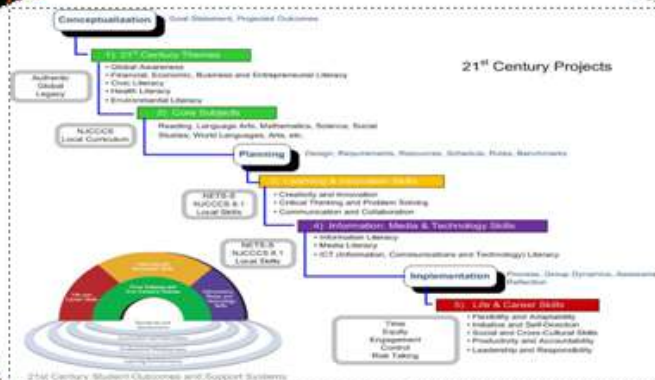


21st Century Skills

The three Rs and four Cs:

critical thinking and problem solving,
communication,
collaboration,
creativity and innovation



N.J.A.C. 6A:8
STANDARDS AND ASSESSMENT FOR STUDENT
ACHIEVEMENT

To prepare students for success in life, future education, and work in an economy driven by information, knowledge, and innovation requires a public education system where teaching and learning are aligned with 21st century learning outcomes.

These outcomes move beyond a focus on basic competency in core subjects and foster a deeper understanding of academic content at much higher levels by promoting critical thinking, problem solving, and creativity.

This is accomplished by . . .

The Core Curriculum Content Standards that specify expectations in nine academic content areas

Cumulative progress indicators at benchmark grade levels to further clarify expectations for student achievement

Twenty-first century themes and skills integrated into all content standards areas

District boards of education shall ensure that standards, assessments, curriculum, instruction, and professional development are aligned in a local support system that enables all students to achieve 21st century outcomes through the establishment of student-centered learning environments.

In these 21st Century learning environments, students will:

Learn in meaningful, real world contexts through rigorous and relevant curriculum that promotes engagement in learning by addressing varying postsecondary goals

Access and use quality learning tools, technologies, and resources

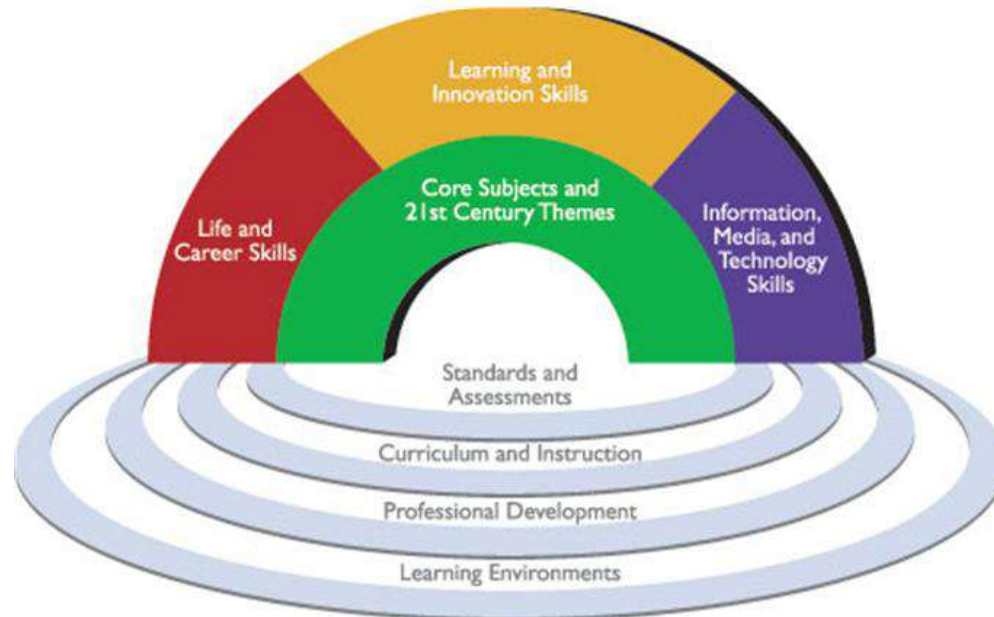
Become self directed seekers of knowledge able to evaluate, apply, and create new knowledge in varying contexts

Use effective communication, communication technology, and collaboration skills to interact with cultural sensitivity in the diverse local and world community

Framework for 21st Century Learning

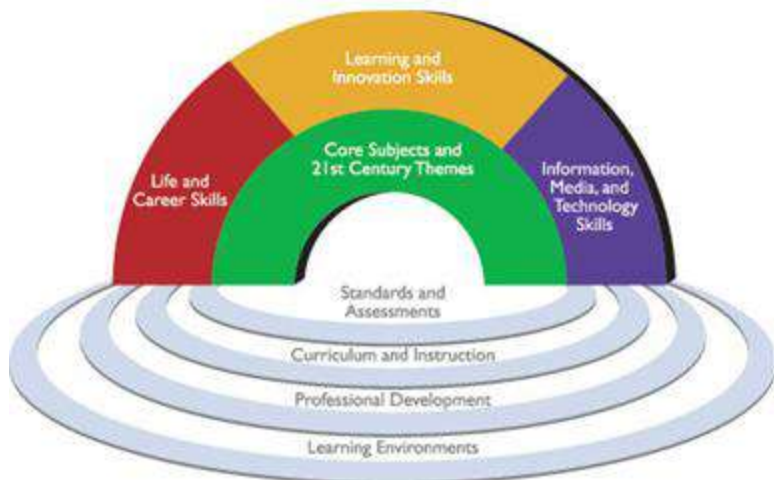
The Framework presents a holistic view of 21st century teaching and learning that combines a discrete focus on 21st century student outcomes (a blending of specific skills, content knowledge, expertise and literacies) with innovative support systems to help students master the multi-dimensional abilities required of them in the 21st century.

The key elements of 21st century learning are represented in the graphic and descriptions below. The graphic represents both 21st century skills **student outcomes** (as represented by the arches of the rainbow) and 21st century skills **support systems** (as represented by the pools at the bottom).



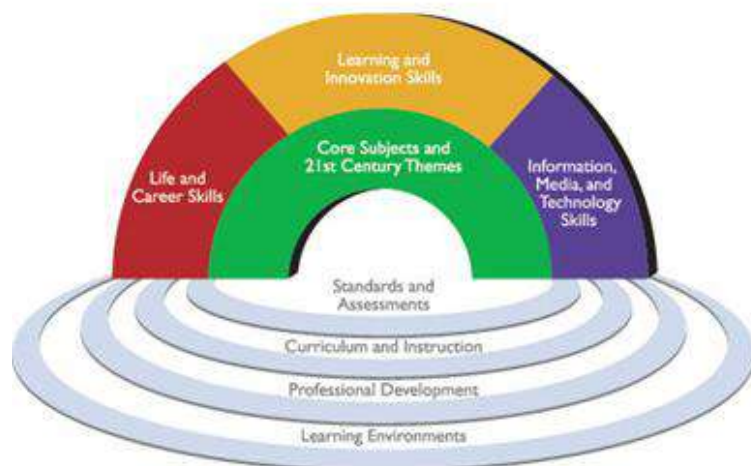
21st Century Student Outcomes and Support Systems

21st Century Projects



21st Century Student Outcomes and Support Systems

21st Century Projects



21st Century Student Outcomes and Support Systems

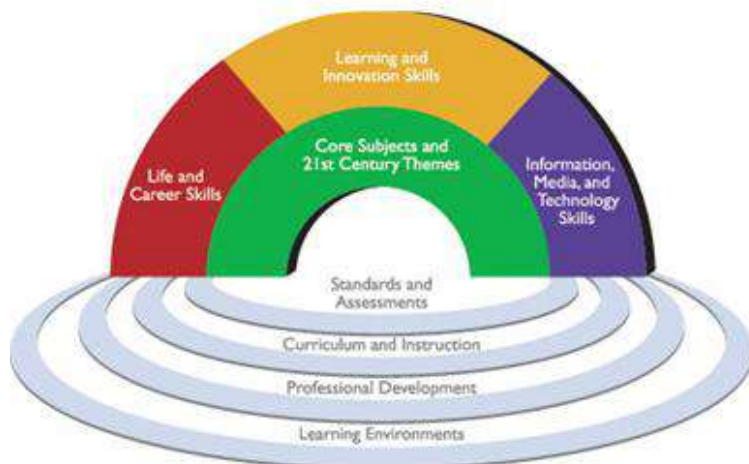
Conceptualization

Goal Statement, Projected Outcomes

1) 21st Century Themes

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

21st Century Projects



21st Century Student Outcomes and Support Systems

Conceptualization

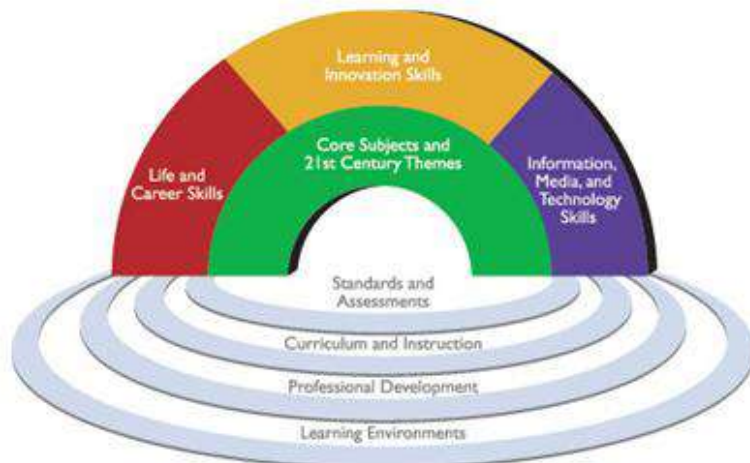
Goal Statement, Projected Outcomes

1) 21st Century Themes

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

Authentic
Global
Legacy

21st Century Projects



21st Century Student Outcomes and Support Systems

Conceptualization

Goal Statement, Projected Outcomes

1) 21st Century Themes

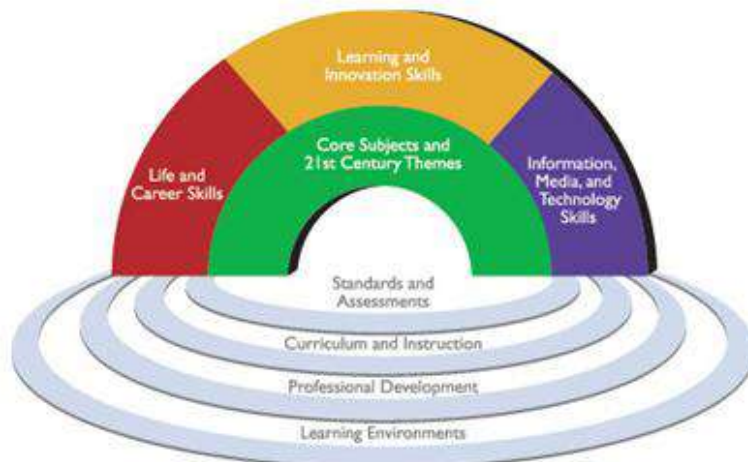
- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

2) Core Subjects

Reading, Language Arts, Mathematics, Science, Social Studies, World Languages, Arts, etc.

Authentic
Global
Legacy

21st Century Projects



21st Century Student Outcomes and Support Systems

Conceptualization

Goal Statement, Projected Outcomes

1) 21st Century Themes

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

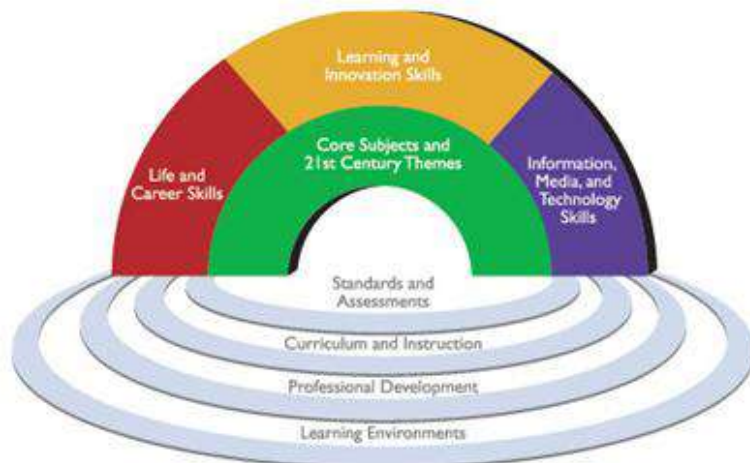
Authentic
Global
Legacy

2) Core Subjects

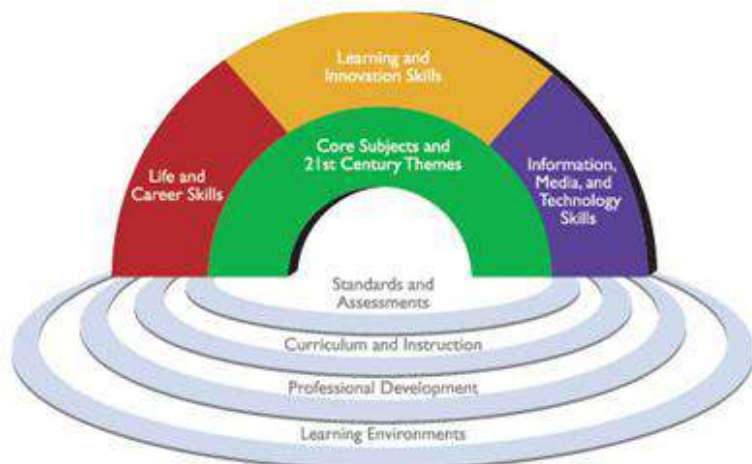
Reading, Language Arts, Mathematics, Science, Social Studies, World Languages, Arts, etc.

NJCCCS
Common Core
Local Curriculum

21st Century Projects

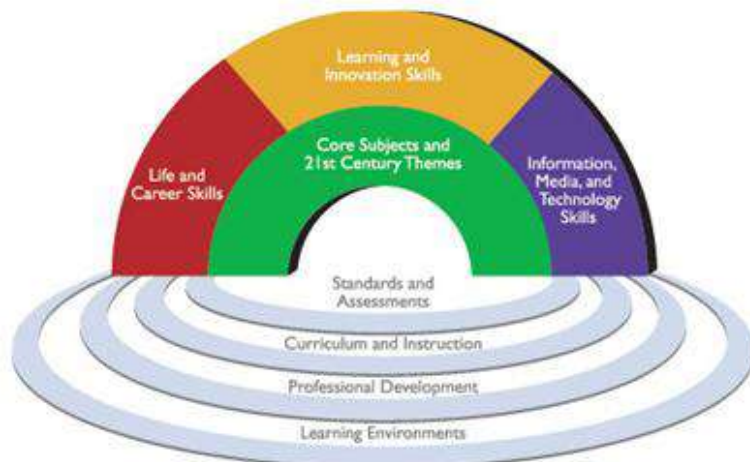
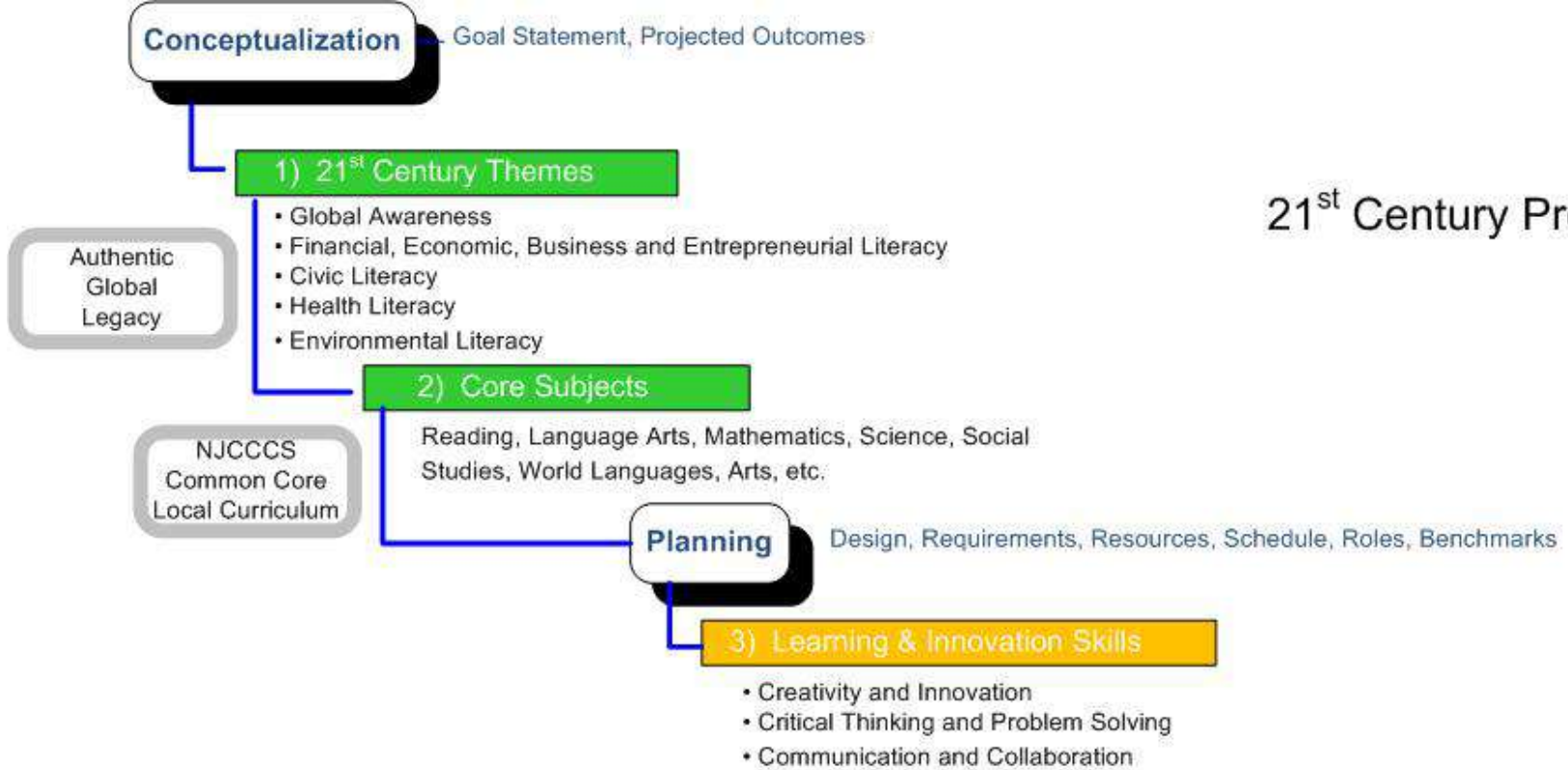


21st Century Student Outcomes and Support Systems



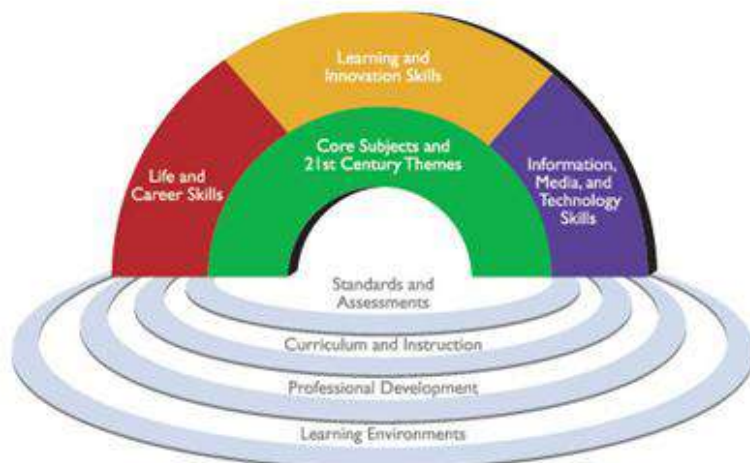
21st Century Student Outcomes and Support Systems

21st Century Projects



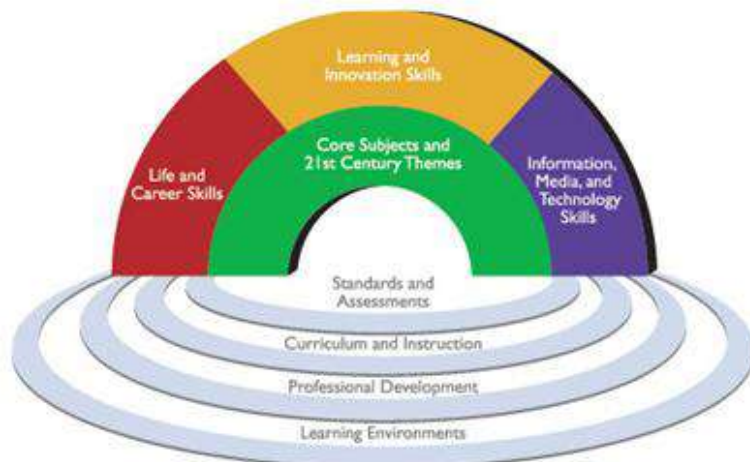
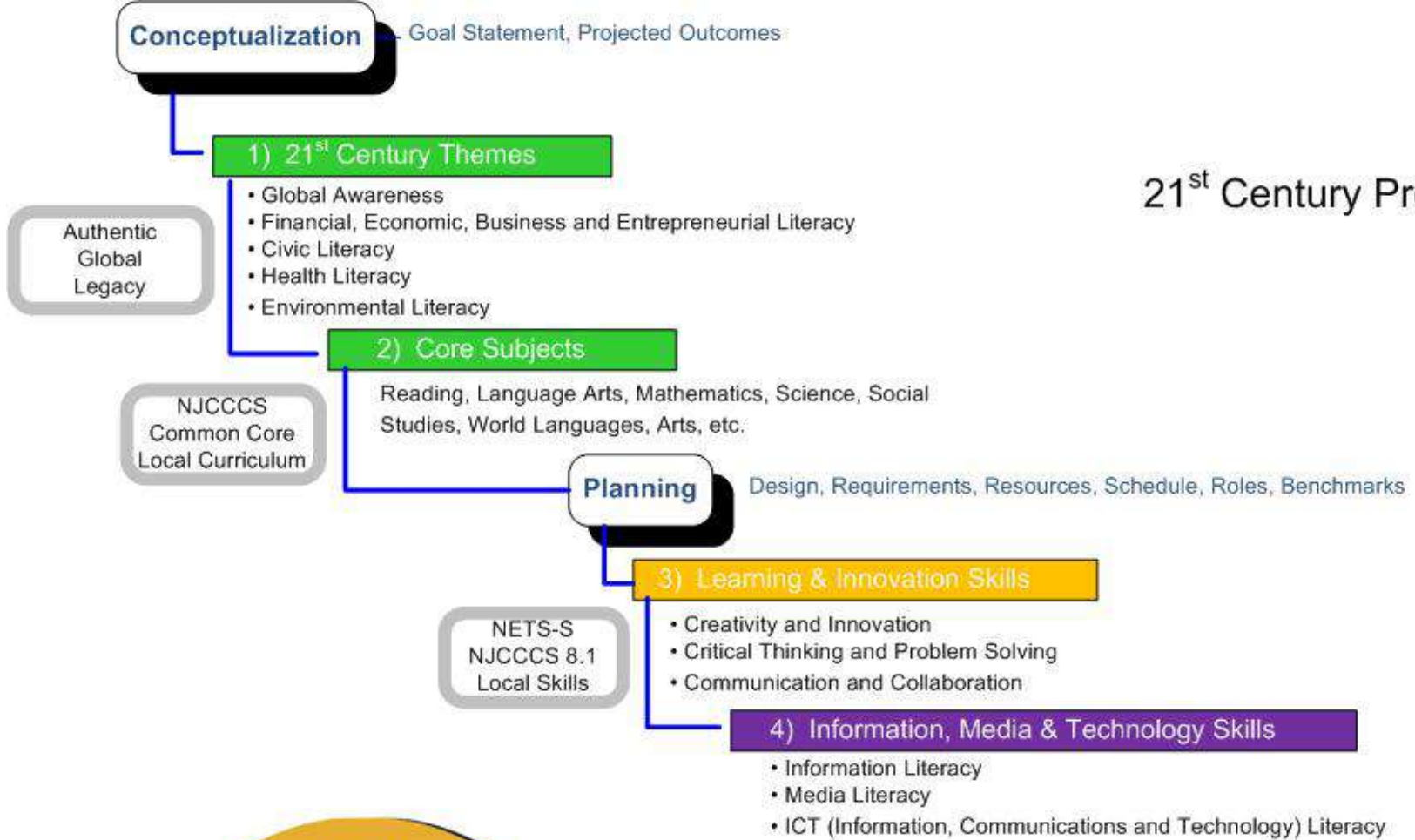
21st Century Student Outcomes and Support Systems

21st Century Projects



21st Century Student Outcomes and Support Systems

21st Century Projects



21st Century Student Outcomes and Support Systems

Conceptualization

Goal Statement, Projected Outcomes

1) 21st Century Themes

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

Authentic Global Legacy

2) Core Subjects

Reading, Language Arts, Mathematics, Science, Social Studies, World Languages, Arts, etc.

NJCCCS Local Curriculum

Planning

Design, Requirements, Resources, Schedule, Roles, Benchmarks

3) Learning & Innovation Skills

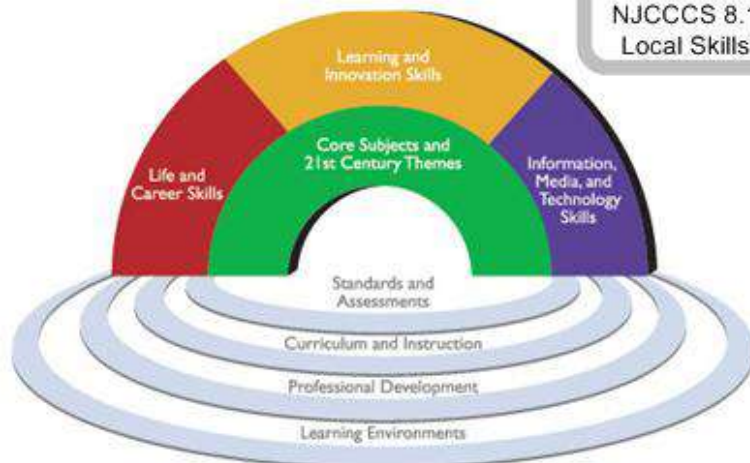
- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication and Collaboration

NETS-S NJCCCS 8.1 Local Skills

4) Information, Media & Technology Skills

- Information Literacy
- Media Literacy
- ICT (Information, Communications and Technology) Literacy

NETS-S NJCCCS 8.1 Local Skills



21st Century Projects

Conceptualization

Goal Statement, Projected Outcomes

21st Century Projects

1) 21st Century Themes

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

Authentic Global Legacy

2) Core Subjects

Reading, Language Arts, Mathematics, Science, Social Studies, World Languages, Arts, etc.

NJCCCS Common Core Local Curriculum

Planning

Design, Requirements, Resources, Schedule, Roles, Benchmarks

3) Learning & Innovation Skills

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication and Collaboration

NETS-S NJCCCS 8.1 Local Skills

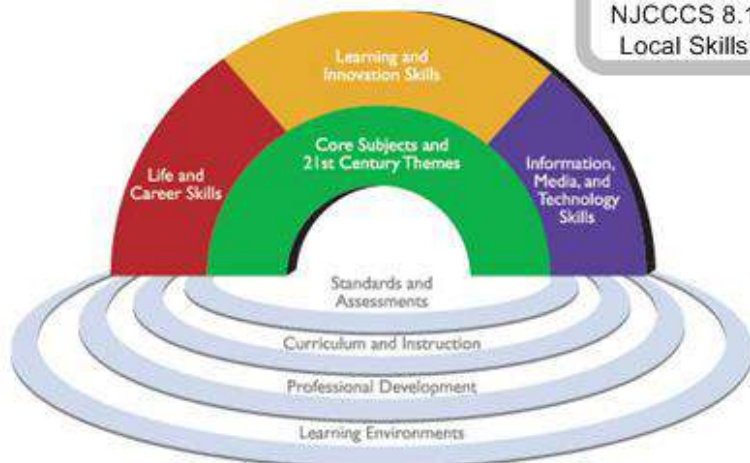
4) Information, Media & Technology Skills

- Information Literacy
- Media Literacy
- ICT (Information, Communications and Technology) Literacy

NETS-S NJCCCS 8.1 Local Skills

Implementation

Process, Group Dynamics, Assessment, Reflection



21st Century Student Outcomes and Support Systems

Conceptualization

Goal Statement, Projected Outcomes

1) 21st Century Themes

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

Authentic Global Legacy

2) Core Subjects

Reading, Language Arts, Mathematics, Science, Social Studies, World Languages, Arts, etc.

NJCCCS Common Core Local Curriculum

Planning

Design, Requirements, Resources, Schedule, Roles, Benchmarks

3) Learning & Innovation Skills

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication and Collaboration

NETS-S NJCCCS 8.1 Local Skills

4) Information, Media & Technology Skills

- Information Literacy
- Media Literacy
- ICT (Information, Communications and Technology) Literacy

NETS-S NJCCCS 8.1 Local Skills

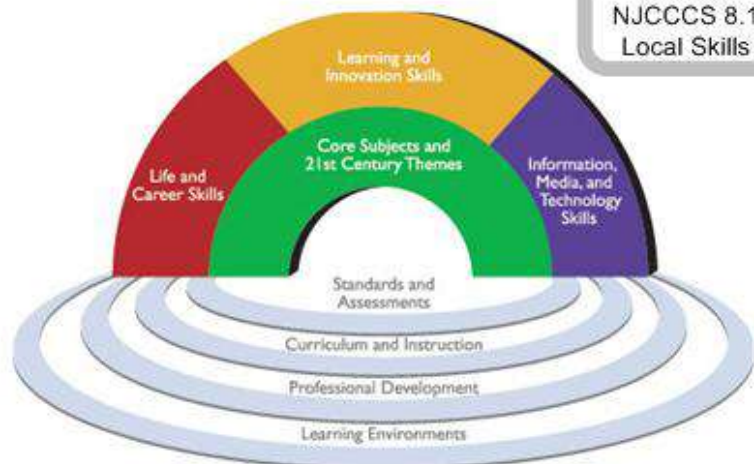
Implementation

Process, Group Dynamics, Assessment, Reflection

5) Life & Career Skills

- Flexibility and Adaptability
- Initiative and Self-Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

21st Century Projects



21st Century Student Outcomes and Support Systems

Conceptualization

Goal Statement, Projected Outcomes

1) 21st Century Themes

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

Authentic Global Legacy

2) Core Subjects

Reading, Language Arts, Mathematics, Science, Social Studies, World Languages, Arts, etc.

NJCCCS Common Core Local Curriculum

Planning

Design, Requirements, Resources, Schedule, Roles, Benchmarks

3) Learning & Innovation Skills

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication and Collaboration

NETS-S NJCCCS 8.1 Local Skills

4) Information, Media & Technology Skills

- Information Literacy
- Media Literacy
- ICT (Information, Communications and Technology) Literacy

NETS-S NJCCCS 8.1 Local Skills

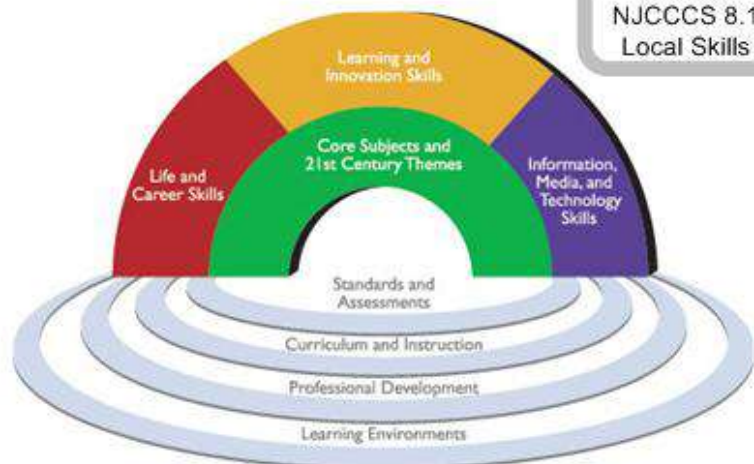
Implementation

Process, Group Dynamics, Assessment, Reflection

5) Life & Career Skills

- Flexibility and Adaptability
- Initiative and Self-Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

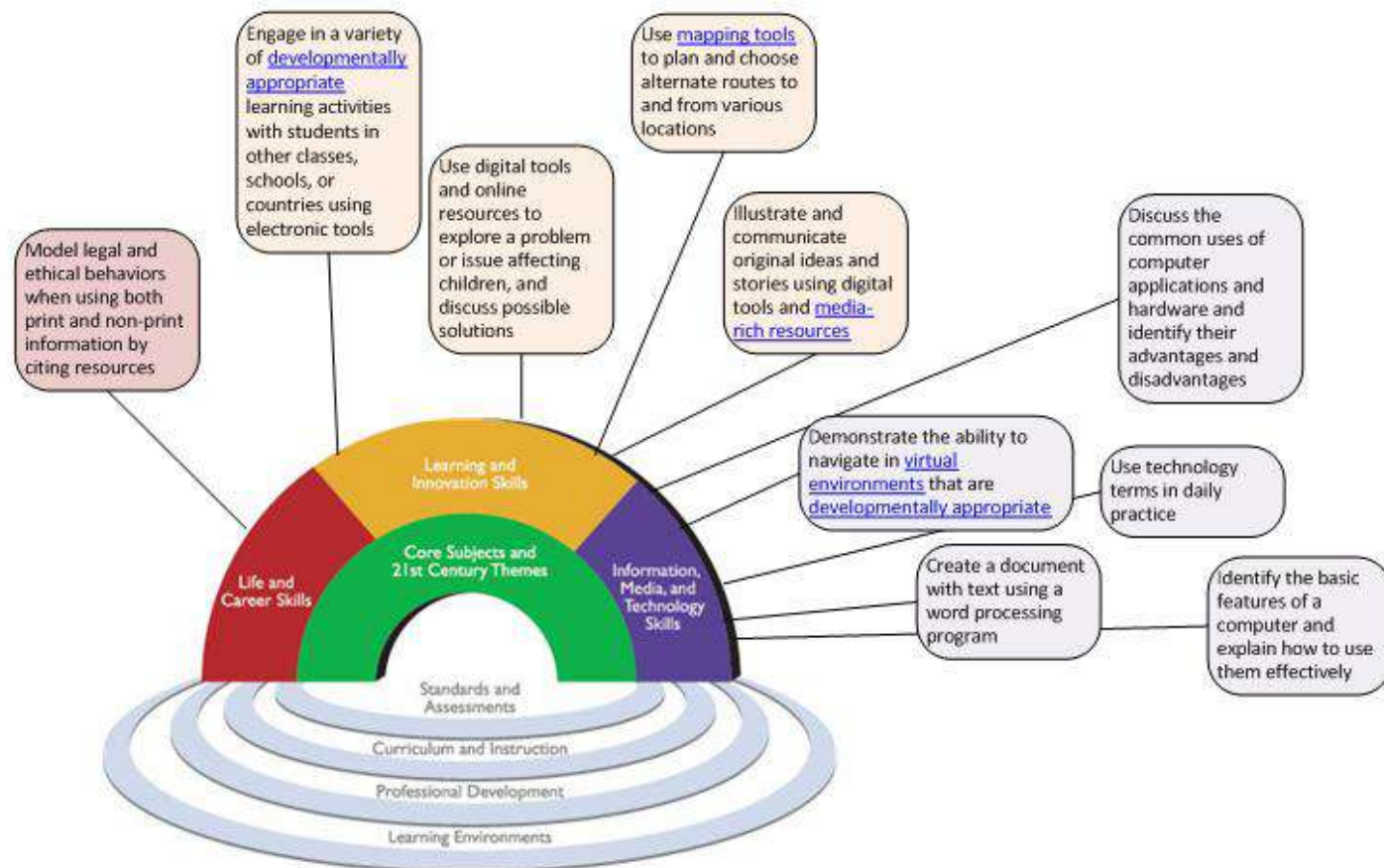
Time Equity Engagement Control Risk Taking



21st Century Student Outcomes and Support Systems

21st Century Projects

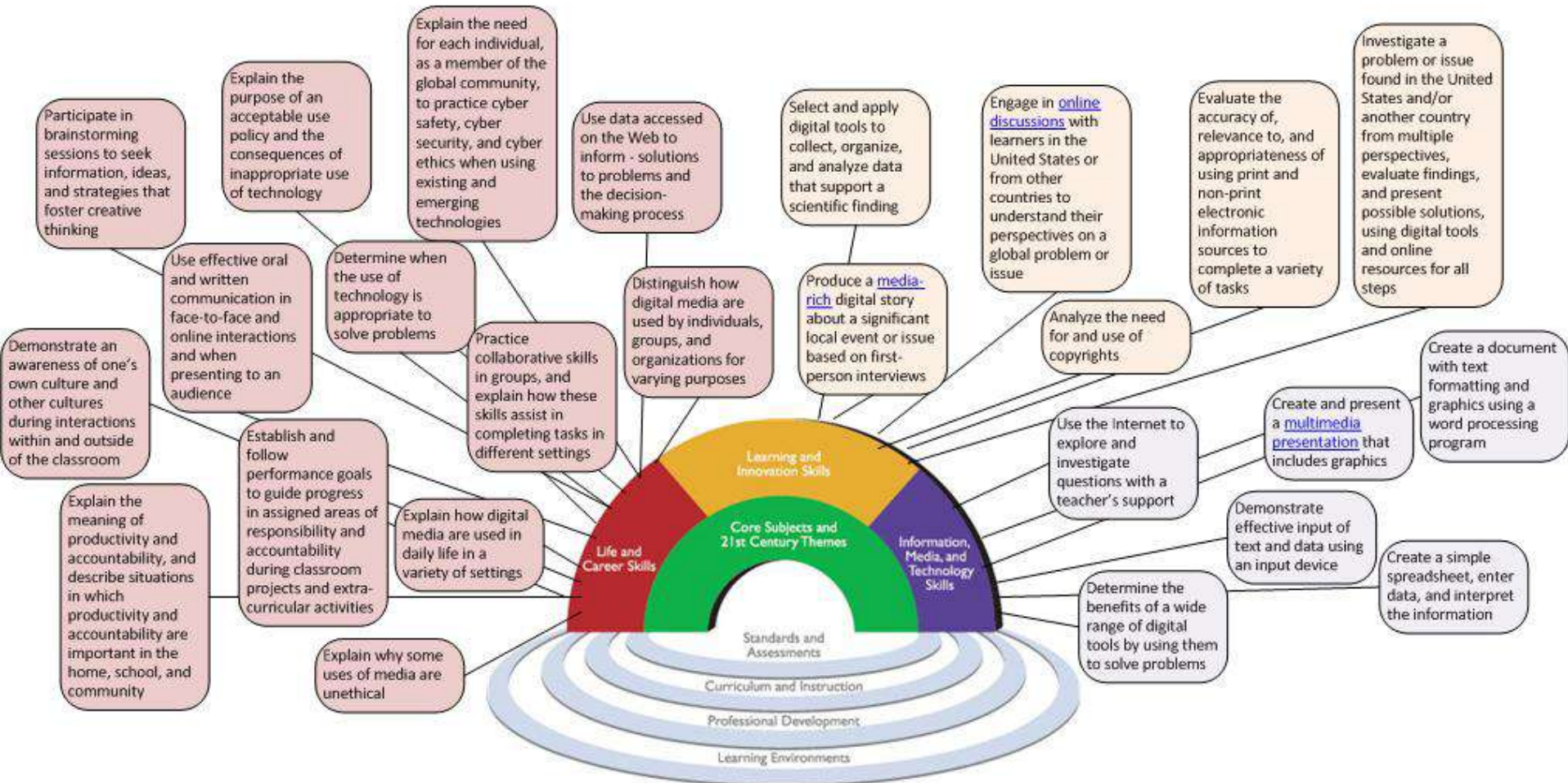
2009 New Jersey Core Curriculum Content Standard 8.1 "Technology" & Standard 9.1 "21st Century Life & Career Skills"
Cumulative Progress Indicators (CPIs) – By the End of Grade 2



21st Century Student Outcomes and Support Systems

2009 New Jersey Core Curriculum Content Standard 8.1 "Technology" & Standard 9.1 "21st Century Life & Career Skills"

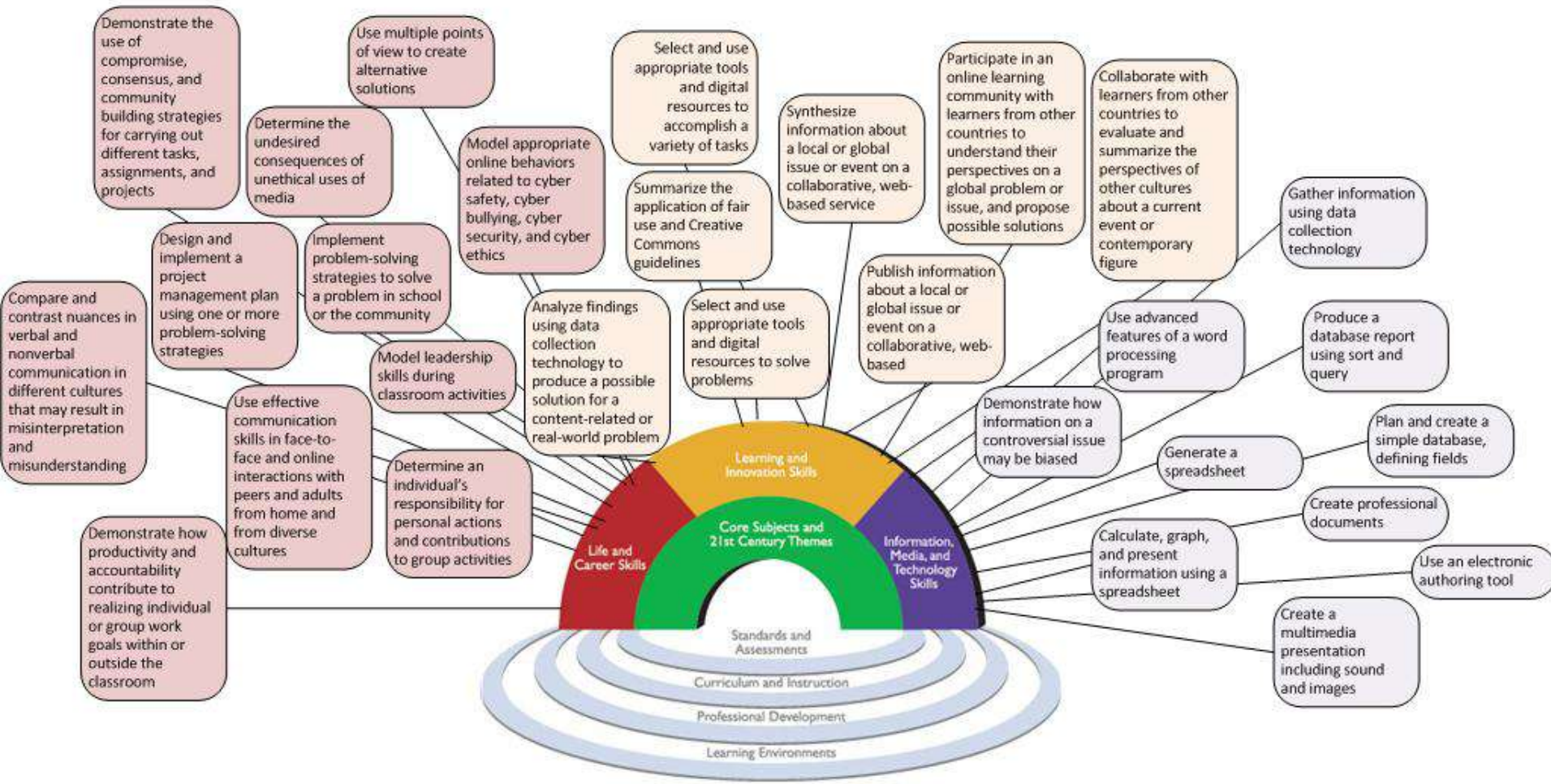
Cumulative Progress Indicators (CPIs) – By the End of Grade 4



21st Century Student Outcomes and Support Systems

2009 New Jersey Core Curriculum Content Standard 8.1 "Technology" & Standard 9.1 "21st Century Life & Career Skills"

Cumulative Progress Indicators (CPIs) – By the End of Grade 8

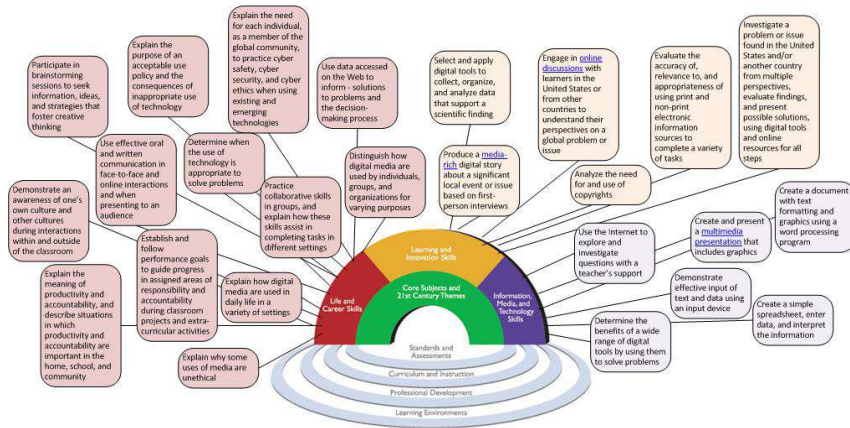


21st Century Student Outcomes and Support Systems

Framework for 21st Century

2009 New Jersey Core Curriculum Content Standard 8.1 "Technology" & Standard 9.1 "21st Century Life & Career Skills"

Cumulative Progress Indicators (CPI) – By the End of Grade 4



21st Century Student Outcomes and Support Systems

2009 Standard Assessment Sheet - Hamilton - example.xlsx - Microsoft Excel

COMPUTER AND INFORMATION LITERACY STUDENT ASSESSMENT (NJTAP-IN Rubric)

NJTAP-IN General Public provides the indicators that are used on this form to derive proficiency. The color code used in each cell indicates the grade level at which the assessment score was made or used for a purpose. For each indicator, a score of "2" shows that "Proficiency" has been achieved. A score of "3" shows "Advanced Proficiency" and a score of "4" shows "Partial Proficiency". A score of "0" indicates that the student is "Not Proficient", while the absence of any score shows that a purpose of proficiency cannot be determined. A composite score of 28 is recorded on any student to be identified as "Technologically Proficient" by the end of 4th Grade.

Grade 5	Grade 6	Grade 7	Technology Operations and Concepts	Creating & Innovation	Communication & Collaboration	Digital Citizenship	Research & Information Literacy	Critical Thinking, Problem Solving, and Decision Making
Last Name	First Name	ID#	Create professional documents (e.g., newsletters, personalized learning plan, business letter or flier) using advanced features of a... Plan and create a simple database, input data, and produce a report using sort and query... Create a multimedia presentation (including sound and images)... Generate a spreadsheet to calculate, graph, and present information... Select and use appropriate tools and digital resources to accomplish a variety of tasks and to solve problems... Synthesize and publish information about a local or global issue or event on a collaborative, web-based service (also known as a...) Participate in an online learning community with learners from other countries to understand and their perspectives on a global problem or issue, and propose possible solutions... Model appropriate online behaviors related to cyber safety, cyber bullying, other, and security... Summarize the application of fair use and Creative Commons guidelines... Demonstrate a how information on a controversial issue may be biased... Gather and analyze findings using data collection technology to produce a possible solution for a content-related or real-world... Use an electronic authoring tool in collaboration with learners from other countries to evaluate and summarize the perspectives of other cultures about a current event or contemporary issue...	8.1.A.1 8.1.A.2 8.1.A.3 8.1.A.4 8.1.A.5	8.1.B.1 8.1.B.2 8.1.B.3 8.1.B.4 8.1.B.5	8.1.C.1 8.1.C.2 8.1.C.3 8.1.C.4 8.1.C.5	8.1.D.1 8.1.D.2 8.1.D.3 8.1.D.4 8.1.D.5	8.1.E.1 8.1.E.2 8.1.E.3 8.1.E.4 8.1.E.5
11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36	37
38	39	40	41	42	43	44	45	46
47	48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72	73
74	75	76	77	78	79	80	81	82
83	84	85	86	87	88	89	90	91
92	93	94	95	96	97	98	99	100

For NJSmart

Each Student
by name

Score of 31/32 = proficiency

3 – Full Days for Osage AM & PM

- Osage
 - Training –
 - Day 1 - 1/27
 - Day 2 – 2/19
 - Day 3 - 3/18

Agenda - Day 1

bring flash drive

- 8:30 – 11:30 morning session
 - Dr. Young – 20 mins. – 30 mins.
 - [Overview of Standards & 21st Century](#)
 - [Collaborative Planning Options](#)
 - [What is an Authentic Task?](#)
 - [Design Process](#)
 - [Drives](#)
 - Demonstrate Global Project – [Geography of a Pencil](#)
 - Teacher log in as students – S1
- 11:30 – 1:00 – lunch
- 1:00 – 2:30 afternoon session
 - Finish Project - [Geography of a Pencil](#)
- 2:30 – 3:30 [student assessment](#)

Student Educational Technology (Literacy) Standards – Voorhees School District Website

8.1 Standards – CPI Relationship to Framework for 21st Century Learning

- **Word Document with project ideas (past & current)**
- **Global Projects**
- **Global Connections**



Collaborative Planning Options for Teachers and Technology Specialist

- Schedules - Groupwise Calendar
- Email ideas and collaboration
- Templates on R: for all to share
 - Make folders under their name on the R:
- Manage student's **portfolios** and student webs



What is an Authentic Task?

- Writing an Authentic Task
 - 21st Century Life & Career Skills Framework
 - CPI
 - Interdisciplinary Study
 - Project based not activity based
 - 3 days at least
 - Requires students demonstrate proficiency
 - Bridge between curriculum you teach and why it's important in the real world
- Show slide 25
 - Handout, on screen (Dr. Young)



Project Based Learning – Project Design Process

Steps of **Actual Project (3-5 projects,)**

- [Establishing the Process](#)
- Come up with idea – write name of lesson
- Product – what will the student produce
 - Slide Show, newsletter, brochure, video, web pages
 - Define these based on standards (ie: multimedia presentation = PPT)
- What software, hardware, and resources will you use
 - Publisher, ppt, word, excel, web links
 - Lab, laptops, iPads, microphones, headphones
 - Resource management – proxy list
 - » Signing out equipment
- Create Finished Project – show them pencil project
 - Steps to designed – ie: 3 columns
- Work backwards to create student template and save I:
 - Mention partial template
- Type step by step directions for students
 - ALT + Print Screen
 - How to write directions, Inserting shapes
- Review your directions



Drives – bring a flash drive

- H: - Student's home directory where portfolio folder
- R: - Drive that students and teachers can access
- S: - Teachers can look at all students projects but cannot change them
 - Used for grading and checking progress
 - Teacher will practice a Hands On
- E: or F: - Flash drive
- Email to teachers
- Teachers can look student web pages
 - Must be signed in
 - Practice
- Student team projects
- Get photos from school hardware (ie: iPads – e-mail to yourself, or connect to pc)
- Save all to your flash drive
 - Checklist of the process
 - Geography of the Pencil
 - Finish project and template



Project Based Learning Roles & Task Assignments

- Roles & Task Assignments
 - Time Management
 - Year Round, Marking Period, Month, Week – How many days
 - For state – has to be three days (5 days)
 - » Does not mean a word doc. over three days
 - Digital Portfolio Maintenance – Tech Spec will do with students
 - **Rename Portfolio**
 - Last Name, First Name Portfolio
 - **Save web pages**
 - Student Web Pages
 - Student Assessment
 - Student Assessment – last year
 - Reporting Responsibilities
 - Report to Technology Specialist

Student Assessment

Day 1 – 2:30 – 3:30

- The need for ongoing, cooperative efforts for student assessment related to meeting NJCCCS 8.1 standards.
 - This will include procedures for evaluating and reporting student progress throughout the year, and maintaining student records year-by-year until 8th grade graduation (NJSMART Reporting).
- Additional time, if any, could be used to review any of the resources or procedures covered in earlier sessions.

Student Assessment

2:30 – 3:30

- [Word, Publisher, & Web Authoring](#)
- [Excel](#)
- [Power Point](#)
- [Student Assessment](#)
- 3rd, 4th, & 5th Grade Teachers
 - Reporting Responsibilities

- Give individual rubrics for all projects to Technology Specialist
- Technology Specialists will complete Standards Assessment spreadsheet and give to VMS
- VMS will complete Standards Assessment spreadsheet for NJSmart

Student ID #	Standards	2019 Standards Assessment Sheet - Transition - example					
		8.1.1.A.1	8.1.1.A.2	8.1.1.A.3	8.1.1.A.4	8.1.1.A.5	8.1.1.A.6
1	Student						
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							



Elementary Technology Specialist then sends to VMS



NJSmart

By 8th grade Each student by name needs a score of 31/32 = proficiency

Extensions – Additional Session Ideas:

- **Participants Complete Project Design Process Start to Finish**
 - **Come with idea**
- Participants Gather/Brainstorm Project Ideas; Explore Web Resources & Best Practices
- Open Work Session – Increase Competency Using Chosen Tools via Practice

Schedule Day 2

- 8:30 – 11:30 morning session
- 11:30 – 1:00 – lunch
- 1:00 – 2:30 afternoon session
- 2:30 – 3:30

Session 2 & 3:

Instructional Management

- Involve demo lessons that put the participants in the role of students in the classroom.
 - Limited # of hardware
- Participants will work together using a variety of available software and online resources, including the procurement, distribution, operation, monitoring, troubleshooting and collection of various devices.
- Conditions for using prepared media (content) samples in projects will be discussed, along with [digital citizenship and network etiquette issues](#).

Expectations for Acceptable Use, Digital Citizenship

- [Safety](#) – Voorhees Township School District
- [AUP](#)
- [BYOD](#)

Student Behavioral Expectations and Consequences (on-and off-tasks)

- Posting rules
 - Develop your own
 - What are you allow to do with your BYOD/personal device?
 - What happens with your personal device
- Back-Up Plan
 - What would that look like
 - What if the smartboard went out?
- Classroom Management
 - Sign Out Sheet
 - Number devices
 - What happens with inappropriateness?
 - Back up charges
 - Get and returning technology
 - Using devices safely and correctly

@ School

- Student-Directed (loosely governed) Learning Structures
- 1:1, 2:1, 3:1, 4:1 Strategies
- BYOD Strategies
- Cooperative Learning Groups
- Learning Center Approach
- Large Group (interactive) Presentation
- Student Response System Utilization
- Digital Storytelling-over time, a project, not activity
 - PPT, Web Authoring, MML
- Games
 - Virtual Worlds

@ Home

- Identify Resources Accessible from Home
 - Website, Nimbus, Netstorage, Library Database, Pearson
 - NetStorage (formally Virtual Office, read directions carefully)
 - myID.all staff users.HES
- Potential Extended Learning Activities
- [Flipped Classroom](#)
 - Pearson, Khan Academy, IXL.com, Study Island, Remind 101 (VMS), group e-mail, flash drives
- Blended Learning Activities with Web 2.0 Resources
 - Wordle, Tagexedo, content goes both ways

Technology Tools and Activities for use in Classroom

- BYOD use iPad
 - List of Opportunities and Constraints
 - Nearpod
 - Quadrilateral
- QR Codes
- Socrative Website
- Nimbus
- Laptops

BYOD as a Tool

use iPad

- Brainstorm [List of Opportunities and Constraints](#)
- Nearpod
 - Website
 - iPads
 - Quadrilateral

QR Codes

- Qrstuff.com
- Qrcode.Kaywa.com
 - [Directions](#)
- - Dynamic
 - Need QR Reader on iPad or smartphone
 - ScanQrather
 - Scanner
- Sample projects
 - [School Calendar](#)
 - Countries

Socrative Website

- Socrative [handout](#)
- [User Guide](#)
 - Free App
 - Teacher use PC connected to smartboard
 - Students use iPads

Nimbus – Collaborative Tool

Step by Step

1. Sign into Nimbus through Zenworks
 - Have all teachers sign into Nimbus and log out
 - Create a group – Name it
 - Make it a closed group
2. Model Sample Ideas – Literature Circles
 - Meaningful Collaboration in Literature Circles -Talk about stories/novels read
 - Can collaborate, share files, documents (can all work on the same file)
 - Appropriate - Teaching Formal Language rather than texting forum
 - Persuasive Writing, sentence structure, typing
 - Create a grade level group across district

Nimbus – Collaborative Tool

Getting Started - Step by Step Directions

1. Sign into Nimbus through Zenworks
 - Have all teachers sign into Nimbus and log out prior to session
 - Have all students log in and find group before using
 - Create a group – Name it
 - Make it a closed group
2. Students
 - Find group and apply to it
3. Create assignment, **online group discussion**
4. Teacher has to accept each student
5. Students complete assignment

Nimbus – Collaborative Tool

Working with **Collaborative files**- Step by Step Directions

1. Sign into Nimbus through Zenworks
 - Have all teachers sign into Nimbus and log out prior to session
 - Have all students log in and find group before using
 - Create a group – Name it
 - Make it a closed group
2. Students
 - Find group and apply to it
3. Create assignment, collaborative word doc., power point between a group of students
4. Teacher has to accept each student
5. Students complete assignment

Developing your own lesson

Timelines for Project Benchmarks or Checks

- Each Marking Period
 - Submit Timeline of Projects
 - [Portfolio Timeline example](#)
 - Discuss Project Progression with Technology Specialist
 - Request on-going assistance from technology specialist
 - Groupwise calendar or use of e-mail
- For End of Year
 - Meet with Technology Specialist in May
 - Submit [Literacy Assessment Scores](#)
 - Show Student Web Pages to building principal

Schedule Day 3

- 8:30 – 11:30 morning session
- 11:30 – 1:00 – lunch
- 1:00 – 2:30 afternoon session
- 2:30 – 3:30

Session 4 & 5:

Resource Management

- Will focus on Resource & Content Management, and will also involve demo lessons that put the participants in the role of students in the classroom.
- Participants will work together using a variety of available software and online resources, including the procurement, distribution, operation, monitoring, troubleshooting and collection of various devices.
- Conditions for using prepared media (content) samples in projects will be discussed, along with digital citizenship and network etiquette issues.

Hardware, Software, Online

- Overview of Existing Technology Resources and Options
- Resource Selection
- Knowing Strengths & Limitations of Hardware & Software Resources Considered
- Open vs. Closed Resources and Potential Risks
- Obtaining the Resources Needed for Classroom Use
- Teacher Operation (specific required tasks) and Basic Troubleshooting
- Student Operation Responsibilities, Device Assignments, Monitoring
- 1:1, 2:1, 3:1, 4:1 Logistics
- BYOD Logistics
- Collaborative Learning Tools
- Social Media Tools
- Website Content
- Distance Learning (e-mail, Videoconferencing, Messaging, etc.)
- Productivity Applications
- When to use the Computer Lab
- When to Punt (Have a Plan B)

Content

- Evaluating Sources of Information
- Use of Media Samples / Copyrights
- Crediting Sources
- Consolidating Group Work (Student Created Media)
- Network/Web File Management