PLTW Gateway Standards Connection Science of Technology

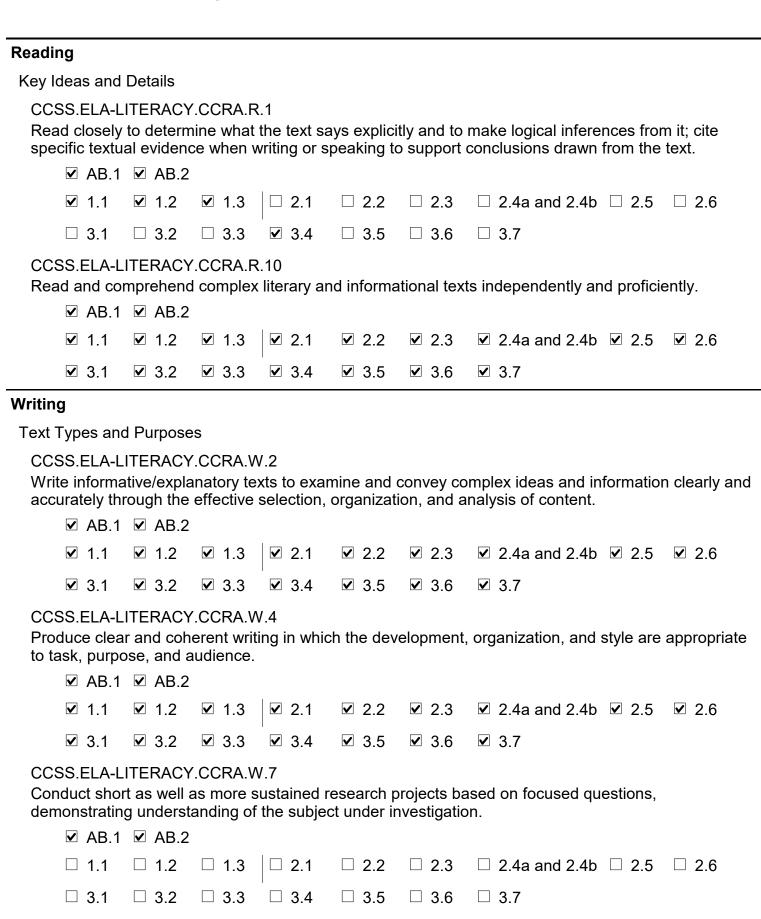


Connections to Standards in PLTW Gateway

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 Science of Technology connects to standards in the following:

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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 □ 1.3 □ 1.1 □ 1.2 \square 2.1 □ 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 \square 3.2 \square 3.4 \square 3.1 \square 3.3 \square 3.5 □ 3.6 \square 3.7 CCSS.ELA-LITERACY.CCRA.W.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. ✓ AB.1 ✓ AB.2 □ 1.1 □ 1.2 □ 1.3 \square 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 □ 3.1 □ 3.2 □ 3.3 □ 3.4 \square 3.5 □ 3.6 \square 3.7 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 **✓** 1.1 **✓** 1.2 **✓** 1.3 **✓** 2.1 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 **✓** 2.6 **✓** 3.1 **✓** 3.2 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 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 **✓** 2.1 **✓** 2.2 **✓** 1.1 **✓** 1.2 **✓** 1.3 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 **✓** 2.6 **✓** 3.1 **✓** 3.2 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 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 **✓** 2.1 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6 **✓** 3.1 **✓** 3.2 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7

CCSS.ELA-L Make strategi understandin	ic use of c	ligital med		ual displa	ys of data	to express information and enhance)
□ AB.1	□ AB.2						
□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6	
□ 3.1	□ 3.2	□ 3.3	□ 3.4	☑ 3.5	□ 3.6	☑ 3.7	
CCSS.ELA-L Adapt speech English when	n to a varie	ety of con	texts and	communic	ative task	ss, demonstrating command of forma	ıl
□ AB.1	□ AB.2						
✓ 1.1	✓ 1.2	✓ 1.3	☑ 2.1	✓ 2.2	✓ 2.3	☑ 2.4a and 2.4b ☑ 2.5 ☑ 2.6	
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4	☑ 3.5	✓ 3.6	☑ 3.7	
Language							
Conventions of	Standard	l English					
CCSS.ELA-L Demonstrate speaking.				of standa	ard Englisl	h grammar and usage when writing o	٦c
✓ AB.1	✓ AB.2						
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6	
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
CCSS.ELA-L Demonstrate spelling when	command			of standa	ard Englisl	h capitalization, punctuation, and	
✓ AB.1	✓ AB.2						
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6	
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
	clarify the	e meaning g meaning	of unknov		•	aning words and phrases by using g general and specialized reference	
✓ AB.1	✓ AB.2						
✓ 1.1	☑ 1.2	☑ 1.3	☑ 2.1	✓ 2.2	✓ 2.3	✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6	
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4	✓ 3.5	✓ 3.6	☑ 3.7	

CCSS.ELA-LITERACY.CCRA.L.5

Demonstrate understanding of word relationships and nuances in word meanings.

□ AB.1 □ AB.2

✓ 1.1
 ✓ 1.3
 ✓ 2.1
 ✓ 2.2
 ✓ 2.3
 ✓ 2.4a and 2.4b
 ✓ 2.5
 ✓ 2.6

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

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.

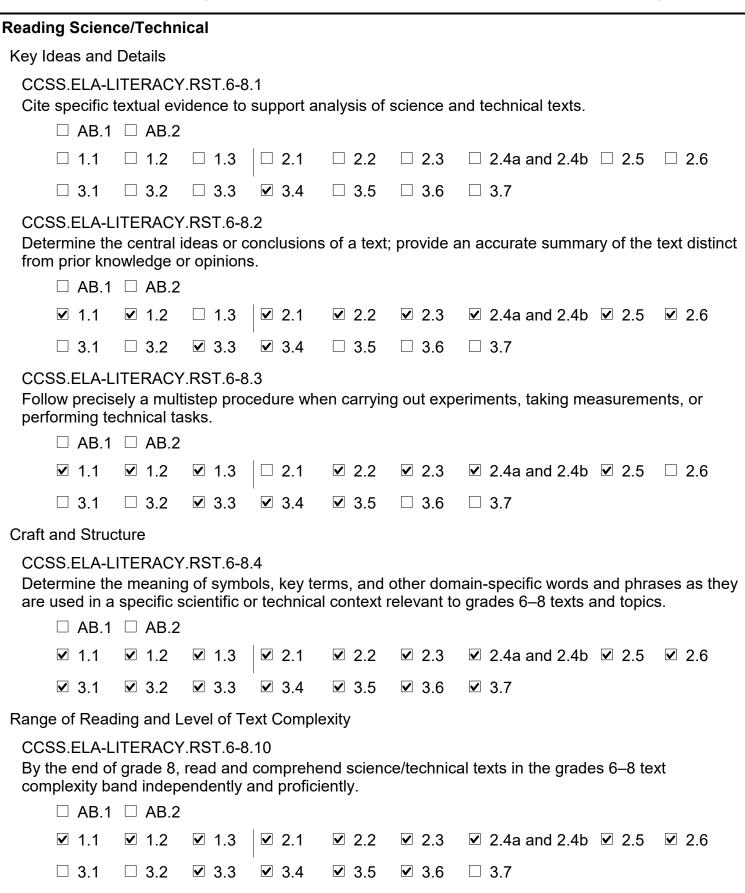
□ AB.1 □ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4a and 2.4b ☑ 2.5 ☑ 2.6

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

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



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

Writing in His	story/socia	I Studies	, Science	, and Tec	hnical Su	bjects		
Text Types a	nd Purpose	es						
CCSS.ELA Write inform procedures	native/expl	anatory te	xts, includ	-	rration of	historical events, s	scientific	
\Box AB.	1 □ AB.2							
□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b	□ 2.5	□ 2.6
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7		
•	_	and doma		c vocabula	ary to info	rm about or explair	n the topic	D.
✓ 1.1	✓ 1.2	✓ 1.3	✓ 2.1	✓ 2.2	✓ 2.3	✓ 2.4a and 2.4b	✓ 2.5	✓ 2.6
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4	✓ 3.5	✓ 3.6	☑ 3.7		
Production a	nd Distribut	tion of Wr	iting					
to task, pur	ear and col	nerent writ audience.	ting in which	ch the dev	elopment	, organization, and	style are	appropriat
✓ AD.✓ 1.1		· ☑ 1.3	☑ 2.1	✓ 2.2	✓ 2.3	✓ 2.4a and 2.4b	V 25	✓ 2.6
					_		2.5	₾ 2.0
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4	✓ 3.5	✓ 3.6	☑ 3.7		
Research to	Build and F	Present Kr	nowledge					
on several s avenues of	ort researd sources an exploration	h projects d generat า.	to answe			ng a self-generate I questions that all		
□ AB.	1 ☑ AB.2		Í					
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b	□ 2.5	□ 2.6

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

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

CCSS.ELA-LITERACY.WHST.6-8.8

Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

 □ AB.1 ✓ AB.2

 □ 1.1 □ 1.2 □ 1.3 | □ 2.1 □ 2.2 □ 2.3 □ 2.4a and 2.4b □ 2.5 □ 2.6

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

 CCSS.ELA-LITERACY.WHST.6-8.9

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

□ AB.1 ✓ AB.2
 ☑ 1.1 ✓ 1.2 ✓ 1.3 ✓ 2.1 ✓ 2.2 ✓ 2.3 ✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6
 □ 3.1 □ 3.2 ✓ 3.3 ✓ 3.4 □ 3.5 ✓ 3.6 □ 3.7

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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 □ 1.1 □ 1.2 □ 1.3 □ 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 3.1 □ 3.2 □ 3.3 □ 3.4 □ 3.5 □ 3.6 \square 3.7 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 □ 1.1 □ 1.2 □ 1.3 \square 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 \square 3.1 \square 3.2 \square 3.3 □ 3.4 \square 3.5 □ 3.6 \square 3.7 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 ✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6 **✓** 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 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 **✓** 1.1 **✓** 1.2 **✓** 1.3 **✓** 2.1 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 **✓** 2.6 **✓** 3.5

✓ 3.6

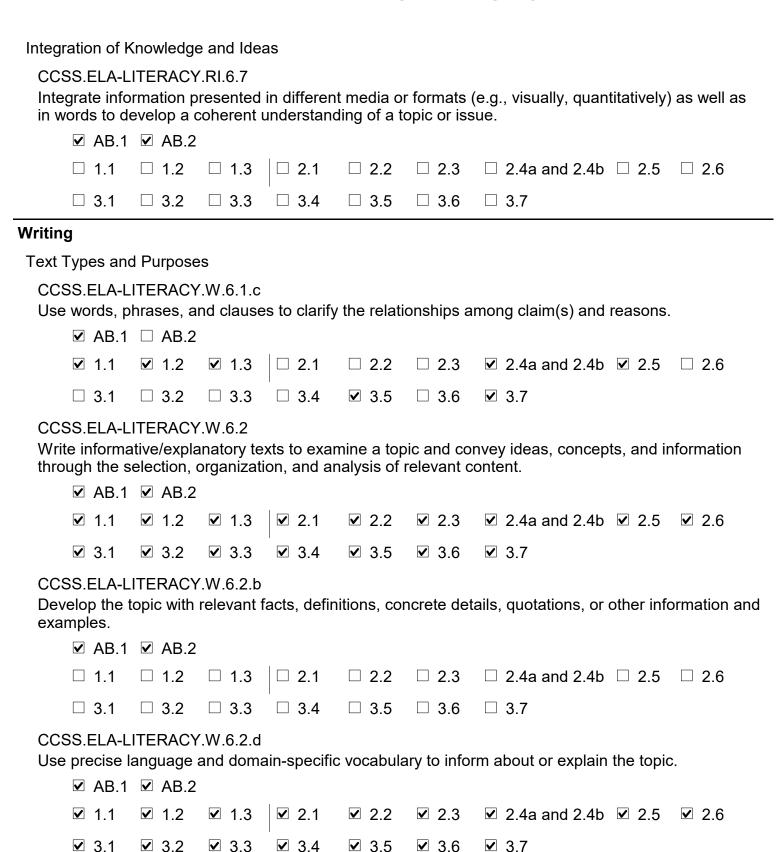
✓ 3.7

✓ 3.1

✓ 3.2

✓ 3.3

✓ 3.4



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 \square 2.1 □ 2.2 □ 2.3 ✓ 2.4a and 2.4b ✓ 2.5 □ 2.6 \square 3.4 \square 3.1 \square 3.2 \square 3.3 **✓** 3.5 \square 3.6 **✓** 3.7 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 **✓** 2.1 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6 **✓** 3.3 **✓** 3.1 **✓** 3.2 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 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 □ 1.3 □ 2.2 □ 1.1 □ 1.2 \square 2.1 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 3.1 □ 3.2 □ 3.3 □ 3.4 ☐ 3.5 □ 3.6 □ 3.7 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 **✓** 2.1 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 **✓** 2.6

□ 3.1

□ 3.2

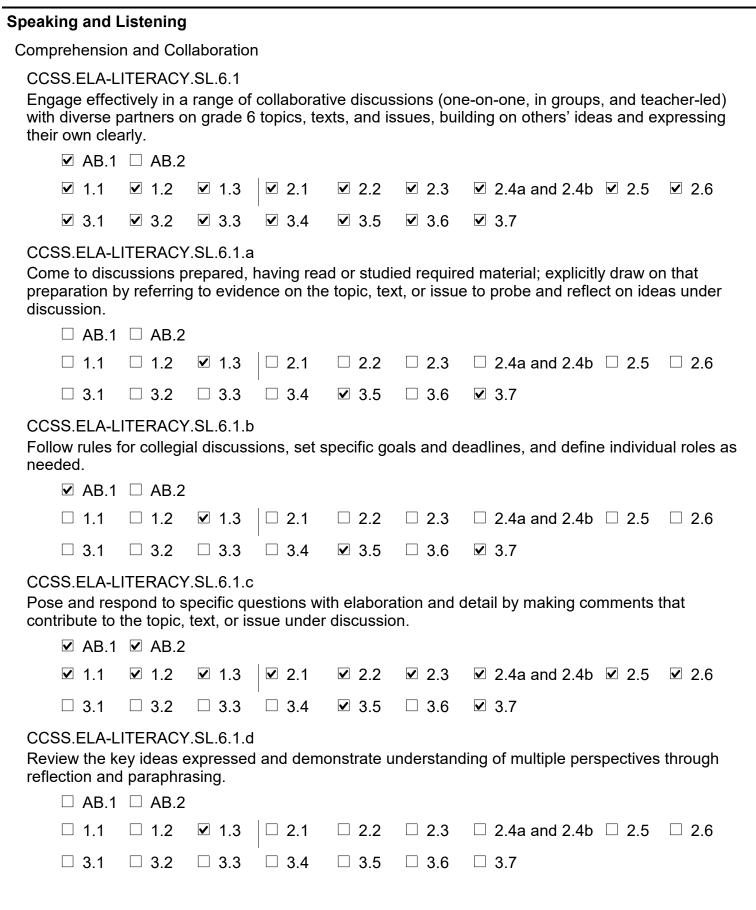
✓ 3.3

✓ 3.4

□ 3.5

□ 3.6

□ 3.7



CCSS.ELA-LITERACY.SL.6.2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study. ✓ AB.1 ✓ AB.2 **✓** 1.1 **✓** 1.2 **✓** 1.3 **✓** 2.1 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 **✓** 3.1 **✓** 3.2 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 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 \square 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 3.1 □ 3.2 \square 3.3 □ 3.4 ☐ 3.5 □ 3.6 □ 3.7 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 **☑** AB.2 □ 1.2 □ 1.1 **✓** 1.3 \square 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 3.3 □ 3.1 □ 3.2 □ 3.4 □ 3.5 □ 3.6 **✓** 3.7 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 ✓ AB.2 □ 1.1 □ 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 1.2 **✓** 1.3 \square 2.1 \square 2.2 \square 3.1 \square 3.2 \square 3.3 \square 3.4 **✓** 3.5 \square 3.6 **✓** 3.7 Language Conventions of Standard English CCSS.ELA-LITERACY.L.6.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. ✓ AB.1 ✓ AB.2 □ 1.1 □ 1.2 □ 1.3 □ 2.1 □ 2.2 □ 2.3 \square 2.4a and 2.4b \square 2.5 □ 2.6

□ 3.1

□ 3.2

□ 3.3

□ 3.4

□ 3.5

□ 3.6

□ 3.7

CCSS.ELA-LITERACY.L.6.2

Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

✓ AB.1 ✓ AB.2

$$\square$$
 1.1 \square 1.2 \square 1.3 \square 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6

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

Knowledge of Language

CCSS.ELA-LITERACY.L.6.3

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

✓ AB.1 ✓ AB.2

$$\square$$
 1.1 \square 1.2 \square 1.3 \square 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6

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

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.

✓ AB.1 ✓ AB.2

☑ 1.1	☑ 1.2	⊻ 1.3	☑ 2.1	✓ 2.2	✓ 2.3	✓ 2.4a and 2.4b	✓ 2.5	✓ 2.6
			I					

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

CCSS.ELA-LITERACY.L.6.6

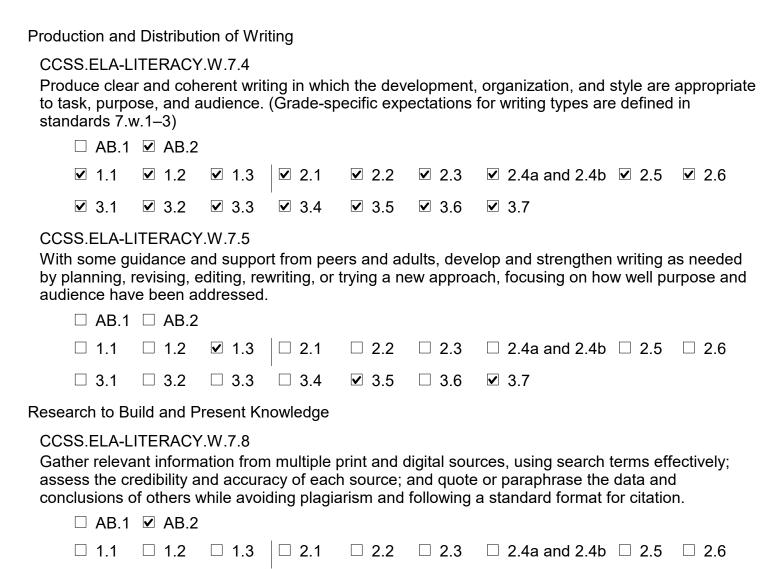
Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

✓ AB.1 ✓ AB.2

✓ 1.1
 ✓ 1.2
 ✓ 1.3
 ✓ 2.1
 ✓ 2.2
 ✓ 2.3
 ✓ 2.4a and 2.4b
 ✓ 2.5
 ✓ 2.6
 ✓ 3.1
 ✓ 3.2
 ✓ 3.3
 ✓ 3.4
 ✓ 3.5
 ✓ 3.6
 ✓ 3.7

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Writing Text Types and Purposes CCSS.ELA-LITERACY.W.7.1 Write arguments to support claims with clear reasons and relevant evidence. ✓ AB.1 ☐ AB.2 □ 1.1 □ 1.2 □ 1.3 □ 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 3.1 □ 3.2 □ 3.3 □ 3.4 □ 3.5 □ 3.6 □ 3.7 CCSS.ELA-LITERACY.W.7.1.b Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. ✓ AB.1 □ AB.2 □ 1.1 □ 1.2 □ 1.3 □ 2.1 \square 2.2 □ 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 3.1 □ 3.2 □ 3.3 □ 3.4 □ 3.5 □ 3.6 □ 3.7 CCSS.ELA-LITERACY.W.7.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. □ AB.1 ✓ AB.2 □ 1.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 1.1 □ 1.2 \square 2.1 \square 2.2 \square 2.3 □ 3.4 \square 3.1 □ 3.2 \square 3.3 \square 3.5 □ 3.6 \square 3.7 CCSS.ELA-LITERACY.W.7.2.d Use precise language and domain-specific vocabulary to inform about or explain the topic. ✓ AB.1 ✓ AB.2 **✓** 1.3 **✓** 1.1 **✓** 1.2 **✓** 2.1 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 **✓** 2.6 **✓** 3.1 **✓** 3.2 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 CCSS.ELA-LITERACY.W.7.3.d Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. □ AB.1 □ AB.2 **✓** 1.2 **✓** 1.1 **✓** 1.3 \square 2.1 \square 2.2 \square 2.3 ✓ 2.4a and 2.4b ✓ 2.5 □ 2.6 **✓** 3.1 **✓** 3.2 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7



Speaking and Listening

□ 3.1

Comprehension and Collaboration

□ 3.2

 \square 3.3

□ 3.4

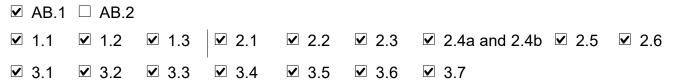
CCSS.ELA-LITERACY.SL.7.1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.

□ 3.5

□ 3.6

□ 3.7



CCSS.ELA-LITERACY.SL.7.1.a

that pr		on b	oy refe							terial under study; explicitly draw on ssue to probe and reflect on ideas
	AB.1		AB.2							
	1.1		1.2	✓	1.3	□ 2.1		2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
	3.1		3.2		3.3	□ 3.4	✓	3.5	□ 3.6	☑ 3.7
Follow individ	ual role	or c	ollegia s need	al di	scussi	ions, track	pro	gress	toward sp	pecific goals and deadlines, and define
	AB.1				i	l —			_	
	1.1		1.2	✓	1.3	□ 2.1		2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 □ 2.6
	3.1		3.2		3.3	□ 3.4	✓	3.5	□ 3.6	☑ 3.7
Pose o		ns tl and	hat elid I ideas	cit e	elabora					uestions and comments with relevant as needed.
					1 2	l □ 2.4		2.2		□ 2.4c and 2.4b □ 2.5 □ 2.6
	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
Ackno	_	ne				rpressed b	y ot	hers a	and, when	warranted, modify their own views.
	1.1		1.2	~	1.3	☑ 2.1		2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 ☑ 2.6
						✓ 2.1 ✓ 3.4				
	3.1		3.2		3.3	⊻ 3.4	V	3.5	□ 3.6	☑ 3.7
Analyz quantit	atively,	nain ora	ideas ally) ar	an	d supp					verse media and formats (e.g., visually text, or issue under study.
	AB.1		AB.2		4.0			0.0		
	1.1		1.2		1.3	□ 2.1		2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
	3.1		3.2		3.3	□ 3.4		3.5	□ 3.6	□ 3.7

Presentation of Knowledge and Ideas

CCSS.ELA-	LITERAC	7.SL.7.4								
Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.										
□ AB.1	✓ AB.2									
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6				
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7				
CCSS.ELA- Include mult emphasize s	imedia co	mponents	and visua	al displays	in presen	itations to clarify claims and findings	and			
☐ AB.1	✓ AB.2		I							
□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6				
□ 3.1	□ 3.2	□ 3.3	□ 3.4	☑ 3.5	□ 3.6	☑ 3.7				
CCSS.ELA- Adapt speed indicated or	h to a var	iety of con	itexts and	tasks, dei	monstratir	ng command of formal English when				
☐ AB.1	✓ AB.2									
☑ 1.1	✓ 1.2	✓ 1.3	☑ 2.1	✓ 2.2	✓ 2.3	✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6				
☑ 3.1	✓ 3.2	☑ 3.3	✓ 3.4	✓ 3.5	✓ 3.6	☑ 3.7				
anguage										
Conventions of	of Standar	d English								
CCSS.ELA- Demonstrate speaking.			onvention	s of standa	ard Englis	sh grammar and usage when writing o	or			
✓ AB.1	✓ AB.2									
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6				
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7				
spelling whe	e comman n writing.	d of the co	onvention	s of standa	ard Englis	sh capitalization, punctuation, and				
✓ AB.1		_								
□ 1.1	□ 1.2	□ 1.3		□ 2.2		\square 2.4a and 2.4b \square 2.5 \square 2.6				
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7				

CCSS.I			RACY	.L.7	7.2.b											
✓	AB.1	~	AB.2													
	1.1		1.2		1.3		2.1		2.2		2.3	☐ 2.4a and 2.	4b	□ 2.5		2.6
	3.1		3.2		3.3		3.4		3.5		3.6	□ 3.7				
Knowled	ge of L	.ang	guage													
CCSS.I Use kn						its	conven	ntior	ns whe	n w	riting,	speaking, read	ing,	or listen	ing.	
\checkmark	AB.1	~	AB.2			i										
	1.1		1.2		1.3		2.1		2.2		2.3	☐ 2.4a and 2.	4b	□ 2.5		2.6
	3.1		3.2		3.3		3.4		3.5		3.6	□ 3.7				
CCSS.I Choose wordine	e langu	ıage	e that	ехр	resse	s ide	eas pre	cise	ely and	d co	ncisel	y, recognizing a	ınd	eliminati	ng	
\checkmark	AB.1	~	AB.2													
	1.1		1.2	✓	1.3		2.1		2.2		2.3	☐ 2.4a and 2.	4b	□ 2.5		2.6
	3.1		3.2		3.3		3.4	✓	3.5		3.6	☑ 3.7				
Vocabula	ary Acc	quis	ition a	nd	Use											
	ine or	claı	rify the	e me	eaning							aning words an strategies.	d ph	nrases b	ased	on
\checkmark	AB.1					1										
✓	1.1	~	1.2	✓	1.3	✓	2.1	✓	2.2	✓	2.3	✓ 2.4a and 2.	4b	✓ 2.5	✓	2.6
\checkmark	3.1	✓	3.2	✓	3.3	✓	3.4	✓	3.5	✓	3.6	✓ 3.7				
	t gene id digit	ral a	and sp	eci	alized							ionaries, glossa ne or clarify its				
✓	AB.1	✓	AB.2													
	1.1		1.2		1.3		2.1		2.2		2.3	☐ 2.4a and 2.	4b	□ 2.5		2.6
	3.1		3.2		3.3		3.4		3.5		3.6	□ 3.7				

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
 ✓ 2.1
 ✓ 2.2
 ✓ 2.3
 ✓ 2.4a and 2.4b
 ✓ 2.5
 ✓ 2.6
 ✓ 3.1
 ✓ 3.2
 ✓ 3.3
 ✓ 3.4
 ✓ 3.5
 ✓ 3.6
 ✓ 3.7

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Reading Inform	national					
Key Ideas and	Details					
its relationshi	central ide	ea of a tex orting idea				nt over the course of the text, including nary of the text.
			□ 21	□ 22	□ 23	□ 2.4a and 2.4b □ 2.5 □ 2.6
□ 3.1	□ 3.2		1	□ 3.5		
(e.g., through	a text ma	kes conne				s between individuals, ideas, or events
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
□ 3.1			□ 3.4			
Craft and Struc	ture					
	e meaning and techn	g of words ical mean	ings; anal	yze the im		ed in a text, including figurative, pecific word choices on meaning and
✓ AB.1	✓ AB.2					
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7
Integration of k	(nowledge	e and Idea	as			
video, multim	advantag	es and dis resent a p				mediums (e.g., print or digital text,
□ 1.1			□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 □ 2.6
□ 3.1			□ 3.4			

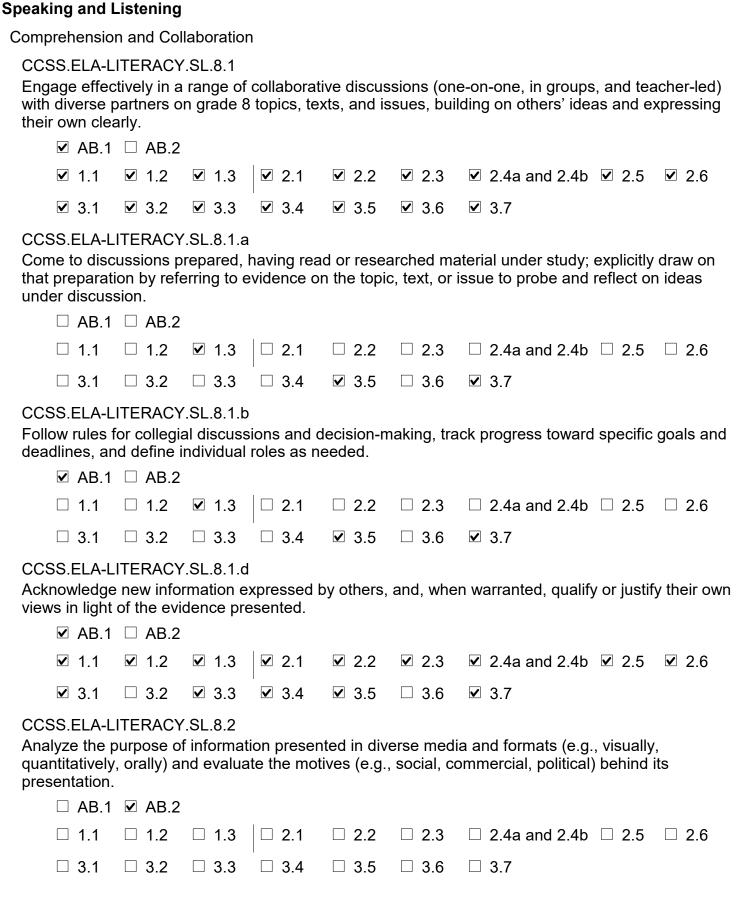
Writing Text Types and Purposes CCSS.ELA-LITERACY.W.8.2 Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. ✓ AB.1 ✓ AB.2 □ 1.3 \square 2.3 □ 1.1 □ 1.2 \square 2.1 \square 2.2 \square 2.4a and 2.4b \square 2.5 \square 2.6 □ 3.1 □ 3.2 □ 3.3 □ 3.4 □ 3.5 □ 3.6 □ 3.7 CCSS.ELA-LITERACY.W.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 2.4a and 2.4b \square 2.5 \square 2.6 □ 1.1 □ 1.2 □ 1.3 □ 2.1 \square 2.2 □ 2.3 □ 3.1 □ 3.2 \square 3 3 □ 3.4 \square 3.5 □ 3.6 □ 3.7 CCSS.ELA-LITERACY.W.8.2.d Use precise language and domain-specific vocabulary to inform about or explain the topic. ✓ AB.1 ✓ AB.2 **✓** 1.1 **✓** 1.2 **✓** 1.3 **✓** 2.1 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 **✓** 2.6 **✓** 3.1 **✓** 3.2 **✓** 3.3 **✓** 3.4 **✓** 3.5 **✓** 3.6 **✓** 3.7 CCSS.ELA-LITERACY.W.8.3.d Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. □ AB.1 □ AB.2 □ 2.1 **✓** 1.1 **✓** 1.2 **✓** 1.3 \square 2.2 \square 2.3 ✓ 2.4a and 2.4b ✓ 2.5 □ 2.6 □ 3.1 □ 3.2 □ 3.3 □ 3.4 **✓** 3.5 □ 3.6 **✓** 3.7 Production and Distribution of Writing CCSS.ELA-LITERACY.W.8.4 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

✓ AB.1 ✓ AB.2
 ✓ 1.1 ✓ 1.2 ✓ 1.3 ✓ 2.1 ✓ 2.2 ✓ 2.3 ✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6
 ✓ 3.1 ✓ 3.2 ✓ 3.3 ✓ 3.4 ✓ 3.5 ✓ 3.6 ✓ 3.7

standards 1–3.)

CCSS.ELA-LITERACY.W.8.6

Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others. ✓ AB.1 ✓ AB.2 □ 1.1 □ 1.2 □ 1.3 \square 2.1 □ 2.2 □ 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 \square 3.1 \square 3.2 \square 3.3 □ 3.4 \square 3.5 □ 3.6 □ 3.7 Research to Build and Present Knowledge CCSS.ELA-LITERACY.W.8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. □ AB.1 ✓ AB.2 □ 1.1 □ 1.2 □ 1.3 □ 2.1 \square 2.2 \square 2.3 \square 2.4a and 2.4b \square 2.5 \square 2.6 \square 3.1 □ 3.2 \square 3.3 □ 3.4 □ 3.5 □ 3.6 □ 3.7 CCSS.ELA-LITERACY.W.8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. □ AB.1 ✓ AB.2 \square 2.4a and 2.4b \square 2.5 \square 2.6 \square 1.1 □ 1.2 □ 1.3 \square 2.1 \square 2.2 \square 2.3 □ 3.4 \square 3.1 \square 3.2 \square 3.3 \square 3.5 \square 3.6 \square 3.7 CCSS.ELA-LITERACY.W.8.9 Draw evidence from literary or informational texts to support analysis, reflection, and research. ✓ AB.1 ✓ AB.2 **✓** 1.1 **✓** 1.2 **✓** 2.2 **✓** 2.3 ✓ 2.4a and 2.4b ✓ 2.5 **✓** 2.6 **✓** 1.3 **✓** 2.1 \square 3.5 \square 3.1 \square 3.2 **✓** 3.3 **✓** 3.4 \square 3.6 \square 3.7



Presentation of Knowledge and Ideas

CCSS.ELA-LITERACY.SL.8.4

evid	enc	e, sou	ınd		reas	oning	, and well-			ocused, coherent manner with relevant appropriate eye contact, adequate
	✓	AB.1	✓	AB.2						
		1.1		1.2		1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
		3.1		3.2		3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7
Inte	grate evic	e mul dence	time , an	RACY edia ar id add AB.2	nd v	isual d	displays in	to present	tations to	clarify information, strengthen claims
		1.1		1.2	✓	1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
		3.1		3.2		3.3	□ 3.4	✓ 3.5	□ 3.6	☑ 3.7
Ada	pt s _l cate	peech d or a	to ppr	opriate	ety o		texts and	tasks, den	nonstratin	g command of formal English when
				AB.2			1			
		1.1		1.2		1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 □ 2.6
		3.1		3.2		3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7
angu	age									
Conve	entic	ons of	Sta	andard	l En	glish				
	nons	strate		RACY nmand			onventions	of standa	ırd Englisl	h grammar and usage when writing or
	✓ ,	AB.1	✓	AB.2						
		1.1		1.2		1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
		3.1		3.2		3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7
Den	nons		con				onventions	of standa	ırd Englisł	h capitalization, punctuation, and
				AB.2			1			
		1.1		1.2		1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6

CCSS.E Spell co		TERACY /.	′.L.8.2.c					
	AB.1	✓ AB.2						
	1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
	3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
Knowled	ge of L	.anguage						
Use kno	owledg	TERACY ge of lang AB.2	uage and	its conver	ntions whe	en writing,	speaking, reading, or lister	ning.
	1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
	3.1		□ 3.3	1	□ 3.5			
Vocabula	ry Acc	quisition a	and Use					
Determ 8 readir ✓	ine or ng and AB.1	content, ✓ AB.2	e meaning choosing	flexibly fro	om a rang	e of strate	aning words or phrases basegies. □ 2.4a and 2.4b □ 2.5	J
	3.1			□ 3.4				
Consult print an part of	t genei d digit speech	al, to find า.	pecialized				tionaries, glossaries, thesaune or clarify its precise mea	
		✓ AB.2						
	1.1	□ 1.2					□ 2.4a and 2.4b □ 2.5	□ 2.6
	3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
Use the		•	etween pa	ırticular wo	ords to bet	ter unders	stand each of the words.	
	1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
	3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	

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.

✓ AB.1 ✓ AB.2
 ✓ 1.1 ✓ 1.2 ✓ 1.3 | ✓ 2.1 ✓ 2.2 ✓ 2.3 ✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6
 ✓ 3.1 ✓ 3.2 ✓ 3.3 ✓ 3.4 ✓ 3.5 ✓ 3.6 ✓ 3.7

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Emp	owered Le	earner					
1a							
							strategies leveraging technology to rove learning outcomes.
	□ AB.1	✓ AB.2)				
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7
1c							
	udents use monstrate					rms and ii	mproves their practice and to
	✓ AB.1	✓ AB.2) •				
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7
Digita	al Citizen						
2b							
					nd ethical ed devices		when using technology, including social
	✓ AB.1	✓ AB.2)				
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7
2c							
Stu sha	udents der aring intell	nonstrate ectual pro	an under perty.	standing o	of and resp	pect for th	e rights and obligations of using and
	□ AB.1	✓ AB.2	<u>!</u>				
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7
Knov	/ledge Co	nstructo	r				
	ir intellect	ual or cre	ative purs		ırch strateç	gies to loc	ate information and other resources for
	☐ AB.1	✓ AB.2					
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7

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3	3b											
	tudents eva ther resourc		accuracy	, perspect	ive, credib	ility and r	elevance of information, media, data or					
	□ AB.1	✓ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
3	C											
				-		-	riety of tools and methods to create ons or conclusions.					
	□ AB.1 ☑ AB.2											
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
3												
	Students build knowledge by actively exploring real-world issues and problems, developing ideas and heories and pursuing answers and solutions.											
	✓ AB.1	□ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
Inno	vative Des	igner										
4:	а											
	tudents kno novative ar					for gene	rating ideas, testing theories, creating					
•••		☐ AB.2	•	опо р.								
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
4	C											
S	tudents dev	elop, test	and refin	e prototyp	es as part	t of a cycli	ical design process.					
	☑ AB.1	□ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 □ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					

	4d Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.											
	✓ AB.1	□ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
omp	utational	Thinker										
	5c Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. ☑ AB.1 □ AB.2											
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 □ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
reati	eative Communicator											
		ommunica	ition.	e platforms	s and tools ☐ 2.2 ☐ 3.5	s for mee ☐ 2.3 ☐ 3.6	ting the desired objectives of their □ 2.4a and 2.4b □ 2.5 □ 2.6 □ 3.7					
	ects such		zations, n	ideas cleanodels or s			by creating or using a variety of digital □ 2.4a and 2.4b □ 2.5 □ 2.6 □ 3.7					
	dents pub iences.	olish or pre	esent con	tent that c	ustomizes	the mess	sage and medium for their intended					
	✓ AB.1	✓ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					



7с

Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.



Standards for Technological and Engineering Literacy

ature and Characteristics of Technology and Engineering											
STEL-1J Develop innovative products and systems that solve problems and extend capabilities based on individual or collective needs and wants.											
✓ AB.	1 □ AB.2) -									
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
STEL-1M Apply creative problem-solving strategies to the improvement of existing devices or processes or the development of new approaches. ✓ AB.1 □ AB.2											
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 □ 2.6					
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
ore Concept	s of Tech	nology a	nd Engine	ering			_				
STEL-2Q Predict outc ✓ AB.		•	oduct or sy \Box 2.1	/stem at th □ 2.2	ne beginni	ng of the design process. ☐ 2.4a and 2.4b ☐ 2.5 ☐ 2.6					
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
STEL-2S Defend deci ✓ AB. ☐ 1.1 ☐ 3.1	isions relations		esign prob	□ 2.2 □ 3.5	□ 2.3 □ 3.6	□ 2.4a and 2.4b□ 2.5□ 2.6					
npacts of Te	chnology						_				
resources a		waste.	se of tech	nologies c	onsumes	renewable and non-renewable					
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
□ 3.1	✓ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					

Standards for Technological and Engineering Literacy

Ana	STEL-4N Analyze examples of technologies that have changed the way people think, interact, and communicate.												
	□ AB.1	□ AB.2											
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	✓ 2.4a and 2.4b ✓ 2.5	□ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7						
flue	fluence of Society on Technological Development												
Eva	STEL-5G Evaluate trade-offs based on various perspectives as part of a decision process that recognizes the need for careful compromises among competing factors.												
		□ AB.2					□ 2.45 and 2.4b □ 2.5						
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5	□ 2.6					
	□ 3.1 □ 3.2 □ 3.3 □ 3.4 □ 3.5 □ 3.6 □ 3.7												
esig	esign in Technology and Engineering Education												
	EL-7Q bly the tec	hnology a	ınd engine	eering desi	ign proces	SS.							
	-	□ AB.2	_	-									
	□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7						
	•	n solutions □ AB.2	s to addre	ss criteria	and cons	traints.							
	□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5	□ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7						
		ons to pro	blems by	identifying	ı and appl	ying huma	an factors in design.						
	□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6					
	□ 31	□ 32	□ 33	□ 34	□ 3.5	□ 36	□ 37						

Standards for Technological and Engineering Literacy

STE	L-7T							
Ass	ess desig	n quality	based up	on establi	shed princ	iples and	elements of design.	
	□ AB.1	□ AB.2						
	□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
STE	L-7U							
		strengths	and wea	aknesses c	of different	design so	olutions.	
	✓ AB.1	□ AB.2				-		
	□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
STE	L-7V							
lmp	rove esse	ential skills	s necess	ary to succ	cessfully d	esign.		
	✓ AB.1	□ AB.2						
	☑ 1.1	✓ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
	□ 3 1	□ 3 2	□ 33	['] □ 3 1	□ 35	□ 36	□ 3.7	

Earth and Hum	nan Activ	ity					
NGSS.MS-E Apply scienti environment	fic princip	les to des	ign a met	hod for mo	onitoring a	and minimizing a human impa	act on the
□ AB.1)					
□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
Engineering D	esign						
solution, taki natural envir	riteria and ng into ac	count rele at may lir	evant scie	ntific princ	iples and	ufficient precision to ensure a potential impacts on people	
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b ☐ 2.5	□ 2.6
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
NGSS.MS-E Evaluate con criteria and c	npeting de	•		g a systen	natic proc	ess to determine how well th	ey meet the
	□ AB.2		T				
□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b ☐ 2.5	□ 2.6
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
	a from test est chara					ces among several design so I into a new solution to bette	
✓ AB.1	□ AB.2						
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
□ 3.1	□ 3.2	□ 3.3	□ 3.4	✓ 3.5	□ 3.6	☑ 3.7	
process such	odel to ge	optimal de			-	odification of a proposed obje	ect, tool, or
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b ☐ 2.5	□ 2.6
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	

Matter and Its Interactions													
Analyze and ir determine if a include burning chloride.]	NGSS.MS-PS1-2 Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred. [Clarification Statement: Examples of reactions could include burning sugar or steel wool, fat reacting with sodium hydroxide, and mixing zinc with hydrogen chloride.] □ AB.1 □ AB.2												
	✓ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6							
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7							
NGSS.MS-PS1-3 Gather and make sense of information to describe that synthetic materials come from natural resources and impact society. [Clarification Statement: Emphasis is on natural resources that undergo a chemical process to form the synthetic material. Examples of new materials could include new medicine, foods, and alternative fuels.] □ AB.1 □ AB.2													
□ 1.1	✓ 1.2	□ 1.3	☑ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b ☑ 2.5 ☑ 2.6							
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7							
thermal energy controlling the as type and co such as dissol	esign pro y by chen transfer oncentrati	nical proc of energy on of a su	esses. [Clant to the envolubstance.	arification rironment, Examples	Statemer and mod of design	vice that either releases or absorbs nt: Emphasis is on the design, ification of a device using factors such ns could involve chemical reactions							
☑ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6							
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7							
Motion and Stab	oility: For	ces and	Interactio	ns									
NGSS.MS-PS2-2 Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object. $\hfill AB.1 \hfill AB.2$													
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6							
□ 3.1	□ 3.2	□ 3.3	☑ 3.4	☑ 3.5	□ 3.6	☑ 3.7							

NGSS.MS-PS2-4 Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.												
	3.1 □ AB.2	2										
□ 1.	1 🗆 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6					
□ 3.	1 🗆 3.2	□ 3.3	Į.	□ 3.5								
_												
	3.1 □ AB.2	2										
□ 1.	1 🗆 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6					
□ 3.	1 🗆 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	☑ 3.7						
nergy												
Develop a different a	NGSS.MS-PS3-2 Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system. $\square \ AB.1 \ \square \ AB.2$											
□ 1.	1 🗆 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6					
□ 3.	1 🗆 3.2	□ 3.3	☑ 3.4	☑ 3.5	□ 3.6	☑ 3.7						
cience and	l Engineerir	ng Practio	es									
Asking Que	stions and D	Defining P	roblems									
specifying	NGSS.P1 Asking questions and defining problems in 6-8 builds on K-5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models. ✓ AB.1 □ AB.2											
□ 1.	1 🗆 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b ☑ 2.5	□ 2.6					
□ 3.	1 🗆 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7						
seek addit	tional inform	ation.	ation of ph	enomena,	models,	or unexpected results, to cla	arify and/or					
_	B.1 □ AB.2	_										
□ 1 .	1 🗆 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5	□ 2.6					
□ 3.	1 🗆 3.2	✓ 3.3	✓ 3.4	✓ 3.5	□ 3.6	☑ 3.7						

NG	SS.P1							
• to	clarify an	d/or refine	e a model	, an explar	nation, or	an engine	eering problem.	
	✓ AB.1	□ AB.2						
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6	
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
Deve	loping and	d Using M	lodels					
NG	SS.P2							
	_			•			developing, using, and revising model lesign systems.	S
	✓ AB.1	□ AB.2						
	□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6	
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
NG	SS.P2							
• U	se and/or	develop a	a model of	f simple sy	stems wit	h uncerta	in and less predictable factors.	
	☐ AB.1	□ AB.2						
	□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6	
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
NG	SS.P2							
• D	evelop an	d/or use a	a model to	predict ar	nd/or desc	ribe phen	omena.	
	□ AB.1	□ AB.2						
	□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6	
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
Planı	ning and C	Carrying C	ot Investi	gations				
NG	SS.P3							
							experiences and progresses to include	
11176	•	s triat use □ AB.2	·	anavies a	τια ριονίαθ	= evideric	e to support explanations or solutions	i
				□ 2.4			□ 2.4a and 2.4b □ 2.5 □ 2.6	
	□ 1.1 □	□ 1.2 _	□ 1.3 _	□ 2.1	□ 2.2 □	□ 2.3 _		
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	\square 3.7	

Analy	zing and	Interpretir	ng Data									
_	SS.P4											
Ana	alyzing and	•	ting data.									
		□ AB.2		1								
	☑ 1.1	✓ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b ☑ 2.5 □ 2.6					
	□ 3.1	□ 3.2	✓ 3.3	✓ 3.4	✓ 3.5	□ 3.6	□ 3.7					
NG	SS.P4											
• Aı	nalyze and	d interpret	t data to p	rovide evid	dence for	phenome	ena.					
	□ AB.1	□ AB.2										
	☑ 1.1	✓ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	✓ 3.4	✓ 3.5	□ 3.6	□ 3.7					
NG	NGSS.P4											
• Aı	Analyze and interpret data to determine similarities and differences in findings.											
	□ AB.1 □ AB.2											
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	✓ 3.4	✓ 3.5	□ 3.6	□ 3.7					
NG	SS.P4											
	nalyze dat best mee		•	•	onal rang	e for a pr	oposed object, tool, process or system					
uiai		AB.2	i ioi succe	555.								
	□ 1.1	□ AB.2☑ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 □ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
Using	g Mathema	atics and	Computat	tional Thinl	king							
NG	SS.P5											
	e mathema	atical repr	esentatio	ns to desci	ribe and/c	or support	scientific conclusions and design					
		□ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	✓ 2.2	□ 2.3	□ 2.4a and 2.4b □ 2.5 □ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	✓ 3.5	□ 3.6	□ 3.7					

Constructing Explanations and Designing Solutions

NG	SS.P6											
	Constructing explanations and designing solutions in 6-8 builds on K-5 experiences and progresses to include constructing explanations and designing solutions supported by multiple sources of evidence consistent with scientific ideas, principles, and theories.											
	✓ AB.1	□ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
NG	SS.P6											
• Construct an explanation that includes qualitative or quantitative relationships between variables that predict(s) and/or describe(s) phenomena.												
	□ AB.1	□ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	□ 2.4a and 2.4b ☑ 2.5 □ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
NG	SS.P6											
• Co	Construct an explanation using models or representations.											
	☐ AB.1	□ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	✓ 3.5	□ 3.6	□ 3.7					
NG	SS.P6											
(inc	luding the	students'	own e	xperiments)	and the a	ssumption	e evidence obtained from sources n that theories and laws that describe I continue to do so in the future.					
	☐ AB.1	☐ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b ☑ 2.5 ☐ 2.6					
	□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7					
NG	SS.P6											
•	• Apply scientific ideas, principles, and/or evidence to construct, revise and/or use an explanation for real-world phenomena, examples, or events.											
	□ AB.1	□ AB.2										
	□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	☐ 2.4a and 2.4b ☑ 2.5 ☐ 2.6					
	□ 3.1	□ 3.2	□ 3.3	✓ 3.4	☑ 3.5	□ 3.6	□ 3.7					

NGS	SS.P6														
•	 Apply scientific reasoning to show why the data or evidence is adequate for the explanation or conclusion. 														
	□ AB.1		AB.2												
	□ 1.1		1.2		1.3		2.1		2.2		2.3	$\ \square$ 2.4a and	2.4b	✓ 2.5	□ 2.6
	□ 3.1		3.2	✓	3.3	✓	3.4	✓	3.5		3.6	□ 3.7			
NGS	NGSS.P6														
 Apply scientific ideas or principles to design, construct, and/or test a design of an object, tool, process or system. 															
	□ AB.1		AB.2												
	□ 1.1		1.2		1.3		2.1		2.2		2.3	\square 2.4a and	2.4b	✓ 2.5	□ 2.6
	□ 3.1		3.2		3.3		3.4	✓	3.5		3.6	☑ 3.7			
NGS	SS.P6														
	• Undertake a design project, engaging in the design cycle, to construct and/or implement a solution that meets specific design criteria and constraints.														
	✓ AB.1					1									
	□ 1.1		1.2		1.3		2.1		2.2		2.3	☐ 2.4a and	2.4b	□ 2.5	□ 2.6
	□ 3.1		3.2		3.3		3.4	✓	3.5		3.6	✓ 3.7			
NGS	SS.P6														
-	itimize pe sting.	rfor	mance	e of	a des	sign	by prio	ritiz	ing cri	teria	a, mak	king tradeoffs,	testi	ng, revisi	ng, and
	✓ AB.1		AB.2												
	□ 1.1		1.2		1.3		2.1		2.2		2.3	$\ \square$ 2.4a and	2.4b	□ 2.5	□ 2.6
	□ 3.1		3.2		3.3		3.4	✓	3.5		3.6	☑ 3.7			
NGS	SS.P7														
ques	 Respectfully provide and receive critiques about one's explanations, procedures, models, and questions by citing relevant evidence and posing and responding to questions that elicit pertinent elaboration and detail. 														
	✓ AB.1		AB.2												
	□ 1.1		1.2		1.3		2.1		2.2		2.3	\square 2.4a and	2.4b	□ 2.5	□ 2.6
	□ 3.1		3.2		3.3		3.4		3.5		3.6	□ 3.7			

NGSS.P	7							
Evaluat	te comp	eting o	design so	lutions bas	ed on joir	ntly develo	ped and agreed-upon des	ign criteria.
	\B.1 □	AB.2						
□ 1	.1 🗆	1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
□ 3	i.1 🗆	3.2	□ 3.3	□ 3.4	✓ 3.5	□ 3.6	☑ 3.7	
Obtaining,	Evalua	ting, aı	nd Comm	unicating I	nformatio	n		
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.								
✓ A	\B.1 □	AB.2						
□ 1	.1 🗷	1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
□ 3	i.1 □	3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
NGSS.P8	8							
 Critically read scientific texts adapted for classroom use to determine the central ideas and/or obtain scientific and/or technical information to describe patterns in and/or evidence about the natural and designed world(s). 								
	\B.1 □	AB.2						
□ 1	.1 🗆	1.2	□ 1.3	☑ 2.1	✓ 2.2	✓ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
□ 3	3.1 □	3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
NGSS.P8	8							
• Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and methods used, and describe how they are supported or not supported by evidence.								
	\B.1 □	AB.2						
□ 1	.1 🗆	1.2	□ 1.3	☑ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	✓ 2.6
☑ 3	3.1 □	3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	
NGSS.P8	8							
 Communicate scientific and/or technical information (e.g. about a proposed object, tool, process, system) in writing and/or through oral presentations. 								
	\B.1 □	AB.2						
□ 1	.1 🗷	1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5	□ 2.6
□ 3	i.1 🗆	3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7	

Crosscutting Concepts									
Scale, proporti	Scale, proportion, and quantity								
3	3								
In considering phenomena, it is critical to recognize what is relevant at different measures of size, time, and energy and to recognize how changes in scale, proportion, or quantity affect a system's structure or performance.									
□ AB.1	□ AB.1 □ AB.2								
□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6			
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7			
4 Defining the system under study, specifying its boundaries and making explicit a model of that system provides tools for understanding and testing ideas that are applicable throughout science and engineering.									
□ AB.1	□ AB.2								
□ 1.1	□ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6			
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7			
6 The way in which an object or living thing is shaped and its substructure determine many of its properties and functions.									
_	□ AB.2								
□ 1.1	□ 1.2	□ 1.3	□ 2.1	✓ 2.2	□ 2.3	✓ 2.4a and 2.4b ✓ 2.5 ✓ 2.6			
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7			
Nature of Science									
Scientific Investigations Use a Variety of Methods									
 Science investigations use a variety of methods and tools to make measurements and observations. 									
□ AB.1	□ AB.2								
☑ 1.1	✓ 1.2	✓ 1.3	□ 2.1	□ 2.2	□ 2.3	\square 2.4a and 2.4b \square 2.5 \square 2.6			
□ 3.1	□ 3.2	□ 3.3	□ 3.4	□ 3.5	□ 3.6	□ 3.7			

science inv servations	0	0	,	set of value	es to enst	are accuracy or measuremen	nts,
□ AB.1	□ AB.2	2					
□ 1.1	□ 1.2	□ 1.3	□ 2.1	□ 2.2	□ 2.3	☑ 2.4a and 2.4b □ 2.5	□ 2.6
□ 31	□ 32	□ 33	□ 34	□ 35	□ 36	□ 37	

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