Creating an Understanding-based Curriculum and Assessment System for 21st Century Learning

presented by

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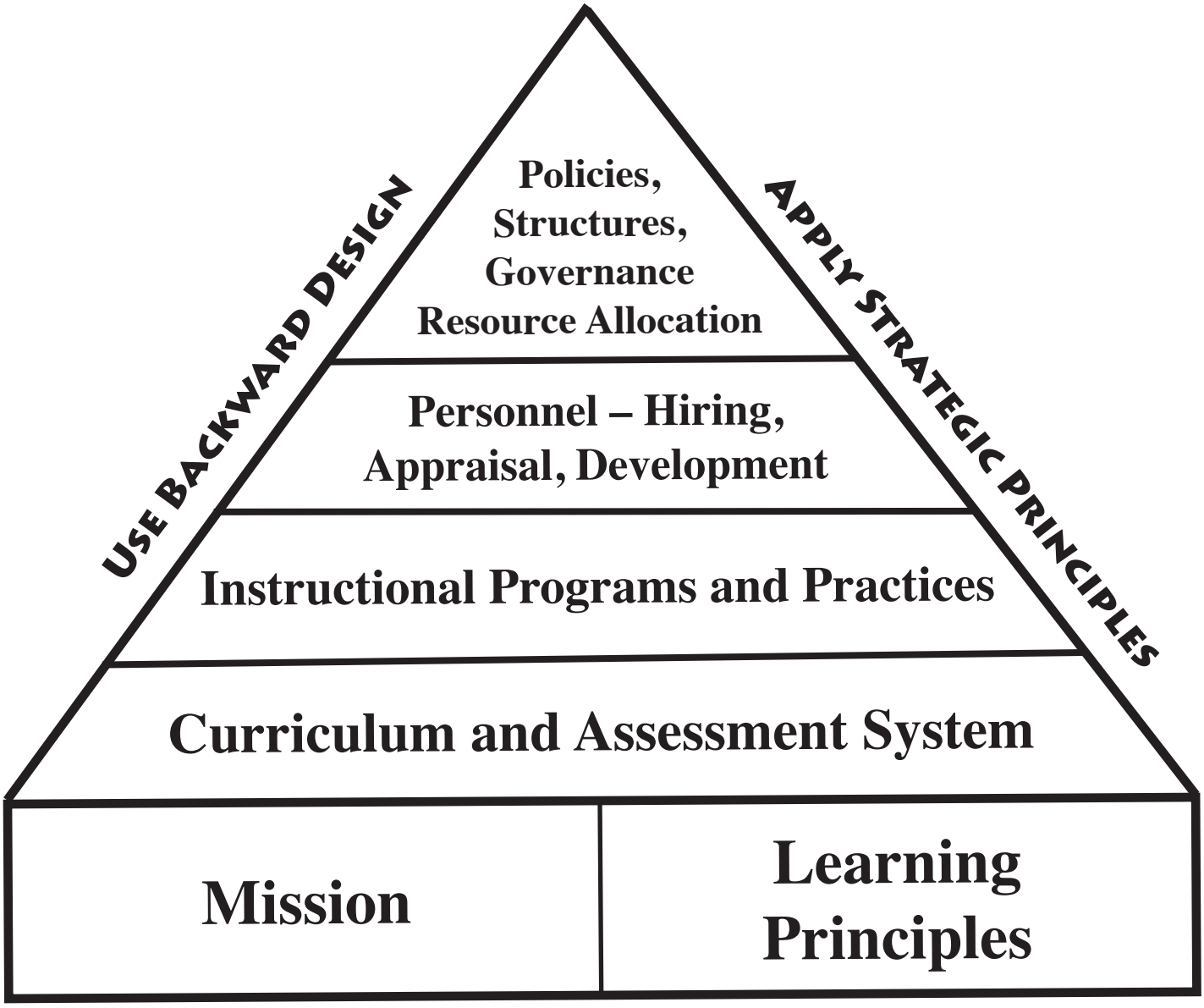
Schooling by Design

Key Elements of a Systems Framework



Priority Skills for College and Careers

ATTRIBUTE	% OF RESPONDENTS
Problem-solving skills	82.9%
Ability to work in a team	82.9%
Communication skills (written)	80.3%
Leadership	72.6%
Strong work ethic	68.4%
Analytical/quantitative skills	67.5%
Communication skills (verbal)	67.5%
Initiative	67.5%
Detail-oriented	64.1%
Flexibility/adaptability	60.7%
Technical skills	59.8%
Interpersonal skills (relates well to others)	54.7%
Computer skills	48.7%
Organizational ability	48.7%
Strategic planning skills	39.3%
Creativity	29.1%
Friendly/outgoing personality	27.4%
Tactfulness	22.2%
Entrepreneurial skills/risk-taker	19.7%
Fluency in a foreign language	4.3%

Source: *Job Outlook 2018*, National Association of Colleges and Employers

HSSD GRADUATE PROFILE

A **SELF-STARTER** is motivated to take action.

A **CRITICAL THINKER** investigates the quality of ideas and how they are connected.

A **COLLABORATOR** is a helpful and active participant who shares responsibility while working toward a common goal.

A **COMMUNICATOR** seeks to understand others and to be understood.

An **ADAPTABLE** person is able to adjust.

A **RESPONSIBLE** person acts with empathy and takes ownership of the outcomes of their choices.

A **SOLUTIONIST** solves problems.

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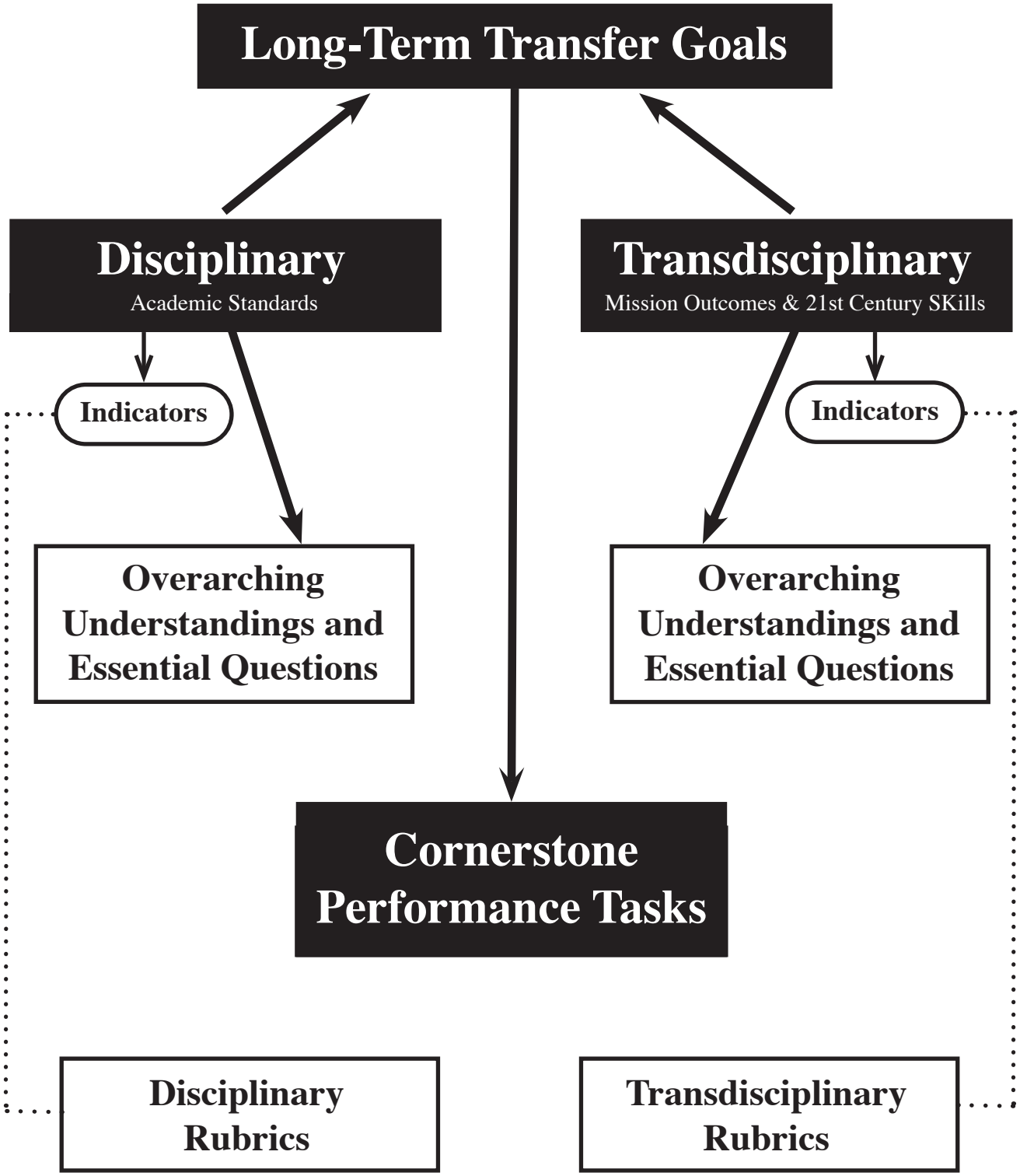
A Blueprint for Macro Curriculum Design



TRANSFER GOALS

Definition

Transfer refers to the ability to apply one's learning to a new situation, beyond the context in which it was learned. Transfer goals specify particular transfer abilities; i.e., what we want students to be able to accomplish when they encounter new information, issues, problems and opportunities. Transfer goals are long-term in nature: think of them as exit outcomes at the end of Pre-K–12 schooling. They embody the meaning of the phrase, *college and career ready*. Transfer:

- involves the application of learning in new situations, not ones previously taught or encountered;
- requires some strategic thinking, not simply "plugging in" facts or skills learned in a rote fashion;
- typically involve habits of mind; e.g., judgment, self-regulation, persistence.

Transfer goals have several distinguishing characteristics:

- They are exit outomes; i.e, they are long-term in nature and develop and deepen over time.
- They are performance based; i.e., they require application (not simply recall).
- They call for independent performance; i.e., over time learners must be able to apply their learning autonomously, without scaffolding or coaching.

Examples

Listed below are sample transfer goals within academic disciplines as well examples of trans-disciplinary outcomes.

History

- Use knowledge of patterns of history to better understand the present and prepare for the future.
- Critically appraise historical claims and analyze contemporary issues.
- Participate as an active and civil citizen in a democratic society.

Mathematics

- Make sense of "messy"problems and persevere in trying to solve them.
- Construct viable arguments involving mathematics and statistics and critique the reasoning of others.

CFSD DISCIPLINARY TRANSFER GOALS

Students will be able to independently use their learning to...

ENGLISH LANGUAGE ARTS

- Pursue a deeper understanding of themselves and the world by examining various perspectives and sources.
- Communicate clearly and effectively for a variety of audiences, settings, situations, and purposes.
- Engage others in dialogue about critical, relevant, and/or compelling issues.

HEALTH & WELLNESS

- Make informed decisions that optimize mental, physical, and social wellness in response to changing needs.
- Advocate for the health and wellness of self and others in a variety of contexts.

MATHEMATICS

- Connect multiple concepts and representations to model and solve complex problems.
- Appropriately and flexibly select tools and strategies to make sense of and persevere in solving complex problems.
- Communicate mathematical thinking and solutions appropriately for a variety of needs and purposes.
- Reason mathematically to construct viable arguments, critique the reasoning of others, and make informed decisions.

PHYSICAL EDUCATION

- Select and participate in beneficial and enjoyable physical activities to create and maintain health-enhancing habits.
- Effectively and responsibly participate as part of a fitness community.

SCIENCE

- Make informed judgments and decisions with a balance of curiosity, skepticism, and social perspective.
- Communicate scientific ideas, arguments, and/or results for a variety of purposes and audiences.
- Make sense of problems or phenomena and construct solutions through disciplined trial and error.

SOCIAL STUDIES

- Apply historical understanding and interpret evidence to draw conclusions, make predictions, and plan for the future.
- Analyze perspectives, patterns, and relationships to make informed decisions as global citizens.

VISUAL & PERFORMING ARTS

- Develop and engage in their own passions to find joy, peace, intellectual stimulation, and meaning through the arts.
- Create and participate in aesthetic experiences that evoke emotion and foster connections with self, others, and/or the world around them.

WORLD LANGUAGES

- Establish and maintain positive relationships in diverse cultural contexts.
- Serve as mediators within and across cultures in order to reach shared goals and understanding.
- Communicate effectively in more than one language, honoring culture and context.

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CFSD DEEP LEARNING PROFICIENCIES TRANSFER GOALS

Students will be able to independently use their learning to...

CITIZENSHIP

- Participate as civil and active citizens through ever-shifting roles, contexts, and values.
- Collaborate, communicate, and learn with individuals from other cultures to better understand self, others, and the world around them.

COLLABORATION

- Work effectively with, and learn from, others in a variety of personal and professional contexts.

COMMUNICATION

- Effectively communicate for different purposes and varied audiences, using appropriate media, formats, and tone.

CREATIVITY & INNOVATION

- Develop innovative, viable ideas and solutions that meet the needs of various audiences and challenges.

CRITICAL THINKING & PROBLEM SOLVING

- Critically analyze and evaluate a variety of information and claims in order to determine what to think, believe, or do.
- Make sense of messy, never-before-seen problems, and persevere in solving them.

SYSTEMS THINKING

- Employ the habits of a systems thinker to better understand situations, make effective decisions, and plan for the future.

SELF-REGULATION* & REFLECTION

- Improve performance and persevere through challenges by applying deliberate effort, appropriate strategies, and flexible thinking.

**Self-Regulation and Reflection is embedded in all 6 of the Deep Learning Proficiencies.*

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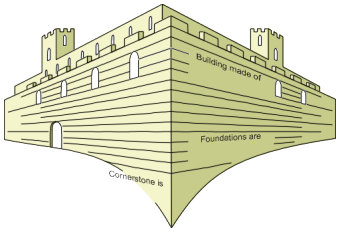
Identifying Observable Indicators of Student Learning & Performance Outcomes

Directions: What specifically would we see and hear in a learner who has achieved a targeted outcome? Use the following T-Chart to identify observable indicators of the outcome in the left column, and non-examples in the right column.

Indicators of _____	***Non Examples of*** _____
• _____	• _____
• _____	• _____
• _____	• _____
• _____	• _____
• _____	• _____
• _____	• _____
• _____	• _____
• _____	• _____
• _____	• _____

Cornerstone Tasks



The pressures of high-stakes accountability testing have led many schools and districts to encourage their teachers to engage in "test prep" instruction, especially in the tested grades and subject areas. Additionally, there has been an increase in the use of "interim" or benchmark assessments that mimic the state tests. While these practices may have their place, they typically focus on decontextualized content knowledge and skills at the expense of more relevant and engaging learning. As a counter-balance to "test prep" teaching and "practice" testing, Grant Wiggins and I have argued for the inclusion of more robust and authentic tasks as part of a local curriculum and assessment system. We refer to these as "cornerstone" tasks.

The Cornerstones are curriculum-embedded tasks that are intended to engage students in applying their knowledge and skills in an authentic context. Like a cornerstone anchors a building, these tasks are meant to anchor the curriculum around the most important performances that we want learners to be able to do (on their own) with acquired content knowledge and skills. They honor the intent of the Standards, within and across subject areas, instead of emphasizing only the tested (a.k.a. "eligible") content. Moreover, they support effective instructional practices that engage learners in "meaning making" and transfer.

More specifically, Cornerstone tasks:

- are *curriculum embedded* (as opposed to externally imposed);
- *recur across the grades*, becoming increasingly sophisticated over time;
- establish *authentic contexts* for performance;
- call for *understanding* and *transfer* via genuine performance;
- may be used as rich learning activities *or* assessments;
- *integrate 21st century skills* (e.g., critical thinking, technology use, teamwork) with subject area content;
- evaluate performance with established *rubrics*;
- engage students in *meaningful learning* while encouraging the best teaching;
- provide content for student portfolios so that they graduate with a *resume of demonstrated accomplishments* rather than simply a transcript of courses taken.




The Literacy Design Collaborative Task Templates

Funded through the Bill and Melinda Gates Foundation, the Literacy Design Collaborative (LDC) has developed a set of Modules designed to support the integration of the Common Core Standards (6-12) in English/ Language Arts with core content in Science, Social Studies and Technical areas. Each Module consists of a task and associated instructional procedures intended to provide a rigorous, authentic classroom experience for students at the secondary level.

The Tasks require students to read, analyze, and comprehend written materials and then write cogent arguments, explanations, or narratives in the subjects they are studying. A key feature of the LDC's work is a set of generic Task Templates -- fill-in-the-blank "shells" that allow teachers to design their own tasks.

Here are several samples:

Argumentation Task Template

After researching _____ (informational texts) on _____ (content topic or issue), write a/an _____ (essay or substitute) that argues your position on _____ (topic, issue, essential question). Support your position with evidence from research. Be sure to acknowledge competing views. Give examples from from past or current events issues to illustrate and clarify your position.

Social Studies Example:
After researching academic articles on **censorship**, write a/an **blog or editorial** that argues your position on **the use of filters the use of Internet filters by schools**. Support your position with evidence from research. Be sure to acknowledge competing views.

ELA Example:
What makes something something funny? After reading selections from **Mark Twain and Dave Barry**, write a **review** that **compares their their humor** and argues **which type of humor works for a contemporary audience and why**. Be sure to support your position with evidence from the texts.. Be sure to support your position with evidence from the texts.

Informational or Explanatory Task Template

[Insert question] After reading _____ (literature or informational texts), write a/an _____ (essay, report, article, or substitute) that defines and explains (term or concept). Support your discussion with evidence from the text(s). What _____ (conclusions or implications) can you draw?

Social Studies Example:
What did the authors of the American Constitution mean by "rights"? After reading the **Bill of Rights**, write an **essay** that defines **"rights"** and explains **"rights" as the authors use it in this foundational document**. Support your discussion with evidence from the text. What implications implications can you draw?

The Literacy Design Collaborative Task Templates
Science Task Samples

Funded through the Bill and Melinda Gates Foundation, the Literacy Design Collaborative (LDC) has developed a set of Modules designed to support the integration of the Common Core Standards (6-12) in English/ Language Arts with core content in Science and Technical areas. Each Module consists of a task and associated instructional procedures. The Tasks require students to read, analyze, and comprehend written materials and then write cogent explanations or arguments related to topics they are studying. A key feature of the LDC's work is a set of generic Task Templates -- fill-in-the-blank "shells" that allow teachers to design their own tasks. Here are several samples:

Informational or Explanatory Task Template

[Insert question] After reading _____ (informational texts), write a/an _____ (essay, report, article, or substitute) that defines and explains (term or concept). Support your discussion with evidence from the text(s). What _____ (conclusions or implications) can you draw?

After reading **various sources on the issue of water contamination**, write a (**report, article**) that explains the causes and the effects of contamination. What conclusion or implications can you draw? **Cite at least four sources, pointing out key elements from each source**. Include a bibliography of your sources. Support your discussion with evidence from the text. What implications implications can you draw? (Informational or Explanatory/Synthesis)

How can energy be changed from one form into another? After reading **scientific sources on energy transformation**, write a report that examines the **causes of energy transformation and explains the effects when energy is transformed**. What conclusions or implications can you draw? Support yourdiscussion with evidence from the texts. (Informational or Explanatory/Cause-Effect)

Argumentation Task Template

After researching _____ (informational texts) on _____ (content topic or issue), write a/an _____ (essay or substitute) that argues your position on _____ (topic, issue, essential question). Support your position with evidence from research. Be sure to acknowledge competing views. Give examples from from past or current events issues to illustrate and clarify your position.

After researching **technical and academic articles on the use of pesticides in agriculture**, write a (**speech, blog, podcast, letter to editor**) that argues your position, pro or con, on the use of pesticides in managing crop production. Support your position with evidence from your research. L2 Be sure to examine competing views. (Argumentation/Analysis)

After researching **scientific and technical sources on methods for preventing water shortages, write a proposal in which you identify a problem faced by communities in arid regions and argue for a solution to improve water availability**. Support your position with evidence from your research. Be sure to examine a competing view challenging your solution. Give an example from past or current events to illustrate and clarify your position. (Argumentation/Problem-Solution)

Creating Cornerstone Performance Tasks: Task Frames in Mathematics

Task Frames	Task Ideas
Create a mathematical model/ representation of _____ (e.g., quantity, size, rate, motion, change).	Create a mathematical model to use in evaluating International stock funds using data from the past 5 years. Which funds would you recommend to an investor?
Make and justify predictions or decisions based on pattern analysis.	Predict the winning time of the women's marathon event in the next two Olympic games based on the pattern of the winning times in previous games. Explain your reasoning. Compared the women's marathon times to the men's times since 1984. Given the results, will the women ever run faster? If so, in what year? Explain your answer.
Design a physical structure.	Design a 3-dimensional shipping container to maximize volume and safety for shipping glass marbles. What shape and size container do you propose? Explain your reasoning.
Collect, organize, record, analyze and display data.	Collect data about student "favorites" such as music, movies, video games, actors, school subjects, hobbies, foods, beverages, etc. Organize and analyze the results. Decide on an effective method to present your findings (e.g., a blog, poster, article, podcast).
Evaluate a mathematical or statistical claim.	Claim: 50% of all Americans eat at least one meal at a fast food restaurant every week. How would you go about evaluating this claim?
Correct flawed mathematical reasoning.	Ricardo said, "Four plus three times two is 14." Angela replied, "No, it's 10." Did someone make a mistake? Explain the reasons that they came up with the different solutions. Then, tell which one is correct and explain why.
Other:	

Creating Performance Tasks: Task Frames in Social Studies

Task Frames	Task Ideas
Gather information from primary and secondary sources to evaluate historical claims or interpretations.	Research various historical claims/interpretations regarding the rationale for the United States entering into the Vietnam war or the 2nd Iraq war. Use at least two primary source materials and include at least two interviews with veterans or citizens. Prepare to communicate your findings and your evaluation of the various claims/interpretations.
Critically analyze current events/ issues.	Analyze current debates over national immigration policy. Compare the different points of view on the issue. Analyze various factors including "push-pull" and cause-effect. Propose a policy that you favor and provide reasons and evidence for your position.
Make predictions for _____ (current or future events or issues) based on understanding of historical patterns.	Compare the Arab Spring with previous cases of popular uprising, revolution, insurrection and civil conflict. Make a prediction: Will governments in middle eastern countries become more or less democratic in the Middle east within the next five years?
Act as a responsible citizen by _____ (e.g., staying informed, studying issues, participating in community events, expressing opinions respectfully, voting).	Develop a position [for or against] a proposal affecting students (e.g., mandatory school uniforms, allowing cell phones to be kept on during class). Select information from articles and interviews with teachers, parents and students to prepare your argument. Be sure to consider and address predictable objections to your position. Prepare to present your argument and support to the PTO Council or School Board via a 90 second oral presentation.
• Whose story is this? Identify and explain differing points of view about _____.	Identify and explain differing points of view about the display of the Confederate flag on government buildings and in public places.

Creating Performance Tasks: Task Frames in Science

Task Frames	Task Ideas
Design and conduct an investigation/experiment to: **• answer (a question)** **• explain (a phenomena)**	Design and conduct an investigation to determine which of three different brands of paper towels are most absorbent. Create a data table to record your observations and document your procedure so that others can follow it to replicate your investigation.
Effectively use scientific tools to **o Observe _____** **o Collect data on _____** **o Measure _____** **o Record data about _____** **o Classify _____** **o Draw conclusions about**	Use pH strips to test water samples from three different sources (e.g., water fountain, local stream or pond, collected rainwater, bottled carbonated water). Conduct at least two tests for each sample. Record and analyze your data. Draw a conclusion from the results and be prepared to explain it.
Evaluate a claim involving science.	Evaluate the claim: Following a strict high protein diet is a safe way to lose weight. Do you believe this claim? What does the evidence suggest?
Analyze current issues involving science or technology.	Explore the issue: Is hydraulic fracturing (fracking) an environmentally safe way to extract oil and natural gas from bedrock? Research the question using valid information sources. Consider the points of view of consumers, people residing near fracking sites, energy industry members, local businesses and environmentalists. Then, develop a position with reasons to convince voters to vote for your position. Be prepared to respond to predictable objections. (Can be presented in written form, orally, in a debate format.)
Critique experimental design or conclusions.	Carefully review students' science fair projects involving experimental design. Was the investigation sound? For example, were: • procedures consistently applied? variables isolated? sufficient samples taken? data accurately recorded? logical conclusions drawn from data?

Creating Performance Tasks: Task Frames in Health/Physical Education

Task Frames	Task Ideas
Engage in healthful activities and behaviors. Make healthful choices and decisions regarding diet, exercise, stress management, alcohol & drug use, etc.	Write a story about a character who learns of the importance of following a healthy lifestyle and changes his/her behavior to do so.
Be an advocate: Encourage others to engage in healthful activities and behaviors to promote wellness throughout one's life..	Develop a comic book for younger students to illustrate: 1) to illustrate the importance of good nutrition; 2) examples of balanced meals that can tasks good; and 4) potential health problems that can result poor nutrition.
Develop and implement a plan to improve _____. Track data and set new performance goals.	Develop a personal fitness plan to improve your: • strength • endurance • flexibility • skills in a selected sport
Other:	
Other:	

Creating Cornerstone Performance Tasks: Task Frames in English/Language Arts

	Task Ideas
Read and respond to text in various genres (literature, non-fiction, technical) through: o Global understanding (the "gist") o Interpretation (between the lines) o Critical Stance o Personal Connections	
Create **oral** or **written** pieces in various genre for various audiences in order to: o Explain (narrative) o Entertain (creative) o Persuade (persuasive) o Help perform a task (technical) o Challenge or change things (satirical)	
Listen to various sources (e.g., lecture, radio commercial) for various purposes, including for: o Learning o Enjoyment o Performing a task o Reaching a decision	
Create **multi-media** pieces in various genre for various audiences in order to: o Explain (narrative) o Entertain (creative) o Persuade (persuasive) o Help perform a task (technical) o Challenge or change things (satirical)	
Other: _____	

Creating Performance Tasks: Task Frames for CREATIVE THINKING

Task Frames	Task Ideas
Product *Create a product that is original and useful by meeting a need or solving a problem.* _____ _____ _____	Your design team has the goal of improving the utility, comfort and style of backpacks currently on the market. After collecting research, create a minimum of five sketches of your first suggestions related to design improvements. Next, you should prioritize your designs by selecting one for the creation of advanced sketches and in three separate views to include dimensions, volume, zipper locations, logo design and placement, as well as colors and material selections.
Process *Invent or improve a process that is unique and more effective and/or efficient than previous processes.* _____ _____ _____	Develop a process to improve your school's reporting system. Consider *what* should be reported (e.g., achievement, work habits, participation, attendance, behavior), *how* it should be reported (e.g., letter grades, percentagers, rubric scores, narrative report) and the medium (e.g., a quarterly report card, online, via parent conferences). Your goal is a process that is fair, consistent across teachers and understandable to students and parents.
Performance *Develop a performance that is innovative and accomplishes its purpose for an intended audience.* _____ _____ _____	Your task is to work with your team to create, rehearse and deliver an original non-verbal performance (e.g., mime, dance, tableau) to express the theme of a selected story. Your goal is to entertain your viewers (e.g., parents, younger students) while conveying the story line and the emotional responses of the main characters.

A Planning Matrix for Mathematics (CCSS)

Practice Standards MATH GR 3 **Content Standards**	*1 Make sense of problems and persevere in solving them.*	*2 Reason abstractly and quantitatively.*	*3 Construct viable arguments and critique the reasoning of others.*	*4 Model with mathematics.*	*5 Use appropriate tools strategically.*	*6 Attend to precision.*	*7 Look for and make use of structure.*	*8 Look for and express regularity in repeated reasoning.*
Represent and solve problems involving multiplication and division.								
Understand properties of multiplication and the relationship between multiplication and division.								
Multiply and divide within 100.								
Solve problems involving the four operations, and identify and explain patterns in arithmetic.								
Use place value understanding and properties of operations to perform multi-digit arithmetic.								
Develop understanding of fractions as numbers.								
Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.								
Represent and interpret data.								
Geometric measurement: understand concepts of area and relate area to multiplication and to addition.								
Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.								
Reason with shapes and their attributes.								

10 Variables for Tasks and Projects

The following variables could be considered when designing performance tasks and projects. Determinations for each variable should be based on the learning outcomes, experience and needs of students, available resources (time, supplies, equipment, funds) and classroom feasibility.

1. Time Frame – How long will students be involved in this task/project, including time for presentations and evaluations.

❍ 1 – 4 class periods ❍ 5 – 10 periods ❍ more than 2 weeks

2. Cognitive Demand/Rigor – Where does the task/project fall on the Depth of Knowledge scale?

❍ DOK 2 ❍ DOK 3 ❍ DOK 4

3. Degree of Authenticity – To what extent is the task/project authentic; i.e., featuring a real challenge, problem, issue; genuine product/performance; authentic audience; and real-world constraints?

❍ De-contextualized ❍ Simulates an Authentic Context ❍ Fully Authentic

4. Integration of Subjects – To what extent is the task/project interdisciplinary?

❍ Single Discipline ❍ Two Disciplines ❍ Multi-disciplinary

5. Student Choice – To what extent will students have choices regarding any of the following?

❍ task topic ❍ task activities ❍ process for completing task
❍ product(s)/performance(s) ❍ audience(s) ❍ other: _____

6. Access to Resources – Will all resources needed (information, supplies, equipment) be provided? To what extent will students be expected to gather information, provide their own supplies/equipment?

❍ all resources provided ❍ some provided ❍ students locate all needed resources

7. Performance Mode – How will students work?

❍ individually ❍ pair/group (optional) ❍ pair/group (required)

8. Audience(s) for Student Product(s)/Performance(s) – To whom will students present their products and performances?

❍ teacher ❍ other school staff ❍ expert(s) ❍ parents/community
❍ peers (in class) ❍ other students ❍ other: _____

9. Degree of Scaffolding – To what degree will students be provided with instructional support (scaffolding) as they work on the task?

❍ no support ❍ some support, as needed ❍ extensive support

10. Evaluation of Student Product(s)/Performance(s) – Who will be involved in the evaluation of student products and performances?

❍ teacher ❍ other staff ❍ expert judges ❍ external scorers
❍ student (self evaluation) ❍ peers ❍ other: _____

Rubric for Collaboration and Teamwork

	Contributes to Group Goals	Adheres to Agreements and Norms	Demonstrates Productive Interpersonal Skills
4	Actively helps identify group goals and works hard to meet them. Takes initiative to address group's needs and shifts roles when necessary to support the group.	Always adheres to group agreements and norms. Takes the lead in modeling and reinforcing group norms. Reminds others of the importance of following agreements and norms.	Actively and consistently demonstrates productive interpersonal skills. Models effective and supportive interactions for others. Provides respectful feedback to help others improve their interactions within the group.
3	Displays a commitment to group goals and works to meet them. Carries out assigned role indepedently.	Consistently acts in ways that follow established agreements and norms, but may have occasional lapses.	Generally demonstrates productive interpersonal skills. Interacts with others without prompting. Expresses ideas and opinions in a way that is sensitive to the knowledge base and feelings of others.
2	Puts forth some effort, but sometimes lets others shoulder the work. Needs reminders to stay on task or perform assigned role.	Inconsistently follows established agreements and norms. Needs behavioral reminders to follow the norms.	Use of productive interpersonal skills is inconsistent. Sometimes interactions with others are less than positive. May need reminders; e.g., to listen actively, wait one's turn, avoid put downs, be flexible.
1	Does not actively work toward group goals. OR Is passive and does not contribute to the group. OR Acts in ways that undermine the ability of the group to achieve its goal.	Regularly violates the established agreements and norms. Behaves in ways that disrupt the effective functioning of the group.	Poor interpersonal skills interfere with effective group performance; e.g., does not listen, dominates, interrupts, insensitive, inflexible, puts down others.

Performance List for Collaboration

	Terrific	O.K.	Needs Work
1. Did I do my job in my group?			
2. Did I follow directions?			
3. Did I finish my part on time?			
4. Did I help others in my group?			
5. Did I listen to others in my group?			
6. Did I get along with others in my group?			
7. Did I help my group clean up?			

A K-12 Writing Map

	Informative/ Explanatory	Narrative	Opinion/Persuasion/ Argumentative
k	Science Observation Picture Book	All About Me Picture Book	xxx
1	My Favorite Animal Book	Imaginary Character Story	xxx
2	How-to Book (illustrated)	Modern-day Fairy Tale	xxx
3	Friendly Letter	Personal Narrative	Opinion Letter
4	Feature Article	Poetry Collection	Issue Analysis
5	Research Project	Descriptive Narrative	Argumentation Essay
6	How-to Guide	Autobiography	Editorial
7	Cause–Effect Essay	Myth, Fable, Fairy Tale, Folktale or Legend	Position Paper
8	Research Project	Narrative/Historical Fiction	Social Issue Essay
9	Problem–Solution Essay	Poetry, Song/Lyrics	Editorial
10	News Article	Memoir	Policy Evaluation
11	Technical Manual	Dramatic Script/ One-act Play	Argumentation Essay
12	Independent Research with Written Product and a Presentation	Parody, Satire, Irony on student-chosen topic/ issue	Position Paper on Issue chosen by student

Notes:
1) A number of these writing tasks can be naturally linked with other subject areas.
2) Many of these writing tasks allow for student "voice and choice." Some examples:
Gr. 1 – Imaginary Character = choice of character, setting, story line
Gr. 2 – How-to Book = choice of topic or skill to teach
Gr. 3 – Friendly Letter and Persuasive Letter = choice of topic and audience
Gr. 4 – Feature Article = choice of topic, audience and publication (e.g., newspaper, on-line magazine)
Gr. 5 – Research Paper = choice of specific topic (within a general science study)
Gr. 6 – Editorial = choice of specific topic (within a general study social studies area)
Gr. 7 – Myth, Fable, Fairy Tale, Folktale, Legend = choice among genres as well as characters and "moral"
Gr. 8 – Research Paper = choice of specific topic (within a general social studies study)
Gr. 9 – Problem–Solution Essay = choice of specific topic based on a current event/issue
Gr. 10 – Argumentation Essay = choice of specific topic based on a current event/issue

Cornerstone Task Map for Social Studies – Elementary
Catalina Foothills School District

Social Studies			
Transfer Goals Students will be able to independently use their learning to. . . • Apply historical understanding and interpret evidence to draw conclusions, make predictions, and plan for the future. • Analyze perspectives, patterns, and relationships to make informed decisions as global citizens. • Critically analyze and evaluate a variety of information and claims in order to determine what to think, believe, or do.			
Grade Level	**Semester**	**Assessment Title**	**Assessment Description**
1	**FALL**	**Citizenship Award**	Students determine whether a literary character should receive a citizenship award based on evidence of her conduct.
	SPRING	**Citizenship Award**	Students decide whether an individual should receive a citizenship award based on evidence of his conduct.
2	**FALL**	**Citizens Who Make a Difference – Jackie Robinson**	Students examine details about Jackie Robinson's life and accomplishments to help their class identify and celebrate citizenship traits that helped him make a difference.
	SPRING	**Citizens Who Make a Difference – Eleanor Roosevelt**	Students examine details about Eleanor Roosevelt's life and accomplishments to help their class identify and celebrate citizenship traits that helped her make a difference.
3	**FALL**	**The Extra Mile**	Students examine details about two historical figures and justify which one should be honored on a new silver dollar coin.
	SPRING	**Tour of the Past**	Students analyze the features of a town to determine which civilization (Ancient Greece or Rome) has had a greater cultural influence on the area.
4	**FALL**	**Stories in the Sand**	As archaeologists, students analyze artifacts to draw conclusions about the culture and lifestyle of a newly discovered ancient Arizona tribe.
	SPRING	**Proving the Past**	Students investigate a family's heritage, analyzing heirlooms to determine which region of the 13 colonies the family likely originated from.
5	**FALL**	**Mystery Delegate**	As reporters in 1787, students analyze evidence to determine how a mystery delegate is likely to vote at the Constitutional Convention.
	SPRING	**Friend or Foe**	As commanders of a northern Civil War field hospital, students must analyze evidence to determine whether an injured soldier is an ally or confederate spy.

Cornerstone Task Map for Social Studies – Grades 6-9
Catalina Foothills School District

Social Studies (continued)			
Transfer Goals Students will be able to independently use their learning to. . . • Apply historical understanding and interpret evidence to draw conclusions, make predictions, and plan for the future. • Analyze perspectives, patterns, and relationships to make informed decisions as global citizens. • Critically analyze and evaluate a variety of information and claims in order to determine what to think, believe, or do.			
Grade Level	**Semester**	**Assessment Title**	**Assessment Description**
6	**FALL**	**Mesopotamia Museum Exhibit**	Students select primary and secondary sources to include in a Mesopotamia museum exhibit on the Sumerians and must justify how their choices best represent key understandings about Sumer.
	SPRING	**Ancient Rome Children's Textbook**	Students select graphics to include in the Roman Republic section of a children's textbook and must justify how their choices best represent key understandings about the Roman Republic.
7	**FALL**	**Reconstruction Political Cartoon**	Students design a political cartoon that depicts relative successes and failures of Reconstruction following the Civil War from a contemporary perspective.
	SPRING	**World War I Memorial**	Students design a memorial to commemorate American perspectives and experiences in WWI. They must justify their choices as they pitch their design.
8	**FALL**	**Ending the Pacific War**	Working in the Truman administration, students weigh the evidence to make a recommendation as to how the United States should end the war in the Pacific.
	SPRING	**Did Lee Harvey Oswald Kill JFK?**	Students investigate evidence from the JFK assassination and determine the degree to which Lee Harvey Oswald is responsible for the JFK assassination.
9	**FALL**	**Modern Latin American Issue**	As journalists, students analyze critical modern issues in a Latin American country and make a pitch for the inclusion of this country in an upcoming Frontline exposé.
	SPRING	**Middle East Dossier**	Working for the Secretary of State, students prepare a dossier on a middle eastern country, analyzing relevant details about current demographics, geography, culture, and problems in the country.

Cornerstone Task Map for Social Studies – Grades 10-12
Catalina Foothills School District

Social Studies (continued)			
Transfer Goals Students will be able to independently use their learning to. . . • Apply historical understanding and interpret evidence to draw conclusions, make predictions, and plan for the future. • Analyze perspectives, patterns, and relationships to make informed decisions as global citizens. • Critically analyze and evaluate a variety of information and claims in order to determine what to think, believe, or do.			
Grade Level	**Semester**	**Assessment Title**	**Assessment Description**
10	**FALL**	**Virtual Travel**	As travel writers, students create a journal article or blog based on a virtual visit to a European city. Their article or blog highlights the relationship between history and modern culture.
	SPRING	**Virtual Travel**	As travel writers, students again create a journal article or blog based on a virtual visit to a European city. (Cities and content vary from the fall task based on what is studied in the spring semester.)
11	**FALL**	**Create a Textbook DBQ**	As textbook writers, students assemble a collection of documents pertaining to causes of the Civil War and justify how their selection will help readers examine key issues about the war.
	SPRING	**American Legacy Exhibit**	Students select an influential American figure and design and curate a museum display that highlights the impact of the individual on American history.
12	**FALL AND SPRING**	**Economics: Evaluating the U.S. Economy**	As economic analysts, students examine indicators of economic health and create a report card to evaluate the degree to which the U.S. economy is achieving macroeconomic goals.
	FALL AND SPRING	**Government: Policy Briefing**	Students prepare a brief on a current policy issue, outlining the historical circumstances that created the issue and advocating for reform to the policy.

Engineering Task Map – Prosper ISD

Engineering Transfer Goals:

☐ Communicate effectively based on purpose, task, and audience using appropriate vocabulary

☐ Demonstrate professionalism through functioning like a professional in the engineering field: exhibiting attentiveness, adhering to safety standards, collaborating with others, and growing from feedback

☐ Observe and explore a given system or concept to deepen the understanding of how the system/concept links to real world application.

☐ Design and build models that apply theories.

☐ Construct viable solutions to real world problems through critical analysis of text, media, interviews, and/or observations.

☐ Analyze data to establish generalizations, make predictions, or draw conclusions

Grade Level	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
6th grade-Engineering Design and Problem Solving 6	**Keystone task:** Students will design a chair for a specific room in the school. Students will have scale prototypes, 3D models, and hand sketches of their chair included in their presentation to the Admin and Construction teams.	**Keystone task:** Students will design a unique hot air balloon model to be unveiled at the McKinney hot air balloon festival. Students will have a final working prototype of their hot air balloon.	**Keystone task:** Students will apply 3D CAD skills, design principles, and design elements into an innovation on or inventions of a solution to a problem they face in their day to day life at school.	**Keystone task:** Students will create a one story (1100-1600 sq. ft.) home floor plan and elevation for a subdivision in Prosper that has an environmentally low impact, is to scale (1 foot = ¼ in), meets HOA regulations on materials used and is designed for a family of 4.	**Keystone task:** Students will create a 3D rendered and ¼ scale model of the house they designed in the previous unit. They will then determine a price for the home and present their final products to local realtors and home builders.	**Keystone task:** Students will design a robot that can help them be more efficient in their morning or evening routines.
7th grade-Engineering Design and Problem Solving 7	**Keystone task:** Students will design and create a marketing campaign for one of the new restaurants in prosper ISD.	**Keystone task:** Students will create a full board game, the pieces, the lore and the accompanying universe in which the board game belongs for kids that have to stay long term in the hospital.	**Keystone task:** Students will design and build personal protective equipment and protocols that other students can use and follow every day to help stop the spread of a virus.	**Keystone task:** Students will present and create a medical device that is an innovation of or invention for a cardiac, neurology, or orthopedic patient that improves their day to day life.	**Keystone task:** Students will help nonprofits design innovative spaces to grow fresh foods for people in need and increase awareness of the importance of fresh fruits and vegetables.	**Keystone task:** Students will research a problem under the Engineering umbrella and design a solution and create a prototype for the solution. They will present these solutions to the communities and industry experts.

Engineering Task Map – Prosper ISD
(continued)

8th grade- Gateway to Engineering	**Keystone task:** Students will design a 3D puzzle out of wooden blocks. They will create the CAD files for the 3D puzzle for 3D printing. The puzzle will be produced and donated to charity.	**Keystone task:** Students create a toy that helps other kids with Cerebral Palsy develop better motor skills.	**Keystone task:** Students work with in district kindergarten students to design a 1:1 cardboard chair that is custom designed for the specific kindergarten student but the chair cannot use any adhesives to hold it together.	**Keystone task:** Students will design all the Lego pieces to a unique Lego set that illustrate the life of a famous engineer to be displayed in the school for other students to learn about famous engineers.	**Keystone task:** Students will create the plans for a remodel of the master suite in their home based on their family's needs.	**Keystone task:** Students will design or redesign all exterior elements of a commercial build located in Prosper.	**Keystone task:** Each student will design and create a ¼ scale model of one floor of an office build that could be built in the Dallas area. The exterior, load bearing beams, elevator shaft, and stairwell all must be linked in each floor when they are stacked to create the tower.
9th grade- Principles of Applied Engineering	**Keystone task:** Students will pitch a new Lego mini-figurine line to Lego that are famous engineers.	**Keystone task:** Students will design and 3D print an attachment for a drone that can deliver Smoothie King drinks autonomously to the residents of Prosper.	**Keystone task:** Students will create a wiring diagram for a home builder in Prosper that will be used to allow customers to customize their home.	**Keystone task:** Students will design and program an robot that can autonomously navigate the high school to help new students too hard to find classes	**Keystone task:** Students will design the high speed train that will take people from Dallas to Houston via the future Texas Central railway.	**Keystone task:** Students will reverse engineering a common house hold item they use every day. They will redesign a part of the item to make the item work more efficiently or work better.	**Keystone task:** Students will select a book and create an automata that represents a scene from the book. Students will then present them for the librarians and library coordinators.
10th grade- Engineering Design and Presentation 1	**Keystone task:** Students will create a scale electric drag racer that, using gears, can compete with the gasoline drag racers.	**Keystone task:** Students will design, 1:1 scale, a Ninja Warrior obstacle for the Ninja Warrior contest. They will submit their designs to the contest to have the obstacle produced.	**Keystone task:** Students will engage in medieval warfare on one of two teams and each create ¼ scale trebuchets that work to attack	**Keystone task:** Students will design and 3D print for the culinary program irregular custom measuring cups that will measure exactly ¼ cup and ½ cup of dry goods. Students	**Keystone task:** Students will design and create 1:1 scale Hot Wheels cars. They will test and race them while tweaking the design until they have a fast car. Students will then donate them to Prosper elementary		

Engineering Task Map – Prosper ISD
(continued)

			the opponent's castle.		schools to use in classes.
11th grade- Engineering Design and Presentation 2	**Keystone task:** Students will identify different safety equipment in the shop and redesign the equipment to make it safer without losing functionality	**Keystone task:** Student will do market research with their peers and then design a prototype a smart phone case that will be marketable.	**Keystone task:** Students will work from technical drawings to create renderings of a commercial product. They will prototype the product and then create the technical drawings for mass production.	**Keystone task:** Students will create manufacturing ready technical drawings for a toy that elementary schools can print and use in their class.	**Keystone task:** Students will design and prototype a working prosthetic hand that can be donated to patients in need.

12th grade- Practicum in STEM

Keystone Task: Students will seek out a mentor in the engineering field. They will work with the mentor to find a problem or project in which the student can take the lead. They will work as the lead engineer the whole year and at the end of the year present the solution or result to a panelof engineers.

Sample Cornerstone Task Map

	ELA	Mathematics	Science	Social Studies
12	**Independent Study Project** ELA and Science and/or Social Studies [Critical Thinking, Communication]	**Mathematical Modeling Project** (e.g., lifetime savings & investments) [Critical Thinking, Communication]	**Independent Study Project** ELA and Science and/or Social Studies [Critical Thinking, Communication]	**Independent Study Project** ELA and Science and/or Social Studies [Critical Thinking, Communication]
11	**Parody/Satire Skit** ELA and Science and/or Social Studies [Creativity, Collaboration Communication]	**Amusement Park Physics** Linked to Science [Critical Thinking, Collaboration Communication]	**Chemistry Crime Scene** [Critical Thinking, Collaboration Communication]	**Problem–Solution Campaign** [Critical Thinking, Collaboration Communication]
10	**Original Short Story, Song or Poem** [Creativity, Communication]	**How to Lie with Statistics Project** [Critical Thinking, Collaboration Communication]	**Genetics Project** Science and Social Studies [Critical Thinking, Communication]	**Constitutional Checks & Balances** [Critical Thinking, Communication]
9	**Research Project with A-V Presentation** [Critical Thinking Communication]	**Mathematical Modeling with Linear Equations** [Critical Thinking, Communication]	**Earthquake Science** [Critical Thinking, Collaboration, Communication]	**Contemporary Issues Debate** [Critical Thinking, [Communication]
8	**Causes of Conflict Research Project** ELA and Social Studies [Critical Thinking Communication]	**Design Your Dream Bedroom** [Critical Thinking, Communication]	**Consumer Scientist** [Critical Thinking, Collaboration, Communication]	**Causes of Conflict Research Project** ELA and Social Studies [Critical Thinking Communication]
7	**Autobiography** [Communication]	**Evaluate a Contractor's Proposal** [Critical Thinking, Communication]	**Water Quality Testing** [Critical Thinking, [Communication]	**History: Whose Story? Examining Perspectives** [Critical Thinking]
6	**Personal Narrative** [Communication]	**Exercise Studies** Science and Health/PE [Critical Thinking, Creativity, Collaboration]	**Prove It!** [Critical Thinking, [Communication]	**Humans and the Environment** [Critical Thinking, Communication]
5	**People on the Move Research Project** ELA and Social Studies [Critical Thinking, [Communication]	**Fund Raiser Project** [Critical Thinking, Creativity, Collaboration, Communication]	**Conduct Your Own Experiment** [Problem Solving, Communication]	**People on the Move Research Project** ELA and Social Studies [Critical Thinking, [Communication]
4	**Authors' Party Presentations** [Collaboration, Communication]	**Geometry Town** [Critical Thinking, Creativity, Collaboration]	**Seed to Plant Project** [Critical Thinking, Collaboration Communication]	**Where We Live and How We Live** [Critical Thinking, [Communication]
3	**Personal Narrative** [Creativity, Communication]	**Measure This!** [Critical Thinking Creativity, Collaboration]	**Prove It!** [Critical Thinking, Communication]	**Alike and Different: Community & Culture** [Critical Thinking, Collaboration]
	Show and Tell	**Animal Zoo (Habitats)**	**Animal Zoo (Habitats)**	**Wants and Needs**