PLTW Gateway Standards Connection Energy and the Environment



Connections to Standards in Gateway

PLTW curriculum is designed to empower students to thrive in an evolving world. As a part of the design process when developing and updating our curriculum, we focus on connections to a variety of standards. PLTW Energy and the Environment connects to standards in the following:

Table of Contents

Common Core College and Career Readiness Anchor Standards	Page	2
Common Core State Standards for English Language Arts 6–8 Literacy Standards for History/Social Studies, Science, and Technical Subjects	Page	6
Common Core State Standards for English Language Arts 6th Grade	Page	8
Common Core State Standards for English Language Arts 7th Grade	Page	14
Common Core State Standards for English Language Arts 8th Grade	Page	19
Common Core State Standards for Mathematics 6th Grade	Page	24
International Society for Technology in Education	Page	25
Standards for Technological and Engineering Literacy	Page	27
Next Generation Science Standards	Page	29



Key Ideas and Details

CCSS.ELA-LITERACY.CCRA.R.1

Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

✓ AB.1 ✓ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

CCSS.ELA-LITERACY.CCRA.R.10

Read and comprehend complex literary and informational texts independently and proficiently.

✓ AB.1 ✓ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

Writing

Text Types and Purposes

CCSS.ELA-LITERACY.CCRA.W.2

Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

✓ AB.1 ✓ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

CCSS.ELA-LITERACY.CCRA.W.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

✓ AB.1 ✓ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

CCSS.ELA-LITERACY.CCRA.W.7

Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

✓ AB.1 ✓ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square A1.4a \square P1.4 \square 2.1 \square 2.2 \square 2.3

 \square 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 \square 3.7 \square 3.8

CCSS.ELA-LITERACY.CCRA.W.8 Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism. □ AB.1 ✓ AB.2 □ A1.4a □ P1.4 □ 2.1 □ 1.1 \square 1.2 \square 1.3 \square 2.2 \square 2.3 \square 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 □ 3.6 □ 3.7 \square 3.8 CCSS.ELA-LITERACY.CCRA.W.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. ✓ AB.1 ✓ AB.2 □ A1.4a □ P1.4 □ 2.1 □ 1.1 □ 1.2 □ 1.3 □ 2.2 □ 2.3 \square 3.1 \square 3.2 \square 3.3 □ 3.4 □ 3.5 □ 3.6 □ 3.7 □ 3.8 Speaking and Listening Comprehension and Collaboration CCSS.ELA-LITERACY.CCRA.SL.1 Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively. □ AB.1 □ AB.2 **✓** 1.2 **✓** 1.3 ✓ A1.4a ✓ P1.4 **✓** 2.1 **✓** 2.2 **✓** 11 **✓** 2.3 **✓** 3.1 **✓** 3.2 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 **✓** 3.3 **✓** 3.8 CCSS.ELA-LITERACY.CCRA.SL.2 Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally. ✓ AB.1 ✓ AB.2 ✓ A1.4a ✓ P1.4 **✓** 2.1 **✓** 1.1 **✓** 1.2 **✓** 1.3 **✓** 2.2 **✓** 2.3 **✓** 3.2 **✓** 3.1 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 **✓** 3.8 CCSS.ELA-LITERACY.CCRA.SL.4 Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience. □ AB.1 ✓ AB.2 **✓** 1.1 **✓** 1.2 **✓** 1.3 ✓ A1.4a ✓ P1.4 **✓** 2.1 **✓** 2.2 **✓** 2.3

✓ 3.1

✓ 3.2

✓ 3.3

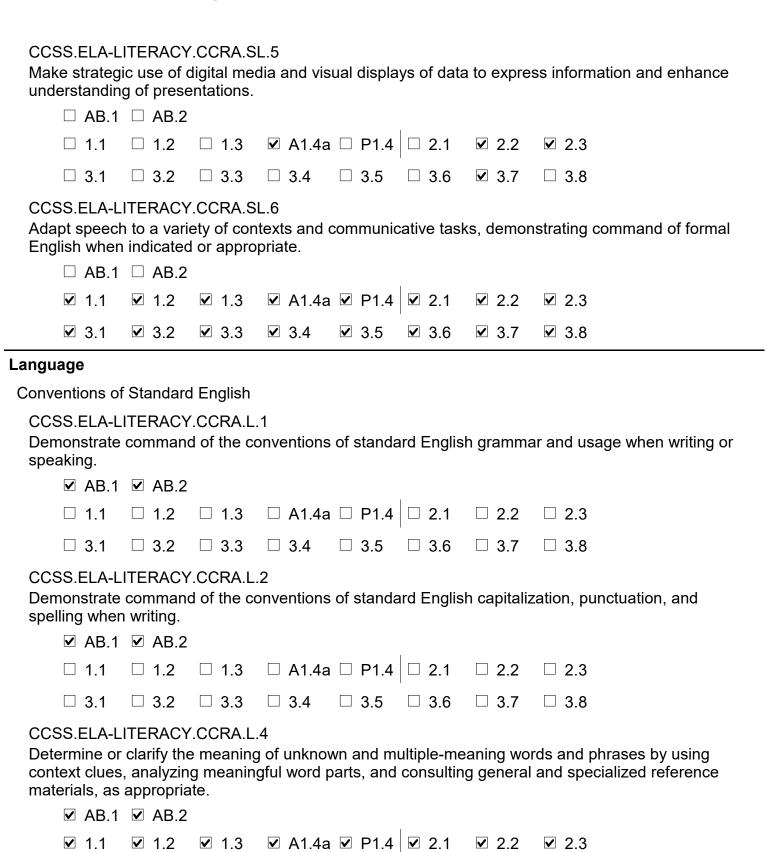
✓ 3.4

✓ 3.5

✓ 3.6

✓ 3.7

✓ 3.8



✓ 3.1

✓ 3.2

✓ 3.3

✓ 3.4

✓ 3.5

✓ 3.6

✓ 3.7

✓ 3.8

CCSS.ELA-LITERACY.CCRA.L.5

Demonstrate understanding of word relationships and nuances in word meanings.

□ AB.1 □ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

CCSS.ELA-LITERACY.CCRA.L.6

Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

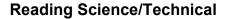
□ AB.1 □ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

□ 3.1 □ 3.2 □ 3.3 □ 3.4 □ 3.5 □ 3.6 □ 3.7 □ 3.8

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Common Core State Standards for English Language Arts 6–8 Literacy Standards for History/Social Studies, Science, and Technical Subjects



Key Ideas and Details

CCSS.ELA-LITERACY.RST.6-8.2

Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

□ AB.1 □ AB.2

$$\square$$
 1.1 \square 1.2 \square 1.3 \blacksquare A1.4a \square P1.4 \square 2.1 \blacksquare 2.2 \blacksquare 2.3

$$\square$$
 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 \checkmark 3.7 \square 3.8

CCSS.ELA-LITERACY.RST.6-8.3

Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

□ AB.1 □ AB.2

Craft and Structure

CCSS.ELA-LITERACY.RST.6-8.4

Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6–8 texts and topics.

□ AB.1 □ AB.2

Range of Reading and Level of Text Complexity

CCSS.ELA-LITERACY.RST.6-8.10

By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.

□ AB.1 □ AB.2

Common Core State Standards for English Language Arts 6–8 Literacy Standards for History/Social Studies, Science, and Technical Subjects

Text Types and Purposes

CCSS.ELA-LITERACY.WHST.6-8.2.b

Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.

□ AB.1 □ AB.2

$$\square$$
 1.1 \square 1.2 \square 1.3 \square A1.4a \square P1.4 \square 2.1 \square 2.2 \square 2.3

$$\square$$
 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 \square 3.7 \square 3.8

CCSS.ELA-LITERACY.WHST.6-8.2.d

Use precise language and domain-specific vocabulary to inform about or explain the topic.

□ AB.1 □ AB.2

Production and Distribution of Writing

CCSS.ELA-LITERACY.WHST.6-8.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

□ AB.1 □ AB.2

Research to Build and Present Knowledge

CCSS.ELA-LITERACY.WHST.6-8.9

Draw evidence from informational texts to support analysis, reflection, and research.

□ AB.1 ✓ AB.2

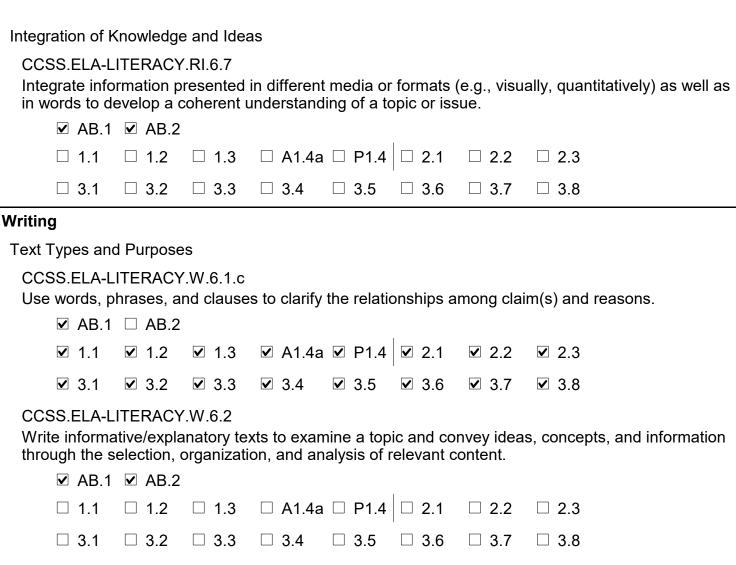
$$\square$$
 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 \checkmark 3.7 \square 3.8

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Reading Literature Key Ideas and Details CCSS.ELA-LITERACY.RL.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. □ AB.1 ✓ AB.2 □ A1.4a □ P1.4 □ 2.1 □ 1.1 □ 1.2 □ 1.3 \square 2.2 \square 2.3 □ 3.2 □ 3.1 \square 3.3 □ 3.4 \square 3.5 \square 3.6 \square 3.7 \square 3.8 Reading Informational Key Ideas and Details CCSS.ELA-LITERACY.RI.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. □ AB.1 ✓ AB.2 □ A1.4a □ P1.4 □ 2.1 □ 1.3 □ 2.2 \square 1.1 □ 1.2 \square 2.3 □ 3.2 □ 3.1 □ 3.3 □ 3.4 □ 3.5 □ 3.6 □ 3.7 □ 3.8 CCSS.ELA-LITERACY.RI.6.2 Determine a central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments. □ AB.1 □ AB.2 □ 1.1 ✓ A1.4a □ P1.4 □ 2.1 \square 1.2 □ 1.3 **✓** 2.2 **✓** 2.3 □ 3.1 □ 3.2 □ 3.3 \square 3.4 \square 3.5 □ 3.6 **✓** 3.7 □ 3.8 Craft and Structure CCSS.ELA-LITERACY.RI.6.4

Determine the meaning of words and phrases as they are used in a text, including figurative. connotative, and technical meanings.

✓ AB.1 ✓ AB.2 ✓ A1.4a
✓ P1.4 **✓** 1.1 **✓** 1.2 **✓** 1.3 **✓** 2.1 **✓** 2.2 **✓** 2.3 **✓** 3.1 **✓** 3.2 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 **✓** 3.8



CCSS.ELA-LITERACY.W.6.2.b

Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.



CCSS.ELA-LITERACY.W.6.2.d

Use precise language and domain-specific vocabulary to inform about or explain the topic.

```
✓ AB.1 ✓ AB.2
                        ✓ A1.4a ✓ P1.4
✓ 1.1
        ✓ 1.2
                                         ✓ 2.1
                                                         ✓ 2.3
                ✓ 1.3
                                                 ✓ 2.2
                                 ✓ 3.5
                                         ✓ 3.6
✓ 3.1
        ✓ 3.2
                ✓ 3.3
                        ✓ 3.4
                                                 ✓ 3.7
                                                         ✓ 3.8
```

CCSS.ELA-LITERACY.W.6.3.d

Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events.

□ AB.1 □ AB.2

✓ 1.1 ✓ 1.2 ✓ 1.3 ✓ A1.4a ✓ P1.4 ✓ 2.1 ✓ 2.2 ✓ 2.3

Production and Distribution of Writing

CCSS.ELA-LITERACY.W.6.4

Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3.)

✓ AB.1 ✓ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

Research to Build and Present Knowledge

CCSS.ELA-LITERACY.W.6.7

Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

☐ AB.1 **☑** AB.2

 \square 1.1 \square 1.2 \square 1.3 \square A1.4a \square P1.4 \square 2.1 \square 2.2 \square 2.3

 \square 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 \square 3.7 \square 3.8

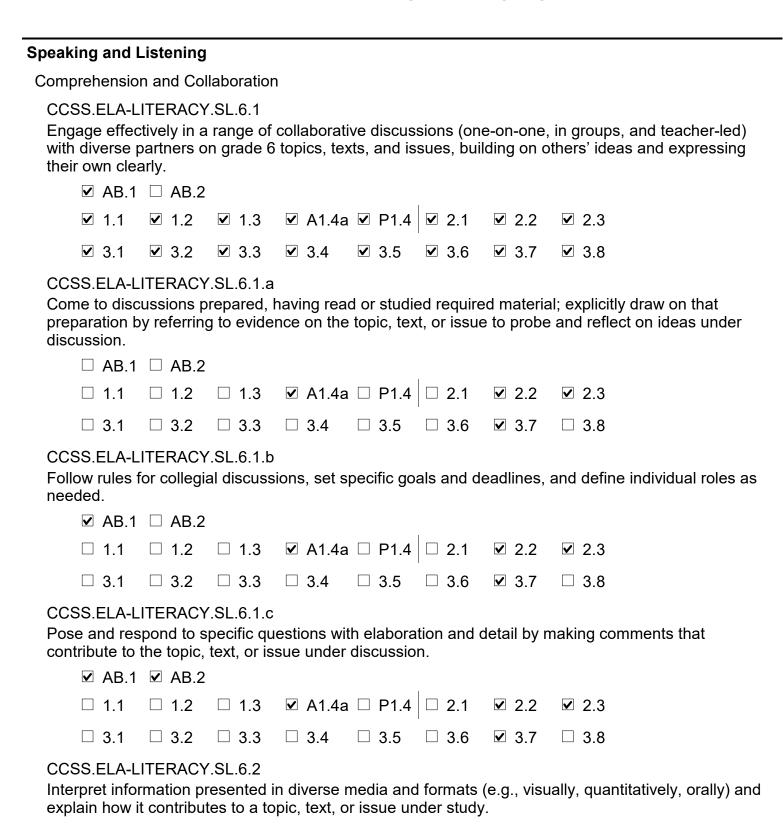
CCSS.ELA-LITERACY.W.6.9

Draw evidence from literary or informational texts to support analysis, reflection, and research.

✓ AB.1 ✓ AB.2

□ 1.1 □ 1.2 □ 1.3 ☑ A1.4a □ P1.4 □ 2.1 ☑ 2.2 ☑ 2.3

 \square 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 $widthspace{-3.5}$ \square 3.8



✓ A1.4a □ P1.4 □ 2.1

✓ 2.2

✓ 3.7

✓ 2.3

 \square 3.8

✓ AB.1 ✓ AB.2

□ 1.2

□ 1.1

□ 1.3

 \square 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6

Presentation of Knowledge and Ideas

CCSS.ELA-LITERACY.SL.6.4 Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.														
•	✓ AB.1		AB.2											
	□ 1.1		1.2		1.3		A1.4a		P1.4		2.1		2.2	□ 2.3
	□ 3.1													
CCSS.ELA-LITERACY.SL.6.5 Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.														
	□ AB.1													
	□ 1.1		1.2		1.3	✓	A1.4a		P1.4		2.1	v 2	2.2	☑ 2.3
	□ 3.1		3.2		3.3		3.4		3.5		3.6	✓ 3	3.7	□ 3.8
Ada	CCSS.ELA-LITERACY.SL.6.6 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.													
	✓ AB.1									l				
	□ 1.1		1.2		1.3	✓	A1.4a		P1.4		2.1	V 2	2.2	✓ 2.3
	□ 3.1		3.2		3.3		3.4		3.5		3.6	✓ 3	3.7	□ 3.8
angu	age													
Conve	entions of	Star	ndard	En	glish									
Dem	SS.ELA-L nonstrate aking.					nve	entions	of s	standa	ırd E	English	n gra	mma	r and usage when writing or
	✓ AB.1									ı				
	□ 1.1		1.2		1.3		A1.4a		P1.4		2.1		2.2	□ 2.3
	□ 3.1		3.2		3.3		3.4		3.5		3.6	□ 3	3.7	□ 3.8
Dem	ling when	com writ	mand ing.			nve	entions	of s	standa	ırd E	Englisł	า сар	italiz	ation, punctuation, and
	✓ AB.1													
	□ 1.1									1				
	□ 3.1		3.2		3.3		3.4		3.5		3.6	□ 3	3.7	□ 3.8

Knowledge of Language

CCSS.ELA-LITERACY.L.6.3

Use knowledge of language and its conventions when writing, speaking, reading, or listening.

$$\square$$
 1.1 \square 1.2 \square 1.3 \square A1.4a \square P1.4 \square 2.1 \square 2.2 \square 2.3

$$\square$$
 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 \square 3.7 \square 3.8

Vocabulary Acquisition and Use

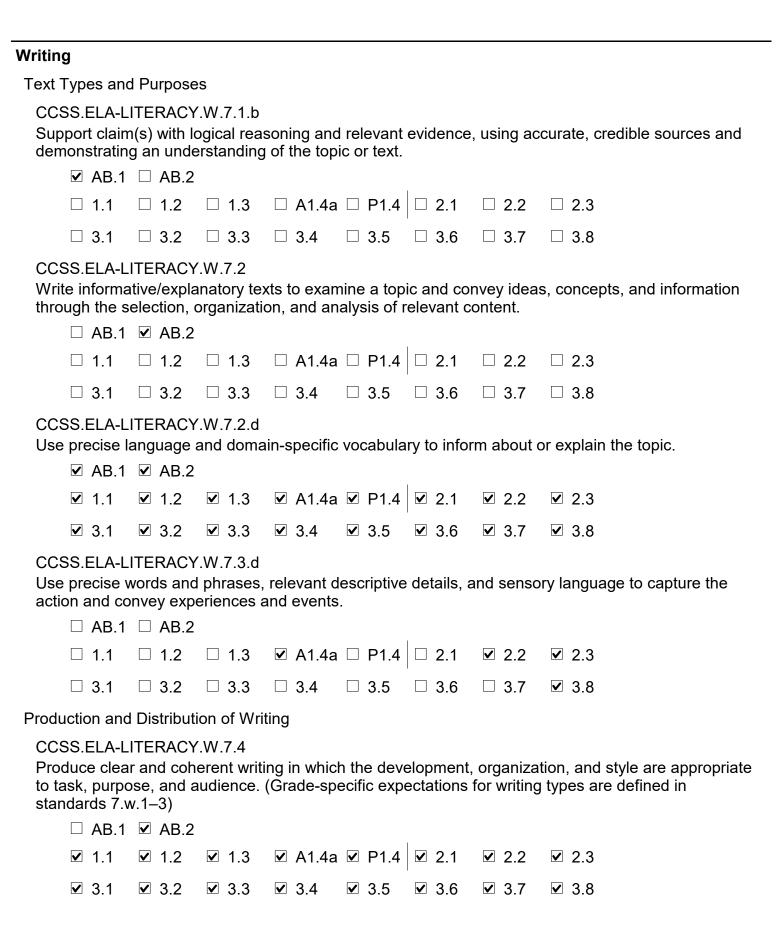
CCSS.ELA-LITERACY.L.6.4

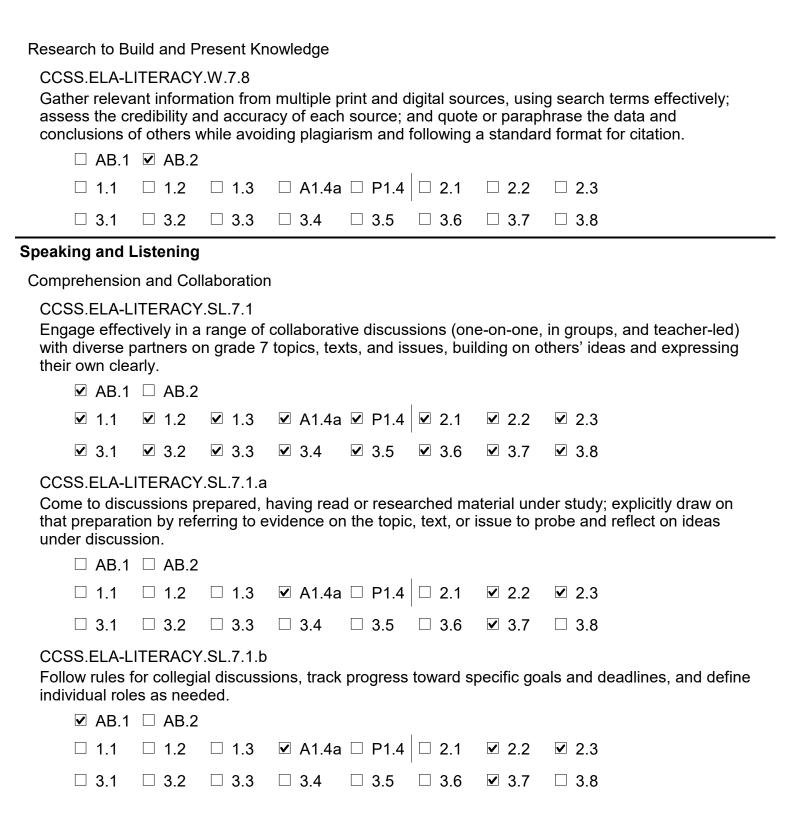
Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.

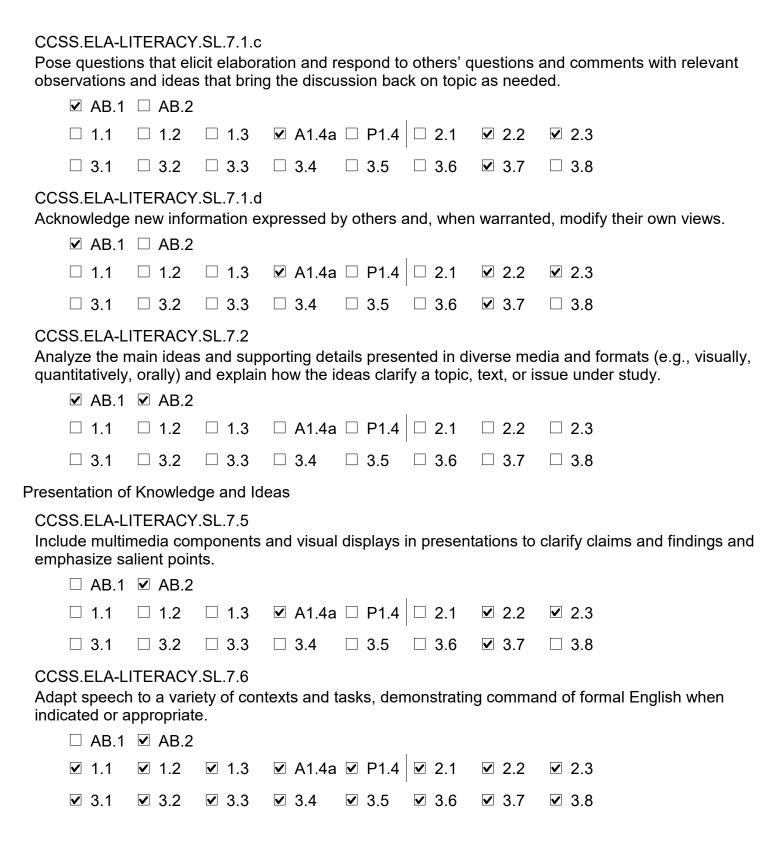
CCSS.ELA-LITERACY.L.6.6

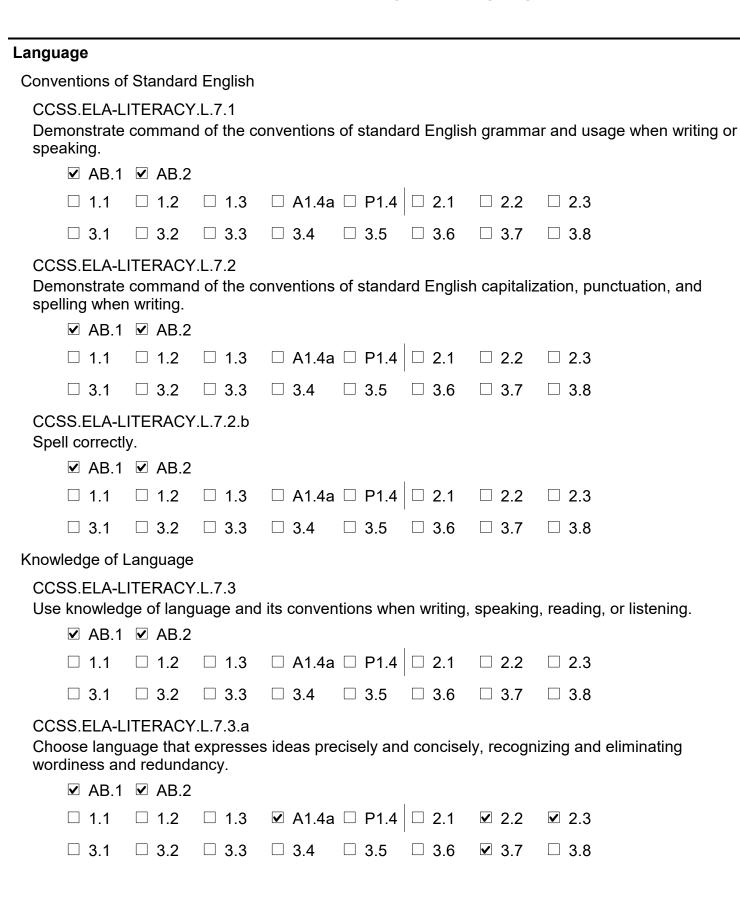
Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

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Vocabulary Acquisition and Use

CCSS.ELA-LITERACY.L.7.4

Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 7 reading and content, choosing flexibly from a range of strategies.

✓ AB.1 ✓ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

CCSS.ELA-LITERACY.L.7.6

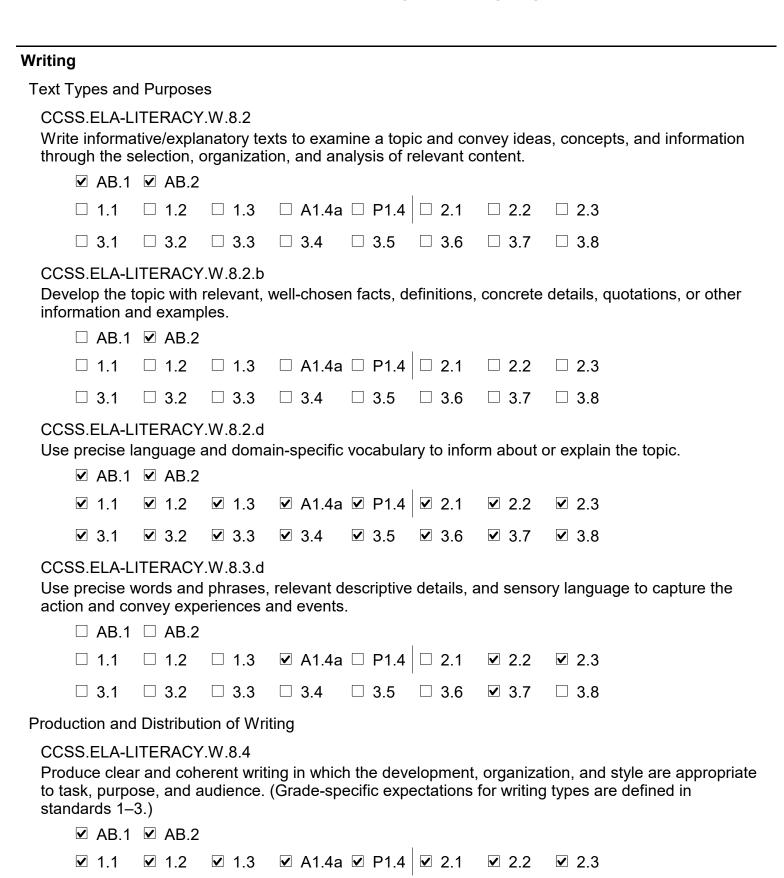
Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

✓ AB.1
✓ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

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✓ 3.4

✓ 3.5

✓ 3.6

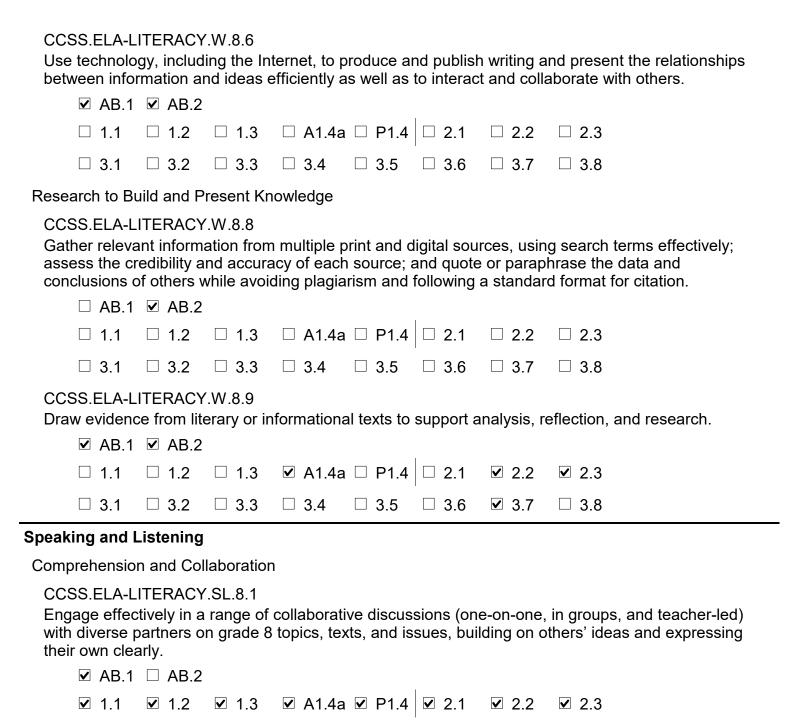
✓ 3.7

✓ 3.8

✓ 3.3

✓ 3.1

✓ 3.2



✓ 3.6

✓ 3.7

✓ 3.8

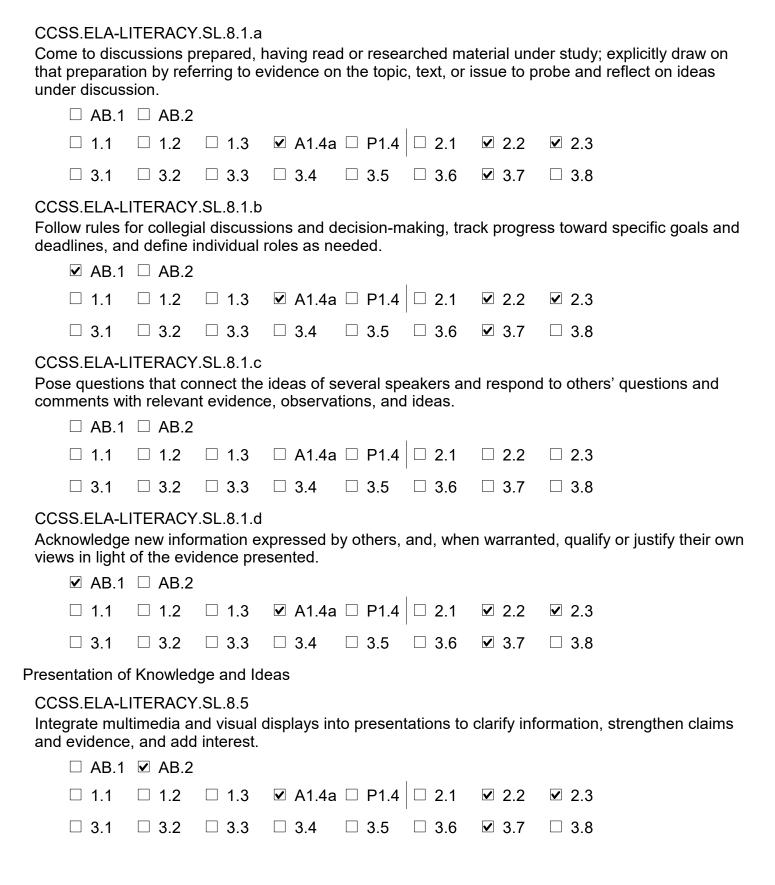
✓ 3.1

✓ 3.2

✓ 3.3

✓ 3.4

✓ 3.5



CCSS.ELA-LITERACY.SL.8.6 Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.										
		✓ AB.2				ı				
	□ 1.1	□ 1.2	□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3		
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	□ 3.8		
angu	age									
Conve	entions of	Standard	l English							
Den	nonstrate aking.	ITERACY command ✓ AB.2		nventions	of standa	ard Englisl	n gramma	r and usage when writing or		
			□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3		
	□ 3.1					□ 3.6				
Den	nonstrate ling when AB.1	writing. AB.2	d of the co				-	ation, punctuation, and		
	□ 1.1	□ 1.2	□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3		
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	□ 3.8		
	ll correctly	ITERACY y. ☑ AB.2	.L.8.2.c							
	□ 1.1	□ 1.2	□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3		
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	□ 3.8		
Know	ledge of L	₋anguage								
		ITERACY ge of lang		its conven	itions whe	en writing,	speaking	, reading, or listening.		
	✓ AB.1					I				
	□ 1.1	□ 1.2	□ 1.3	☐ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3		
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	□ 3.8		

Vocabulary Acquisition and Use

CCSS.ELA-LITERACY.L.8.5.b

Use the relationship between particular words to better understand each of the words.

$$\square$$
 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 \square 3.7 \square 3.8

CCSS.ELA-LITERACY.L.8.6

Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

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Common Core State Standards for Mathematics 6th Grade

□ 3.4

□ 3.3

□ 3.1

□ 3.2

Statistics And Probability Summarize And Describe Distributions. CCSS.MATH.CONTENT.6.SP.B.5.b Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. AB.1 AB.2 1.1 AB.2 1.1 AB.2 2.2 2.3

 \square 3.5

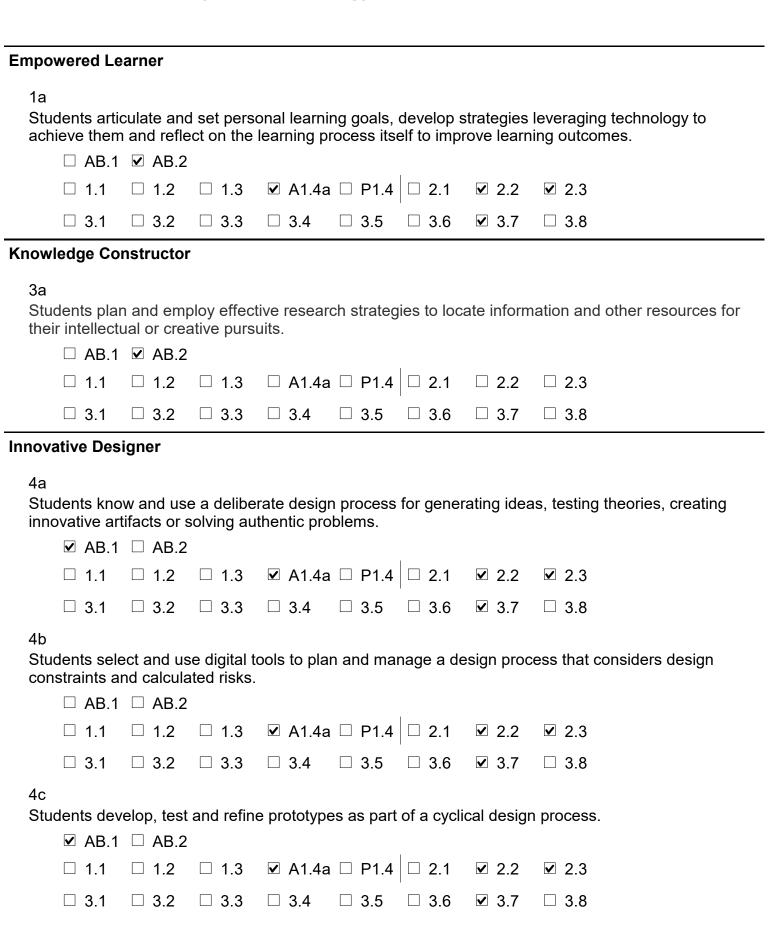
✓ 3.6

✓ 3.7

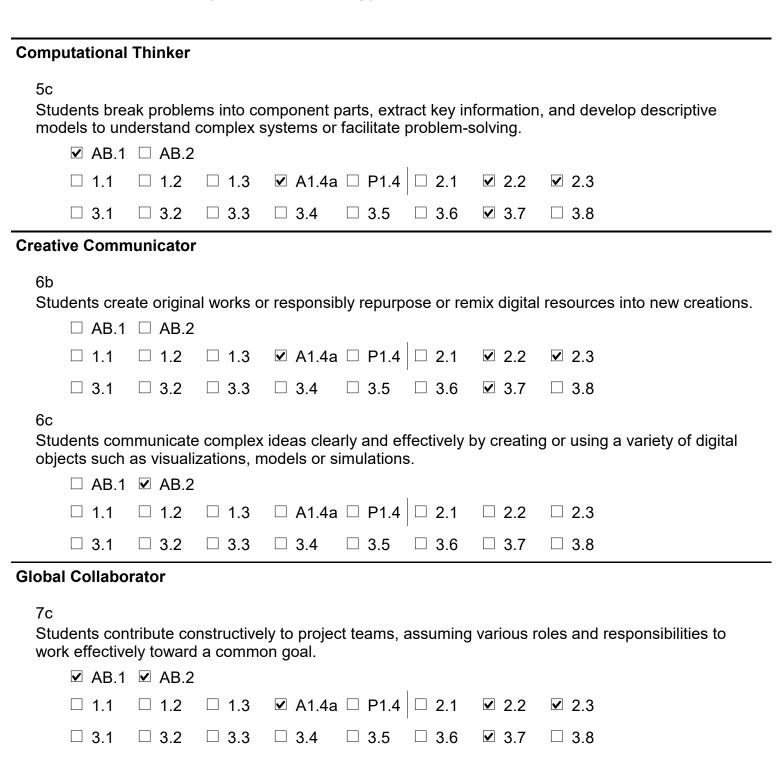
□ 3.8

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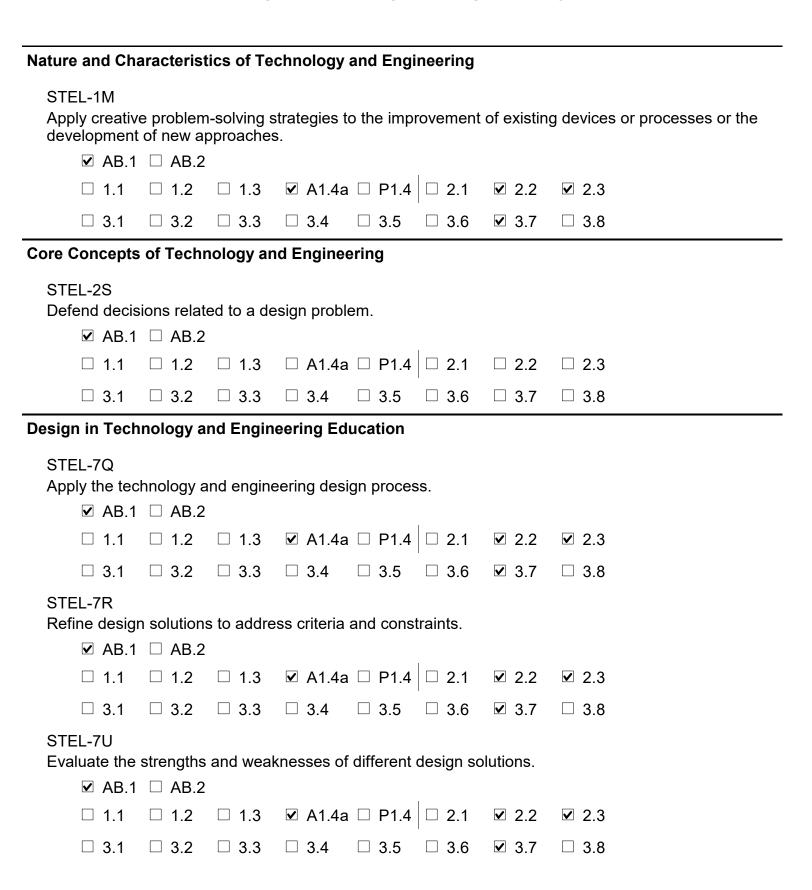
International Society for Technology in Education



International Society for Technology in Education



Standards for Technological and Engineering Literacy



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STEL-7V

Improve essential skills necessary to successfully design.

✓ AB.1 □ AB.2

□ 1.1 □ 1.2 □ 1.3 ☑ A1.4a □ P1.4 □ 2.1 ☑ 2.2 ☑ 2.3

 \square 3.1 \square 3.2 \square 3.3 \square 3.4 \square 3.5 \square 3.6 \checkmark 3.7 \square 3.8

Earth and Hu	man Activ	ity									
NGSS.MS-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.											
□ AB.	.1 □ AB.2	2									
□ 1.1	□ 1.2	☑ 1.3	□ A1.4a	a □ P1.4	☑ 2.1	✓ 2.2	✓ 2.3				
☑ 3.1	✓ 3.2	✓ 3.3	☑ 3.4	□ 3.5	□ 3.6	□ 3.7	□ 3.8				
NGSS.MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per capita consumption of natural resources impact Earth's systems. □ AB.1 □ AB.2											
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	a □ P1.4	☑ 2.1	□ 2.2	✓ 2.3				
□ 3.1	□ 3.2	□ 3.3		□ 3.5			□ 3.8				
the past ce	ns to clarif	-	e of the fac	ctors that	have cau	sed the ris	se in global te	mperatures over			
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	a □ P1.4	☑ 2.1	□ 2.2	□ 2.3				
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	✓ 3.7	□ 3.8				
Engineering	Design										
NGSS.MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.											
✓ AB.	.1 □ AB.2										
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	a □ P1.4	□ 2.1	□ 2.2	□ 2.3				
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	□ 3.8				
Evaluate co criteria and	NGSS.MS-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. ✓ AB.1 □ AB.2										
	□ 1.2		✓ A1.4a	n □ P1.4	□ 2.1	✓ 2.2	✓ 2.3				
□ 3.1			□ 3.4		,						

□ 1.2

□ 3.2

□ 3.3

□ 3.4

□ 1.1

□ 3.1

NGSS.MS-E	TS1-3							
	est charac						several design v solution to bett	
✓ AB.1	□ AB.2							
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3	
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	☑ 3.6	☑ 3.7	□ 3.8	
process such	odel to ge that an o	ptimal des				dification o	of a proposed ob	oject, tool, or
	□ AB.2				ı			
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3	
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	☑ 3.6	☑ 3.7	□ 3.8	
atter and Its I	nteractio	ns						
resources an	nake sens d impact s emical pro	society. [Cocess to for	clarification orm the sy	Stateme	nt: Empha	asis is on 1	als come from n natural resource new materials o	s that
	□ AB.2							
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3	
□ 3.1	✓ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	□ 3.8	
pure substan	odel that p	hermal en				cle motion	, temperature, a	nd state of a

□ 1.3 □ A1.4a □ P1.4 □ 2.1 □ 2.2

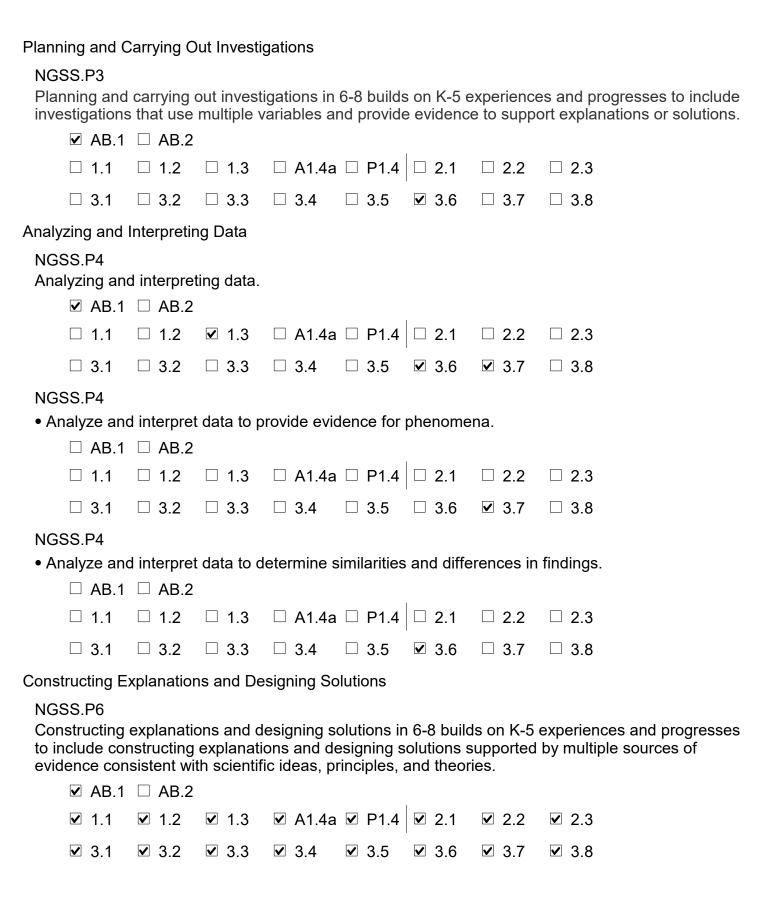
□ 3.5

☑ 3.6 **☑** 3.7

□ 2.3

✓ 3.8

Energy									
NGSS.MS-P	S3-3								
Apply scienti			ign, constr	uct, and t	est a devi	ce that ei	ther minimiz	es or maximizes	
□ AB.1	□ AB.2								
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3		
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	☑ 3.7	□ 3.8		
NGSS.MS-P	S3-4								
Plan an inves the mass, an temperature	d the cha	nge in the						the type of matter ed by the	
□ AB.1	□ AB.2								
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	ı □ P1.4	□ 2.1	□ 2.2	□ 2.3		
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	☑ 3.7	□ 3.8		
Science and E	ngineerin	g Practic	es						
Asking Questic	ons and D	efining Pr	oblems						
NGSS.P1									
Asking quest specifying re								resses to	
✓ AB.1	□ AB.2								
□ 1.1	□ 1.2	□ 1.3	□ A1.4a	□ P1.4	□ 2.1	□ 2.2	□ 2.3		
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	□ 3.8		
Developing an	d Using M	lodels							
NGSS.P2 Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.									
✓ AB.1	□ AB.2								
□ 1.1	□ 1.2	□ 1.3	✓ A1.4a	□ P1.4	□ 2.1	✓ 2.2	✓ 2.3		
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	✓ 3.7	□ 3.8		



NGSS.P6

• Apply scientific reasoning to show why the data or evidence is adequate for the explanation or conclusion.

□ AB.1 □ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square A1.4a \square P1.4 \square 2.1 \square 2.2 \square 2.3

□ 3.1 □ 3.2 □ 3.3 □ 3.4 □ 3.5 ☑ 3.6 ☑ 3.7 □ 3.8

Obtaining, Evaluating, and Communicating Information

NGSS.P8

Obtaining, evaluating, and communicating information in 6-8 builds on K-5 experiences and progresses to evaluating the merit and validity of ideas and methods.

✓ AB.1 □ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ A1.4a ☑ P1.4 ☑ 2.1 ☑ 2.2 ☑ 2.3

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4 **☑** 3.5 **☑** 3.6 **☑** 3.7 **☑** 3.8

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