





































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



An effective curriculum equips learners for autonomous performance ... by design!

72

75

## **Transfer Goals: Mathematics**

- Make sense of never-before-seen, "messy" problems and persevere in trying to solve them.
- Construct viable arguments and critique the reasoning of others.



Long-term

Goals

Transfer

Academic

Standards

63

78

## **Transfer Goal: History/SS**

- Use knowledge of patterns of history to better understand the present and prepare for the future.
- Critically appraise historical claims and analyze contemporary issues.







## Designing a Curriculum & Assessment System for Modern Learning





















Clarifies	Recognizes	Evaluates	Supports
Issue	Perspectives	Claims	Position
<ul> <li>Views issues and problems on a macro and micro level Recognizes that complex that complex issues are nuanced, containing shades of grey, and can tolerate ambiguity</li> <li>Is willing to change his or change his or change his or her mind when presented with new evidence or compelling reasons</li> </ul>	<ul> <li>Deliberately seeks different points of view and considers their merits</li> <li>Identifies personal and cultural biases in self and others</li> </ul>	Remains skeptical Asks for reasons and evidence in support of a claim Questions the accuracy, validity, and reliability of information or evidence	<ul> <li>Identifies his or her positior on an issue or situation</li> <li>Provides sound reasons and relevant evidence to support his or her own position</li> <li>Uses evidence to evaluate claims</li> </ul>



166



170











**Next Generation Science Standards** 6. Structure and Function. The way in which an object or living thing is shaped and its substructure determine many of its properties and functions. How are structure and function related: ... in living things? ... in nonliving things?



Overarching Understandings	<b>Overarching Essential Question</b>
A critical thinker does not simply accept what they read, view, and hear. They remain skeptical, ask critical questions	How do I know what to believe in what I read, view and hear?
and seek evidence before deciding what to believe or do.	Whose "story" is this? What other perspective(s) should I consider?
A critical thinker deliberately seeks alternate perspectives.	What is another way of viewing this?
	What is the evidence for?
A critical thinker plays "devil's advo-	
cate" to challenge claims, question assumptions and press for reasons.	Why should I believe/accept this?

### **182**



186

80

# Argumentation "Big Idea" Understandings

- A convincing argument requires a clear position, logical reasoning and support with evidence.
- An effective argument contains rebuttals to possible objections.

179



## **183**





## Argumentation

# n 😯

### **Essential Questions**

- What makes an argument convincing?
- What are possible objections to my argument? How might these be countered?

180









213

## **Cornerstone Tasks**

- Anchor the curriculum in important, recurring tasks.
- Require understanding and transfer of learning.
- Integrate 21st century outcomes.
- Provide evidence of authentic accomplishments.

("Doing the subject" and "playing the game")

-

(



193



214

223

## **Transfer Goal: Writing**

Students will be able to independently use their learning to:

Effectively write in various genres for various audiences and purposes (inform, explain, entertain, persuade, guide, or challenge/change things).

Think "Photo Album" versus "Snapshot" Sound assessment requires multiple sources of evidence, collected over time.

210



220



## example: A "How To" Guide Since you have learned about \_\_\_\_\_\_, you have been asked to develop a guide to help (target audience) learn this. Offer specific tips and suggestions to help them be successful.



233







231



235

241









#### Evaluative criteria for the performance task: Should ChatGPT be banned in schools?

Quality of research: The quality and thoroughness of your research, including the range of sources consulted and the relevance of the information gathered.

Clarity of argument: The clarity and persuasiveness of your argument, including the use of evidence and examples to support your points

Engagement with counterarguments: The extent to which you engage with potential counterarguments and address opposing views.

Quality of presentation: The clarity, organization, and persuasiveness of your presentation, including the use of visual aids and examples.

Engagement with the committee: The extent to which you engage with the committee, answer questions, and participate in a discussion about your argument

#### 246

#### Ideas for a Project (PBL) on designing a SKATEBOARD PARK

#### Project Objectives:

- 4. Present and defend design proposals to a panel of experts, incorporating feedback to refine the plans.
- 5. Conduct a cost analysis and create a budget for the project, considering construction materials, labor, permits, and ongoing maintenance.
- 6. Identify potential funding sources and develop a fundraising strategy to secure the necessary funds for the construction of the skateboard park.
- 7. Engage with the local community to raise awareness about the project, gather support, and involve stakeholders in the decision-making process.
- 8. Oversee the construction process, including coordinating with contractors, monitoring progress, and ensuring compliance with design specifications and safety standards.
- 9. Organize a grand opening event to celebrate the completion of the skateboard park and engage the community in a positive way

~

#### 249



244

#### My revisions to the criteria proposed by ChatGPT.

Quality of research: The quality and thoroughness of your research, including the range of sources consulted and the relevance and accuracy of the information gathered.

Clarity of argument: The clarity and persuasiveness of your argument, including the use of convincing evidence, sound reasoning and examples to support your points.

Engagement with counterarguments: The extent to which you eng potential counterarguments and address effectively rebut opposing views.

Quality Effectiveness of presentation: The clarity, organization, and persuasiveness of your presentation to convince the committee of your position. including the use of relevant visual aids and examples.

committee, answer questions, and participate in a discussion about your argument.

#### 247

#### Ideas for a Project (PBL) on designing a SKATEBOARD PARK

#### **Project Deliverables:**

- 1. Research findings on skateboard park design principles, safety standards, and user preferences.
- 2. Detailed design proposals for the skateboard park, including layout,
- skate elements, landscaping, and other relevant features. 3. Presentations to a panel of experts, incorporating feedback and
- improvements.
- 4. Cost analysis and budget for the construction of the skateboard park.
- 5. Fundraising strategy and documentation of funds secured. 6. Documentation of community engagement activities, including
- meetings, surveys, and events.
- 7. Construction progress reports, including photos and documentation of compliance with design specifications and safety standards.
- 8. Documentation of the grand opening event, including photos, videos, and community feedback.

#### I asked ChatGPT to design a performance task around the issue: Should ChatGPT be banned in schools? My prompt: Design a performance task to explore the issue of banning ChatGPT in school

Here's a possible performance task that could be used to explore the issue of banning ChatGPT is

Task: You are a member of a committee that is responsible for making decisions about the use of artificial intelligence (AI) technology in schools. The committee is considering a proposal to ban the use of Chat(GPT), a language model, in schools. Your task is to research and present a well-reasoned argument for or against the ban.

- Research: Begin by conducting research on the topic. Use a variety of sources, including articles, reports, and academic studies. Consider both the benefits and drawbacks of using ChatGPT in schools. Some questions to consider might include:
- What are the potential benefits of using ChatGPT in schools?
   What are the potential downbacks or risks of noising ChatGPT in schools?
   What are the potential downbacks or risks of noising ChatGPT in schools?
   Invo do other schools or software institutions hundle the uses of ChatGPT or similar
   language models?
   What are the tentical considerations around using ChatGPT in schools?
- Develop your argument: Based on your research, develop a well-reasoned argument eiths fee or against the ban on ChatGPT in schools. Make sure your argument is supported by evidence and include sounterarguments to address potential opposing views.
   Prepare a presentation: Create a presentation to present your argument to the committee. Your presentation should be clear, concise, and presentative. Use visual adds and examples
- Total prevention around to even, software, and personance, the visual area and examples to help support your argument. Present to the committee: Present your argument to the committee, taking into consideration their perspectives and potential objections. Be prepared to answer question and engage in a discussion about your argument.

245

#### Ideas for a Project (PBL) on designing a SKATEBOARD PARK

#### **Project Title: Designing and Building a Skateboard Park**

Project Description: The project aims to engage students in a projectbased learning experience centered around designing and building a skateboard park. Students will have the opportunity to explore various aspects of park design, including conceptualization, planning, budgeting, construction, and community engagement. By working on this project, students will develop a range of skills, such as collaboration, critical thinking, problem-solving, and project management. Project Objectives:

- 1. Research and understand the principles of skateboard park design, including safety standards, skateboarding trends, and user preferences.
- 2. Develop a comprehensive plan for the skateboard park, considering factors such as space availability, budget constraints, and the needs of the skateboarding community.
- 3. Collaborate in teams to create detailed design proposals, including layout, skate elements, landscaping, and other relevant features.

### 248

#### Ideas for a Project (PBL) on designing a SKATEBOARD PARK

#### Assessment

- 1. Design proposals and presentations: Evaluating the creativity, feasibility, and adherence to safety standards.
- 2. Budgeting and fundraising strategy: Assessing the accuracy and effectiveness of the cost analysis and the success of the fundraising efforts.
- 3. Community engagement: Evaluating the level of community involvement and impact, as well as the ability to address community concerns.
- 4. Construction oversight: Assessing the ability to manage the construction process, including adherence to timelines and quality control.
- 5. Documentation and reporting: Assessing the quality and completeness of the project documentation, including research findings, progress reports, and event documentation.

Engagement with the committee: The extent to which you engage with the



f in 🔽



Criteria (continued)

5. Writing and Language:

6. Citations and References:

style (e.g., MLA, APA). 7. Critical Thinking and Analysis:

information.

8. Time Management:

thought.

ONLINE EXCLUSIVE

259

264

 The writing is clear, concise, and engaging. · Proper grammar, punctuation, and spelling are used. · Transitions are used to connect ideas and create a smooth flow.

 Sources are properly cited within the research paper or presentation. · A bibliography or reference page is included, following a consistent citation

· The research demonstrates the ability to critically analyze and interpret

· The research goes beyond simple summarization and shows independent

· Connections and relationships between ideas or concepts are explored.

**Recommended article** 

**Performance Tasks or Projects?** 

**Complementary Approaches** 

for Student Engagement

Jay McTighe, John Larmer

 The research was completed within the given timeframe. · Deadlines for different stages of the research process were met.

	Performance List for Cooperative Learning Primary Level			
		Terrific	0.к.	Needs Work
Note:	1. Did I do my job in my group?	٢		٢
This format	2. Did I follow directions?	٢	3	
encourages	3. Did I finish my part on time?	٢	3	
self- assessment	4. Did I help others in my group?	٢	٢	-
and goal	5. Did I listen to others in my group?	٢	3	4
setting by the student.	6. Did I get along with others in my group?	٢	٢	4
	<ol><li>Did I help my group clean up?</li></ol>	3	3	٢
W	hat will you try to do better the ne	xt time you	work in	a grou



Identification of Aviation of Identification of Identificatio of Identification of Identification of I	complary courately entifies the	Proficient	Developing	Beginning
the problem id		Accurately		
	ot cause of the roblem and ticulates it early	identifies the problem and can articulate it with some clarity	Identifies the problem, but not always the root cause and struggles to articulate it clearly	Struggles to identify the problem and its root cause
thinking gr ra in pr in th th co	onsistently oncrates a wide ruge of novative sobiem, cluding those at challenge onventional inking	Generates innovative solutions to the problem, including those that challenge conventional thinking, but not always consistently	Generates some innovative solutions, but not always original or challenging to conventional thinking	Struggles to generate innovative solutions and relies heavily on conventional thinking



C	ChatGPT identified criteria for Research (middle school).
1. T	opic Selection:
•	<ul> <li>The topic is clearly defined and related to the subject.</li> </ul>
	<ul> <li>The topic is appropriate and relevant for a 6th-grade audience.</li> <li>Research Question:</li> </ul>
	A clear and focused research question is provided.
	<ul> <li>The research question is relevant to the chosen topic.</li> <li>iformation Gathering:</li> </ul>
	A variety of sources are used (books, websites, interviews, etc.).
	<ul> <li>Sources are credible, accurate, and appropriate for the topic.</li> <li>Notes and references are organized and well-documented.</li> </ul>
4. O	rganization and Structure:
	Information is presented in a logical and coherent manner. The introduction provides a clear overview of the topic and research questio Subtopics and main points are clearly identified.
•	<ul> <li>There is a well-structured body of information that supports the research question.</li> </ul>
•	<ul> <li>The conclusion summarizes the findings and ties them back to the research question.</li> </ul>







Second generation = Consensus Mapping from Standards					
Table	Time	Performance Task	Rie Islea	Essential Questions	Core Tests
Unde 1: Whole Numbers and Decimals Number & Operations Rase Ten)	1 week Sepi	Compare appendix taxa of state capitals by converting them to millions with decimal molation.	Different values can be represented in many ways.	KANNEL QUESTION     KNOW AND A CONTRACT OF A CONTRACT	HM Chapter 3
Unit 2: Addition 5 Subtraction of Decimals (Operations & Mgeturan Trinking) Number & Operations Ease Ten)	3 weeks Sepi	Plan a trip for your family, adding the mileage letween cilles, using decimal molation.	Real-world problems can be solved by combining or separating groups.	• How can addition and subtraction of desired by expresented by adjusts, pictures, unrels, and ru-where? • What are some anyy that desired so as be exclusioned or sensented? • How are distinuely and to represent numbers in real-world situations?	HM Chapter 5, 12
Juit & Addition and batration of vactors Number & Specificans -Practions)	5 weeks Ox1/New	Chaose the items you would take with you as an innergiant from Europe where each person is attaited a certain weight for all their behandings.	Real-world problems can be solved by conducing or separating groups.	4 How are fractions related to decision2.3 4 How are common dimensionalisations used to compare fractions. <sup>3</sup> What are some ways that fractions can be monitored or separated. <sup>3</sup> 4 How are fractions and to represent numbers in real-world situation. <sup>3</sup>	HM Chapters 2, 4, 7, 8, 9
Jedt & Muttiplication mil Division of Whole Sundary Number & Operations Lase Ten)	d weeks NavyDec	Campare the areas of various states in square wites.	Real-world problems can be solved by conducing or separating groups.	• Which partners do you station when embiging our distribution that you prove to district • How almost varies that adjustments halo you to multistive affinisments? • Compares and explain how the size of families that • How each you apply that conversion of measurement unders to make the providerers?	HM Chapters 1, 6, 21
Jell E. Volume Measurement & Data)	3 weeks January	Estimate the cardier of living coles that will fill a classroom.	Objects can be measured and compared by their altificutes	When is vestime?     How are accessed without and afflicence?     How of a screen and without all afflicence?     How of any measure velocity?     How of any measure velocity?     How of any measure strange velocity and the velocity     waish?     How can any measure strange velocity and?     How can any measure material?     How particular and the velocity measurement     waish?     How can any measurement     waish and     wa	Gelling to the Care Volume Unit



274



J

.

**297** 



Second generation = Consensus

mapping against standards

Third generation = Mapping performance backward from long-term transfer goals

272





e Observation ture Book vorite Animal Book w-to Book ustrated)	All About Me Picture Book Imaginary Character Story	xxx
vorite Animal Book w-to Book	Imaginary Character	
Book w-to Book		XXX
w-to Book	Story	
(ctrated)	Modern-day	XXX
usualeu)	Fairy Tale	
ndly Letter	Personal Narrative	Opinion Letter
ure Article	Poetry Collection	Issue Analysis
arch Project	Descriptive Narrative	Argumentation Essay
v-to Guide	Autobiography	Editorial
-Effect Essay	Myth, Fable, Fairy Tale,	Position Paper
	Folktale or Legend	-
arch Project	Narrative/Historical	Social Issue Essay
-	Fiction	-
em-Solution	Poetry, Song/Lyrics	Editorial
Essay		
ws Article	Memoir	Policy Evaluation
ical Manual	Dramatic Script/	Argumentation Essay
	One-act Play	
ndent Research	Parody, Satire, Irony	Position Paper on Issue
ritten Product		chosen by student
ri		ent Research Parody, Satire, Irony tten Product

	Problem Solving	Reasoning and Proof	Communications	Representation
4 Expert	An efficient strategy is chosen and progress towards a solution is evaluated. Adjastments in strat- egy, if necessary, are made along the way, and / or alternative strate- gies are considered. Evidence of analyzing the situation in mathe- matical terms, and extending perior knowledge is present. A correct answer is achieved.	Deductive arguments are used to justify decisions and may result in formal proofs. Evidence is used to justify and support decisions made and conclusions reached. This may lead to generalizing and extending the solution to other cases.	A sense of audience and pur- pose is communicated. Communicated of argument is supported by mathematical properties. Precise math language and symbolic notation are used to consolidate math thinking and to communicate ideas.	Abstract or symbolic mathematical representa- tions are constructed to analyze relationships, ex- tend thinking, and clarify or interpret phenomenon
3 Practitioner	A correct strategy is chosen based on mathematical situation in the task. Planning or monitoring of strategy is evident. Evidence of solidilying prior knowledge and applying it to the problem. A correct answer is achieved.	Arguments are constructed with adequate mathematical basis. A systematic approach and/or justification of correct reasoning is present. This may lead to clarification of the task and noting patterns, structures and regularities.	A sense of andience or purpose is communicated, and/or Communication of an ap- proach is evident through a methodical, organized, coher- ent sequenced and labeled re- sponse. Formal math language is used to share and clarify ideas.	Appropriate and accurate mathematical representa- tions are constructed and refined to solve problem or portray solutions.
2 Apprentice	A partially correct strategy is chosen, or a correct strategy for early solving part of the task is chosen. Evidence of drawing on some previous knowledge is present, showing some relevant engagement in the task.	Arguments are made with some mathematical basis. Some correct reasoning or justification for reasoning is present with trial and error, or unsystematic trying of several cases.	Some assurences of audience or purpose is communicated, and may take place in the form of paraphrasing of the task, or Some communication of an approach is evident theough verbal/writen accounts and explanations, use of diagrams or objects, writing, and using mathematical symbols.	An attempt is made to construct mathematical representations to record and communicate prob- lem solving, but they are incomplete or inappro- priate.
1 Novice	No strategy is chosen, or a strat- egy is chosen that will not lead to a correct solution.	Arguments are made with no mathematical basis. No correct reasoning nor justification for reasoning is present.	No awareness of audience or purpose is communicated, or Little or no communica- tion of an approach is evident or Everyday, familiar lan- guage is used to communicate ideos	No attempt is made to construct mathematical representations.

296

