adaptation with the human evolvement through a study of the Civil Rights Timeline. Students will do a deep study of various Civil Rights movements in United State history, including the Suffrage Movement and explore answers to the questions about what makes someone a leader of change? How do leaders impact others? How can one person make a difference?

Science Kits[20]	Social Studies[21]	ELA	Visual Arts	Performing Arts
Structures of Life- Students will study the structures of plants and animals, plant and animal adaptation for survival, predators vs. prey, native predators to Delaware, prey with reducing population in and around Delaware and consider what adaptations would students provide to these animals to aid them in survival. Students will be involved in fieldwork through the Delaware State Parks programs through one or more of the offered programs: Animal Adaptations, Biodiversity, Biome, Sweet Biome www.destateparks.com	**American Revolution** Students will begin their study of Civil Rights by learning about the Amercan Revolution and the foundation of our country's government. From there students will examine how various groups struggle to establish their rights as citizens. Students will analyze primary source documents to better understand the motives of the rebellion. **Branches of Government** Students explore the branches of government, the role of each, and the system of checks and balances. Students explore the Declaration of Independence and its significance in launching the government of the United States. Next students journey through the early years of our country	Students will demonstrate their learning of the branches of government by creating and expository/informational essay on the roles of each and how they inform each other to function as the government we know it to be today. As the students explore the government as they know it today, they will engage in virtual studies from the National Civil Rights Museum to uncover the Chronology of the emerging and changing rights of Americans. Students will ultimately choose an event from the class chronology study and "become" a character they will portray during the Celebration of Learning. Students will participate in literature circles and read one of two books: *Abby Takes a Stand* by	Students will design "Civil Rights Super Heroes" which will be depictions of real life figures who played prominent roles in the development of and fight for Civil Rights. They can create realistic representations, sketches, abstracts or imitation art pieces. They will then have to provide explanation of who their Civil Rights Hero is, how their piece depicted him or her and the contribution that figure made to the way they are able to live their lives today. Create a poster/book jacket advertising your "Kid Friendly Bill of Rights" Develop self portraits as new super heroes. Exaggerate or exemplify the characteristics in people that would allow you to	Integration to be determined by the performing arts teacher.

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	and the creation of the Constitution. They demonstrate their understanding of government by writing an expository/informative essay on the three branches of government. **Our Community, Profiles and Connections** Students will investigate how our need to transport people, places and ideas has affected the unfolding of Delaware's history and explore the impact they have on local ecosystems with the connections they can make with their own communities.	Patricia McKissack or *Walking to the Bus-Rider Blues* byHarriette Gillem Robinet. Both of these books feature a strong main character that stands up for her/his rights and the rights of others during the Civil Rights Movement. *Abby* is set during the Nashville Sit-ins and *Bus-Rider* is set during the Montgomery Bus Boycott. Students study the Bill of Rights and then worked in pairs to translate each of the ten amendments into "kid friendly" language. They added an illustration for each amendment. The amendments were published in a three ring binder that remains in the classroom[22]. Each student will participate in a Celebration of Learning for the school community, families of students, and invitees to be held at the completion of Expedition Two. Student work created during this expedition will be displayed and	overcome either a problem you learned of during your studies, or a current problem you believe faces people today. How would your adaptation help you to overcome the struggle? With a timeline of the Civil Rights that has been created, decide if "our work here is done." If you believe yes, that everyone's rights are now protected and respected, create an ending for your timeline depicting that triumph. If you believe that all civil rights are not yet being protected, create artistic representations of two events you must believe still occur in the fight for civil rights for all.	

[22] From the Engageny unit of study, students will closely read, *The Hope Chest* by Karen Schwabach
Susan B. Anthony, "On Women's Right to the Suffrage," excerpt from a speech given in 1873, available at http://www.historyplace.com/speeches/anthony.htm
Rebecca Hershey, "The Vote," in *Hopscotch* (2003, Issue 5), 36, available at www.novelnewyork.org
Ira Peck and Kathy Wilmore, "Order in the Court," in *Junior Scholastic* (2008, Issue 14), 12–15, available at www.novelnewyork.org
Patrick S. Washburn, "Fredrick Douglass: Freedom's Champion," in *Boy's Life* (1994, Issue 10), 14, available at www.novelnewyork.org
"Miss Susan B. Anthony Fined $100 and Costs for Illegal Voting," *The New York Times*, June 20, 1873, available at http://query.nytimes.com/mem/archive-free/pdf

		presented by the students. Students will participate in oral, visual, technological, and written presentations that introduce attendees to not only the activities completed but also the drafts and process of learning experienced.		

Grade 5 – Fall Expedition
Top Gear

The expedition begins with an exploration of many different kinds of simple and complex machines and culminates with each student designing a battery-powered model of a vehicle, complete with a student-written owner's manual. Students will not only learn the principles and scientific aspects of electricity, forces and motion, and magnetism, but will also learn to create technical drawings and conduct market research to determine consumer needs prior to designing their model vehicle. Engineering students from local colleges will come to the school to be resources for the engineering and design aspect of the vehicles. The classes will visit a local car dealership to research different types of vehicles and to talk to experts about how various vehicles meet consumer needs. They will read text, conduct online research, and participate in a photographic scavenger hunt to find simple machines in use at the school. Once students became experts on a single simple machine they will regroup into mixed expert groups for the first project of the expedition. Students will work together to dissect a complex machine in order to understand how simple machines make complex machines work. The dissection specimens are non-functional appliances that will be donated by parents and community members. Students will dissect simple and complex machines such as VCRs, computer CPUs, vacuum cleaners, and coffee makers. They will collect samples of simple machines and create visual displays of their discoveries.

The focus of the second part of the learning expedition is a case study of the car. It starts with student designed experiments that explore scientific questions. Students will use a kit to construct a simple battery-powered model vehicle. The class will discuss the way that vehicles available to consumers today differ from each other with designs that meet four major consumer needs: Economy (fuel efficiency), Utility (ability to pull loads/cover difficult terrains), Luxury (safety), Performance (speed). The students will research each of these categories and learn more about how they fill a consumer niche. Students will complete market research to determine the demand for various types of vehicles. They will create an Internet survey for distribution via the school website. Based on analysis of the data from the market research, the students will decide what type of vehicle they want to design and describe how the design fills a consumer need. Students will work in cooperative learning groups, based on their vehicle category, to design and complete experiments that test their proposed design. They will also write a mission statement to promote their design. All experiment designs, results, and implications for design, will be recorded in lab notebooks.

Science Kits[23]	Social Studies[24]	ELA	Visual Arts	Performing Arts
Motion and Designs This unit allows students the opportunity to explore the physics of motion and to apply	**Reasons for Banks** A nation's overall levels of income, employment, and prices	**Henry Ford and Inventors Research.** Students research the importance of Henry Ford to the automobile	Students will create their model vehicle designs. The data they collect throughout this portion of the learning	Students will use their knowledge of simple machines to create songs about movement. Students

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concepts to technological design. Using K'NEX, students design a simple car and investigate how the car moves when pulled by a drop weight system, when carrying a load of a given mass, and when propelled by a rubber band. Next, students investigate friction and car design and how each affects motion. Tire tread and a sail (air resistance) are investigated as design features. Motion of the vehicle when driven by a propeller system is examined. Lastly using engineering problem solving, students engage in ways to meet design specifications**.**	are determined by the interaction of spending and production decisions made by all households, firms, government, and trading partners. Because of interdependence, decisions made by consumers, producers, and government impact a nation's standard of living. Market economies are dependent on the creation and use of money and a monetary system to facilitate change. **Thinking Economically** Students will engage in this unit of study and transfer learning to the content of this Expedition "Top Gear" in thinking about specialization, and the interdependence that exists in the automobile industry. International trade most often takes place between private citizens, both consumers and producers, who live in different countries. These citizens specialize and produce those goods and services they can produce at the lowest cost. They then trade for goods that would cost them more to produce. Citizens, both importers and exporters, from these countries trade because they expect to be better off. International trade results in individuals specializing, which increases production of goods and services. Therefore, there are	industry. Students identify other people in history who contributed to the evolution of the car industry and complete an Inventor's Study of their person to both share with the class and also present at on the night the model cars are revealed to parents and community members. **Writing a Mission Statement-** Based upon their growing understanding of the design and purpose of vehicles and the consumer demands in their community, each student will develop a mission statement for a consulting company that is developing a new vehicle prototype. Students are required to evoke the spirit of their design, intention and engineering strategy when writing the mission statement. To accomplish this, they will study the mission statements of well-known companies, break them into their various components, and evaluate them for truthfulness, intent, and artistry. In order to understand the evolution of the automotive industry, students will research leaders, scientists, and innovators in the automotive industry, past and present. Students will research leaders, scientists, and innovators in the automotive industry, past and present. Students will select a key individual to research, create a bio-card to contribute to the whole class	expedition will enable them to make informed decisions about their vehicle design. **Learning Graphic Design** Students will be required to include digital technical drawings of their designs in their model vehicle owner's manual. To accomplish this, the students will complete an intensive unit of study on graphic design, using Microsoft Publisher. They will learn how to create digital graphic images to scale, how to combine shapes to form complete objects, and how to manipulate objects individually and in groups. **Create Sketchbook Covers** Working with a word document with student photo embedded in it, students will use same skills used for their owners manual. Spiral binders used to make sketchbooks. Students will also design a logo that represents their car. Create a picture that shows motion. It can include anything that moves.	will also use their bodies to show fluid motion, isolation, and sound effects to simulate simple machines. Students will be able to use their own body to interpret the motion and movement and sound of pulleys, levers, wedges, etc. The students will share their creations with the student body and parents during the exhibition of the expedition.

	more goods and services for people to buy, and their standard of living rises. Standard of living is often measured by **gross domestic product per capita**. International trade links countries around the world making them **interdependent**.	annotated timeline and participate in an Automobile Industry "Mixer" where they role-play their individual as they explore and evaluate the individual's contribution to the car industry.		

Grade 5 – Spring Expedition
Delaware's Changing Waters

This expedition is built around two major projects that will help students educate the public about the Horseshoe Crab, the effects of climate change, the effects of migrating birds who stop to nest and eat in the Delaware Bay area and the impact of human behavior on the environment. To prepare for creating their field guides and writing their argumentative speeches and letters, students will study the Horseshoe crab's life cycle, its role in the Delaware Bay area and to Delaware in general, and the interrelationship between an ecosystem and a living organism. Students will analyze maps and aerial photos of areas in the Delaware Bay Areas that house horseshoe crabs and their spawning areas. Students will visit the bay to see and document the attempts being made to alleviate the depletion of the horseshoe crab population by the migrating birds that stop in the rich Bay areas to feed. They will develop hypotheses, search for patterns, and draw conclusions about changes seen in the bay areas over time. They will research the lives of the horseshoe crabs and identify organisms that are placing the population of the crab in danger. They will hypothesize what can be done to cut down on the horseshoe crab being a food source for migrating birds. They will research the effects humans have on the population in reference to the changes in climate and industrialization of Delaware. In addition to meeting key science standards, the major projects in this learning expedition will include student research, non-fiction reading, data analysis, photography, scientific drawing, and expository and argumentative writing skills. Students will also have the opportunity to educate the public on a pressing state and national issues and address the health of an important aspect of Delaware's culture. Students will emerge from this expedition as advocates for responsible choices and stewardship of the land. They will learn that their voices truly matter and can make a difference.

To connect to the humanities, the ELA integration features a close read of selected passages from *The Most Beautiful Roof in the World* by Kathryn Lasky. This beautifully illustrated informational text describes the work of scientists documenting the biodiversity of rainforests. The specific literacy focus is on reading scientific and technical text as well as writing to inform and explain. In the first unit, students build basic background knowledge about the rainforest (particularly those of the Western Hemisphere), and begin to examine how scientists closely observe the natural world to then help them communicate their research through carefully organized and worded scientific text. Unit 2 focuses on a case study of Meg Lowman, the researcher featured in *The Most Beautiful Roof in the World*. Students then analyze the structure and function of scientific field guides and filed journals determining what quality field guides and journals look and sound like. Students research about a living thing that scientist Meg Lowman may encounter in the rainforest in her research and write with clear and effective word choice about their chosen insect of the rainforest. As the final performance task, students produce an informational report and then field journal–style pages intended for younger readers.
http://www.engageny.org/resource/grade-5-ela-module-2a

Science Kits[25]	Social Studies[26]	ELA	Visual Arts	Performing Arts

[25] The science kits will be taught as outlined by the Science Coalition. Connections to other contents areas will be additive and deepen students' knowledge of the science content.
[26] The social studies units will be taught as outlined by the Social Studies Coalition. Connections to other contents areas will be additive and deepen students' knowledge of the social studies content.

Ecosystems In this unit, students understand the web of relationships that link organisms to one another and to their natural environments. By constructing, observing, discussing, and reading about both land and water ecosystems in this unit, students develop a growing sensitivity to living things and what they need to survive. Students learn that organisms in ecosystems have dependent and independent relationships and that natural and human-made events can disturb an ecosystem. They also learn that people bring different perspectives to environmental issues and that they can work together to develop solutions. Students will be involved in one or more of the programs put on by the Delaware State Parks: Animal Adaptations, Biodiversity, Biome, Sweet Biome, Creatures of the Coast, Ecosystems in Action, Exploring Ecosystems, Horseshoe Crabs www.destateparks.com	**Thinking Geographically** Cultural differences produce patterns of diversity in language, religion, economic activity, social custom, and political organization across the Earth's surface. Students who will live in an increasingly interconnected world need an understanding of the processes that produce distinctive places and how those places change over time. Students need to learn to apply the ideas of site and situation to explain the nature of particular places. Site choices at different time periods help explain the distribution of places in Delaware. The earliest European settlements such as Lewes, New Castle, Dover, Odessa, and Seaford were at the head of navigable rivers and streams that flowed into the Delaware River or Chesapeake Bay. **Ecosystems** Students will apply environmental relationships they have been learning about in the science program as they observe and analyze examples of ecosystems in landscapes found locally, regionally, and in other parts of the United States. Activities and materials in this unit will also extend and reinforce	Students compose argumentative speeches to "debate" other candidates for the mock election. Debate topic is the importance of the conservation of the Delaware Bay area and the effect humans and predatory animals have on the indigenous animals/insects of the Bay area. Conservationists can speak with students regarding the importance of human efforts and the role legislation plays on welfare of an ecosystem. With the end in mind, students will use exemplar models and several rounds of "noticing and wondering" about the genre of field guides. They will analyze the purpose and audience for field guides as well as the organizational structures used in the models. Rather than creating traditional species identification field guides, the students will create informational field guides for the Delaware Bay Ecosystem. Teachers and students will work together to identify the criteria of what their field guides would include. This is then used to create a rubric, which teachers will use to assess the final field guides. Students will research the horseshoe crab – its life cycle, habitat, and diet – and will conduct fieldwork to better understand the key role that this small animal plays in a larger system. Witnessing first-hand the	Photography Study: Students study photography as a mode of communication. Prior to using cameras, students will be familiarized with the art and visual skills of subject, composition and focal point. Learning to communicate a message without words may present new challenges for students but will prove a very powerful experience with a new art form. Scientific Drawings: Capturing depicting human effect on the horseshoe population. Students will create scientific drawings to compliment their expository writing and photographs. Structured peer critique will offer a powerful method for producing high quality final products. Standards addressed: Using the photographs from the unit as a resource, the students will recreate the images with paper and paint. One will be painted in realistic colors, one with monochromatic colors, one to show happiness and one to create a somber mood. Create a cartoon character to promote your message. Begin with a rough sketch of two characters. Make a poster	Using their photographs, scientific drawings and chalk/watercolor creations for inspiration, the students will compose background music to accompany a "walking tour" of the pictorial learning in which they engaged during the expedition. The students will explore orchestral, classical, jazz, rock, and pop music and learn what it takes to put different genres together seamlessly to elicit the mood and feelings that their pictures, drawings and painting should elicit from the audience. Students will invite family members to the school for the Celebration of Learning evening and lead them in small groups through the walking tour of their visual and auditory art.

	knowledge of the basic geography of Delaware and the United States. The interdependence of living things and the effects of human activities on ecosystems are the primary emphasis. As part of this unit, students will be utilizing Fieldscope, a web based mapping, analysis, and collaboration tool.	transformation of their "back-yard" bays gives the issue a great deal of urgency for students. The final product of this investigation is a class field guide including an expository writing piece, photographs, and scientific drawings from each student. Students will design the layout of the book as well as contribute to the dedication, table of contents, and glossary. Students, families, and teachers will hold a book party exhibition at their school. Students will answer questions from audience members about the experience. Students will do book signings for the book party attendees as the local experts.	using the character and interesting lettering that captures your audience's attention. Using watercolors, paint a reflection picture that depicts the beauty of the Delaware bay and the surrounding habitats at either sunset or sunrise. Illustrate the huge number of horseshoe crabs that some ashore on the Delaware beaches by overlapping and completely filling the paper with horseshoe crab images. Draw with dark crayons or oil pastels. Add color with watercolors.	