PLTW Gateway Standards Connection Magic of Electrons



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 Magic of Electrons 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	8
Common Core State Standards for English Language Arts 6th Grade	Page	11
Common Core State Standards for English Language Arts 7th Grade	Page	20
Common Core State Standards for English Language Arts 8th Grade	Page	28
International Society for Technology in Education	Page	35
Standards for Technological and Engineering Literacy	Page	37
Next Generation Science Standards	Page	39

Reading

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 **☑** 1.4 **☑** 1.5 □ 1.6 □ 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

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 **☑** 1.4 **☑** 1.5 **☑** 1.6 □ 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

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 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

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 **☑** 1.4 **☑** 1.5 **☑** 1.6 **☑** 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

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 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

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

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

CCSS.ELA-LITERACY.CCRA.W.9

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

✓ AB.1
✓ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

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

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4

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

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

CCSS.ELA-LITERACY.CCRA.SL.4

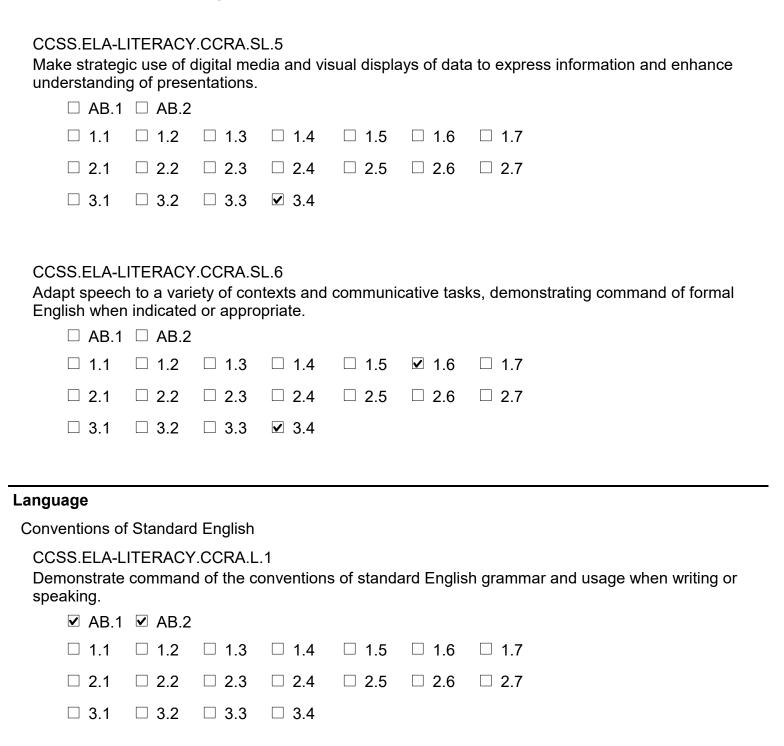
Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

□ AB.1 **☑** AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

□ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4



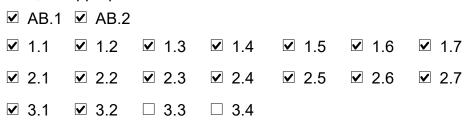
CCSS.ELA-LITERACY.CCRA.L.2

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

✓ AB.1	✓ AB.2					
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	□ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7
□ 3.1	□ 3.2	□ 3.3	□ 3.4			

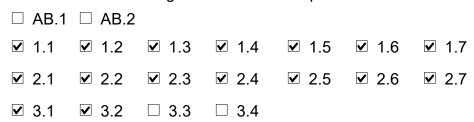
CCSS.ELA-LITERACY.CCRA.L.4

Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.



CCSS.ELA-LITERACY.CCRA.L.5

Demonstrate understanding of word relationships and nuances in word meanings.



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.

\square AB.1	□ AB.2					
☑ 1.1	✓ 1.2	✓ 1.3	✓ 1.4	✓ 1.5	✓ 1.6	☑ 1.7
☑ 2.1	✓ 2.2	✓ 2.3	✓ 2.4	✓ 2.5	✓ 2.6	✓ 2.7
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4			

© Copyright 2010 National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

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

Reading Science/Technical

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

☑ 1.1 **☑** 1.2 **☑** 1.3 **☑** 1.4 **☑** 1.5 □ 1.6 □ 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

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

☑ 1.1 **☑** 1.2 **☑** 1.3 **☑** 1.4 **☑** 1.5 **☑** 1.6 **□** 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

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

☑ 1.1 **☑** 1.2 **☑** 1.3 **☑** 1.4 **☑** 1.5 **☑** 1.6 **□** 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

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

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

☑ 1.1 **☑** 1.2 **☑** 1.3 **☑** 1.4 **☑** 1.5 □ 1.6 □ 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4

Writing in History/social Studies, Science, and Technical Subjects

Text Types and Purposes

CCSS.ELA-LITERACY.WHST.6-8.2

Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

□ AB.1 □ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

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

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 □ 3.3 **☑** 3.4

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

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

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

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

☑ 1.1 **☑** 1.2 **☑** 1.3 **☑** 1.4 **☑** 1.5 □ 1.6 □ 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

© Copyright 2010 National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

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. \Box 1.2 □ 1.3 □ 1.4 □ 1.5 \square 1.1 □ 1.6 □ 1.7 □ 2.1 □ 2.2 □ 2.3 □ 2.4 \square 2.5 \square 2.6 \square 2.7 \square 3.1 \square 3.2 \square 3.3 □ 3.4 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 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7 □ 2.1 \square 2.4 \square 2.5 \square 2.6 \square 2.7 \square 2.2 \square 2.3 \square 3.1 \square 3.2 \square 3.3 □ 3.4 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 **✓** 1.2 **✓** 1.3 **✓** 1.4 **✓** 1.5 □ 1.6 □ 1.7

✓ 2.4

□ 3.4

✓ 2.1

✓ 3.1

✓ 2.2

✓ 3.2

✓ 2.3

□ 3.3

✓ 2.5

✓ 2.6

✓ 2.7

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 **☑** 1.4 **☑** 1.5 □ 1.6 □ 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

■ 3.1 ■ 3.2 □ 3.3 □ 3.4

Integration of Knowledge and Ideas

CCSS.ELA-LITERACY.RI.6.7

Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

✓ AB.1 ✓ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

Writing

Text Types and Purposes

CCSS.ELA-LITERACY.W.6.1.c

Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.

✓ AB.1 □ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

CCSS.ELA-LITERACY.W.6.2

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					
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	✓ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7
□ 3.1	□ 3.2	□ 3.3	□ 3.4			

CCSS.ELA-LITERACY.W.6.2.b

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

✓ AB.1	✓ AB.2					
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	✓ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7
□ 3.1	□ 3.2	□ 3.3	□ 3.4			

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					
☑ 1.1	✓ 1.2	✓ 1.3	☑ 1.4	✓ 1.5	□ 1.6	□ 1.7
☑ 2.1	✓ 2.2	☑ 2.3	☑ 2.4	✓ 2.5	✓ 2.6	≥ 2.7
☑ 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	✓ 1.4	✓ 1.5	□ 1.6	□ 1.7
☑ 2.1	✓ 2.2	✓ 2.3	☑ 2.4	☑ 2.5	☑ 2.6	☑ 2.7
☑ 3.1	✓ 3.2	□ 3.3	✓ 3.4			

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 **☑** 1.4 **☑** 1.5 □ 1.6 □ 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

 \checkmark 3.1 \Box 3.2 \Box 3.3 \Box 3.4

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 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

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 **☑** 1.4 **☑** 1.5 □ 1.6 □ 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

Speaking and Listening

Comprehension and Collaboration

CCSS.ELA-LITERACY.SL.6.1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

✓ AB.1	□ AB.2					
☑ 1.1	✓ 1.2	✓ 1.3	✓ 1.4	✓ 1.5	✓ 1.6	✓ 1.7
✓ 2.1	✓ 2.2	✓ 2.3	✓ 2.4	✓ 2.5	✓ 2.6	✓ 2.7

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4

CCSS.ELA-LITERACY.SL.6.1.a

Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.



$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

CCSS.ELA-LITERACY.SL.6.1.b

Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.



$$\square$$
 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

CCSS.ELA-LITERACY.SL.6.1.c

Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.

✓ AB.1	✓ AB.2					
✓ 1.1	✓ 1.2	✓ 1.3	✓ 1.4	✓ 1.5	✓ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4			

CCSS.ELA-LITERACY.SL.6.2

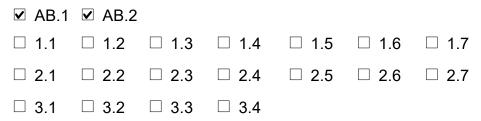
Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

✓ AB.1	✓ AB.2					
☑ 1.1	☑ 1.2	✓ 1.3	✓ 1.4	✓ 1.5	✓ 1.6	☑ 1.7
☑ 2.1	✓ 2.2	✓ 2.3	✓ 2.4	✓ 2.5	✓ 2.6	✓ 2.7
✓ 3.1	✓ 3.2	□ 3.3	□ 3.4			

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.



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

$$\square$$
 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

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

$$\square$$
 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

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

$$\square$$
 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

CCSS.ELA-LITERACY.L.6.2

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

✓ AB.1	✓ AB.2					
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	□ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7

Knowledge of Language

CCSS.ELA-LITERACY.L.6.3

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

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



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

                                     □ 1.6
✓ 1.1
       ✓ 1.2
              ✓ 1.3
                      ✓ 1.4
                              ✓ 1.5
                                            □ 1.7
✓ 2.1
       ✓ 2.2
              ✓ 2.3
                      ✓ 2.4
                              ✓ 2.5
                                     ✓ 2.6
                                            ✓ 2.7
✓ 3.1
       ✓ 3.2
              □ 3.3
                     □ 3.4
```

CCSS.ELA-LITERACY.L.6.6

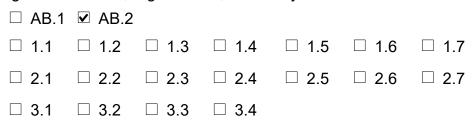
Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression.

✓ AB.1	✓ AB.2					
✓ 1.1	✓ 1.2	✓ 1.3	✓ 1.4	✓ 1.5	✓ 1.6	✓ 1.7
✓ 2.1	✓ 2.2	✓ 2.3	✓ 2.4	✓ 2.5	✓ 2.6	✓ 2.7
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4			

© Copyright 2010 National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

Reading Literature Key Ideas and Details CCSS.ELA-LITERACY.RL.7.1 Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. □ AB.1 □ AB.2 **✓** 1.4 **✓** 1.2 **✓** 1.3 **✓** 1.5 □ 1.7 **✓** 1.1 □ 1.6 **✓** 2.1 **✓** 2.2 **✓** 2.3 **✓** 2.4 **✓** 2.5 **✓** 2.6 **✓** 2.7 **✓** 3.1 **✓** 3.2 \square 3.3 □ 3.4 Writing Text Types and Purposes 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 □ 1.4 □ 1.2 □ 1.3 □ 1.5 □ 1.6 \square 1.7 \square 2.1 \square 2.2 \square 2.3 \square 2.4 □ 2.5 □ 2.6 □ 2.7 □ 3.4 □ 3.1 \square 3.2 \square 3.3 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.



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

☑ 1.1 **☑** 1.2 **☑** 1.3 **☑** 1.4 **☑** 1.5 **☑** 1.6 **☑** 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4

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

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 □ 3.3 **☑** 3.4

Production and Distribution of Writing

CCSS.ELA-LITERACY.W.7.4

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 7.w.1–3)

☐ AB.1 **☑** AB.2

☑ 1.1 **☑** 1.2 **☑** 1.3 **☑** 1.4 **☑** 1.5 **☑** 1.6 **☑** 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

CCSS.ELA-LITERACY.W.7.5

With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.

□ AB.1 □ AB.2							
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	✓ 1.6	□ 1.7	
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7	
□ 3.1	□ 3.2	□ 3.3	✓ 3.4				

Research to Build and Present Knowledge

CCSS.ELA-LITERACY.W.7.8

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	□ 1.4	□ 1.5	□ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7
□ 3.1	□ 3.2	□ 3.3	□ 3.4			

Speaking and Listening

Comprehension and Collaboration

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.

✓ AB.1	□ AB.2					
☑ 1.1	☑ 1.2	☑ 1.3	✓ 1.4	✓ 1.5	✓ 1.6	✓ 1.7
☑ 2.1	✓ 2.2	☑ 2.3	✓ 2.4	✓ 2.5	✓ 2.6	≥ 2.7
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4			

CCSS.ELA-LITERACY.SL.7.1.a

Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

□ AB.1	□ AB.2					
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	✓ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7
□ 3.1	□ 3.2	□ 3.3	✓ 3.4			

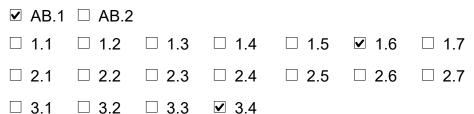
CCSS.ELA-LITERACY.SL.7.1.b

Follow rules for collegial discussions, track progress toward specific goals and deadlines, and define individual roles as needed.

✓ AB.1	□ AB.2					
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	✓ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7
□ 3.1	□ 3.2	□ 3.3	✓ 3.4			

CCSS.ELA-LITERACY.SL.7.1.c

Pose questions that elicit elaboration and respond to others' questions and comments with relevant observations and ideas that bring the discussion back on topic as needed.



CCSS.ELA-LITERACY.SL.7.1.d

Acknowledge new information expressed by others and, when warranted, modify their own views.

✓ AB.1 □ AB.2

☑ 1.1 ☑ 1.2 ☑ 1.3 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

CCSS.ELA-LITERACY.SL.7.2

Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.

✓ AB.1
✓ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

Presentation of Knowledge and Ideas

CCSS.ELA-LITERACY.SL.7.5

Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

□ AB.1 **☑** AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

CCSS.ELA-LITERACY.SL.7.6

Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

☐ AB.1 **☑** AB.2

☑ 1.1 **☑** 1.2 **☑** 1.3 **☑** 1.4 **☑** 1.5 **☑** 1.6 **☑** 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

☑ 3.1 **☑** 3.2 **☑** 3.3 **☑** 3.4

Language

Conventions of Standard English

CCSS.ELA-LITERACY.L.7.1

Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

✓ AB.1 ✓ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

CCSS.ELA-LITERACY.L.7.2

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 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

CCSS.ELA-LITERACY.L.7.2.b Spell correctly. ✓ AB.1 ✓ AB.2 □ 1.1 □ 1.2 □ 1.3 □ 1.4 □ 1.5 □ 1.6 □ 1.7 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 □ 2.6 \square 2.7 □ 3.1 □ 3.2 □ 3.3 □ 3.4 Knowledge of Language CCSS.ELA-LITERACY.L.7.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening. ✓ AB.1
✓ AB.2 □ 1.1 □ 1.2 □ 1.3 □ 1.4 □ 1.5 □ 1.6 □ 1.7 \square 2.1 \square 2.2 \square 2.3 □ 2.4 □ 2.5 □ 2.6 □ 2.7 □ 3.1 □ 3.2 □ 3.3 □ 3.4 CCSS.ELA-LITERACY.L.7.3.a Choose language that expresses ideas precisely and concisely, recognizing and eliminating wordiness and redundancy. ✓ AB.1 ✓ AB.2 □ 1.1 □ 1.2 □ 1.3 □ 1.4 □ 1.5 **✓** 1.6 □ 1.7 \square 2.1 \square 2.2 \square 2.3 □ 2.4 □ 2.5 □ 2.6 \square 2.7

□ 3.1

□ 3.2

□ 3.3

✓ 3.4

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 ☑ 1.4 ☑ 1.5 ☑ 1.6 ☑ 1.7

☑ 2.1 ☑ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

 \checkmark 3.1 \checkmark 3.2 \Box 3.3 \Box 3.4

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 **☑** 1.4 **☑** 1.5 **☑** 1.6 **☑** 1.7

☑ 2.1 **☑** 2.2 **☑** 2.3 **☑** 2.4 **☑** 2.5 **☑** 2.6 **☑** 2.7

☑ 3.1 **☑** 3.2 □ 3.3 □ 3.4

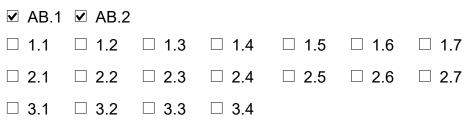
© Copyright 2010 National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

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.



CCSS.ELA-LITERACY.W.8.2.b

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



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
                        ✓ 1.4
                                 ✓ 1.5
                                         ✓ 1.6
                                                 ✓ 1.7
✓ 2.1
        ✓ 2.2
                        ✓ 2.4
                                 ✓ 2.5
                                         ✓ 2.6
                                                 ✓ 2.7
                ✓ 2.3
✓ 3.1
        ✓ 3.2
                ✓ 3.3
                        ✓ 3.4
```

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

$$\square$$
 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

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 standards 1–3.)

✓ AB.1 ✓ AB.2

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

$$\square$$
 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

$$\square$$
 3.1 \square 3.2 \square 3.3 \square 3.4

Research to Build and Present Knowledge

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.



$$\square$$
 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

$$\square$$
 3.1 \square 3.2 \square 3.3 \square 3.4

CCSS.ELA-LITERACY.W.8.9

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

Speaking and Listening

Comprehension and Collaboration

CCSS.ELA-LITERACY.SL.8.1

Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly.

CCSS.ELA-LITERACY.SL.8.1.a

Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.

□ AB.1	□ AB.2					
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	□ 1.6	□ 1.7
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7
□ 3.1	□ 3.2	□ 3.3	✓ 3.4			

CCSS.ELA-LITERACY.SL.8.1.b

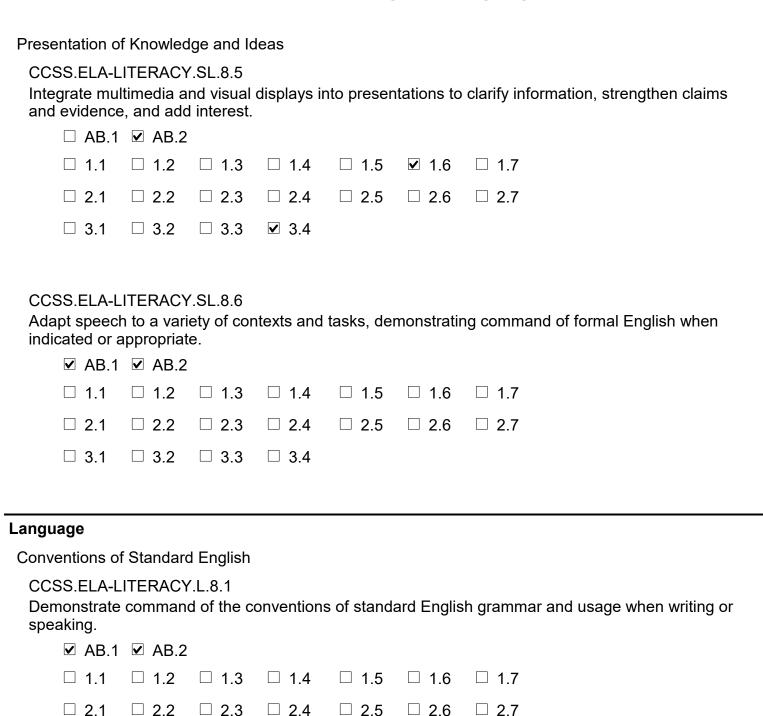
Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.

✓ AB.1	□ AB.2						
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	✓ 1.6	□ 1.7	
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7	
□ 3.1	□ 3.2	□ 3.3	✓ 3.4				

CCSS.ELA-LITERACY.SL.8.1.d

Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.

```
✓ AB.1 □ AB.2
✓ 1.1
       ✓ 1.2
              ✓ 1.3
                     ✓ 1.4
                             ✓ 1.5
                                    ✓ 1.6
                                           ✓ 1.7
✓ 2.1
       ✓ 2.2
              ✓ 2.3
                     ✓ 2.4
                             ☑ 2.5 ☑ 2.6 ☑ 2.7
✓ 3.1
       ✓ 3.2
              ✓ 3.3
                     ✓ 3.4
```



□ 3.1

 \square 3.2

 \square 3.3

□ 3.4

CCSS.ELA-LITERACY.L.8.2

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 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

CCSS.ELA-LITERACY.L.8.2.c

Spell correctly.

☐ AB.1 **☑** AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

Knowledge of Language

CCSS.ELA-LITERACY.L.8.3

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 1.4 \square 1.5 \square 1.6 \square 1.7

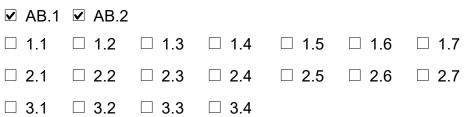
 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

Vocabulary Acquisition and Use

CCSS.ELA-LITERACY.L.8.5.b

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



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	✓ 1.4	✓ 1.5	✓ 1.6	✓ 1.7
☑ 2.1	☑ 2.2	✓ 2.3	✓ 2.4	☑ 2.5	✓ 2.6	☑ 2.7
☑ 3.1	✓ 3.2	✓ 3.3	✓ 3.4			

[©] Copyright 2010 National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

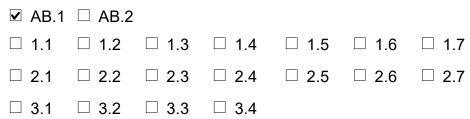
International Society for Technology in Education

Knowledge Constructor 3a Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits. □ AB.1 **☑** AB.2 □ 1.1 □ 1.2 □ 1.3 □ 1.4 □ 1.5 □ 1.6 □ 1.7 \square 2.1 \square 2.2 \square 2.3 □ 2.4 \square 2.5 \square 2.6 \square 2.7 □ 3.1 □ 3.2 □ 3.3 □ 3.4

Innovative Designer

4a

Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.



4c

Students develop, test and refine prototypes as part of a cyclical design process.



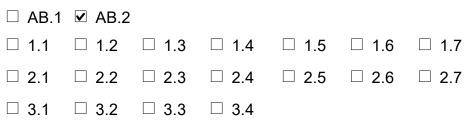
International Society for Technology in Education

Computational 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 □ 1.6 □ 1.7 □ 1.1 □ 1.2 □ 1.3 □ 1.4 □ 1.5 \square 2.1 \square 2.2 \square 2.3 \square 2.4 □ 2.5 \square 2.6 \square 2.7 □ 3.1 □ 3.2 □ 3.3 □ 3.4

Creative Communicator

6c

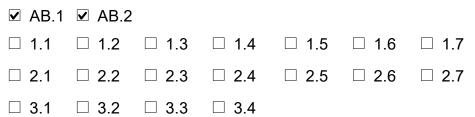
Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.



Global Collaborator

7c

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



Standards for Technological and Engineering Literacy

Core Concepts of Technology and Engineering STEL-2S Defend decisions related to a design problem. ✓ AB.1 □ AB.2 \square 1.1 \square 1.2 \square 1.3 \square 1.4 □ 1.5 **☑** 1.6 □ 1.7 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7 \square 3.1 \square 3.2 \square 3.3 **✓** 3.4

Design in Technology and Engineering Education

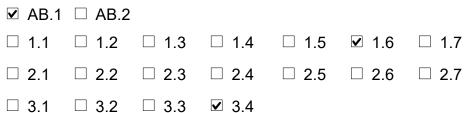
STEL-7Q

Apply the technology and engineering design process.



STEL-7R

Refine design solutions to address criteria and constraints.



Standards for Technological and Engineering Literacy

STEL-7S

Create solutions to problems by identifying and applying human factors in design.

✓ AB.1 □ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

STEL-7U

Evaluate the strengths and weaknesses of different design solutions.

✓ AB.1 □ AB.2

 \square 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

STEL-7V

Improve essential skills necessary to successfully design.

✓ AB.1 □ AB.2

□ 1.1 □ 1.2 □ 1.3 □ 1.4 □ 1.5 ☑ 1.6 □ 1.7

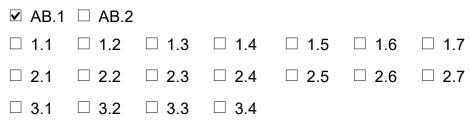
 \square 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

Engineering Design

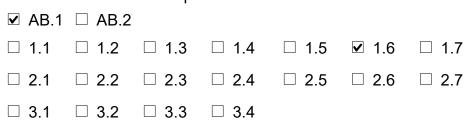
NGSS.MS-ETS1-1

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.



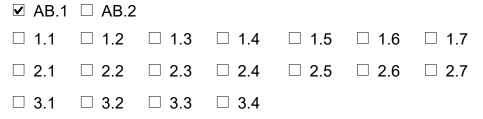
NGSS.MS-ETS1-2

Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.



NGSS.MS-ETS1-4

Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.



Science and Engineering Practices

Asking Questions and Defining Problems

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.



Developing and Using Models

NGSS.P2

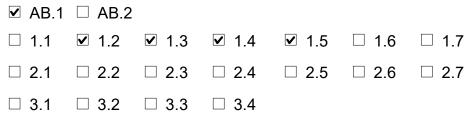
Modeling in 6-8 builds on K-5 experiences and progresses to developing, using, and revising models to describe, test, and predict more abstract phenomena and design systems.

✓ AB.1 □ AB.2							
□ 1.1	□ 1.2	□ 1.3	□ 1.4	□ 1.5	□ 1.6	□ 1.7	
□ 2.1	□ 2.2	□ 2.3	□ 2.4	□ 2.5	□ 2.6	□ 2.7	
□ 31	\square 32	□ 33	□ 34				

Constructing Explanations and Designing Solutions

NGSS.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.



NGSS.P6

• Construct an explanation using models or representations.

□ AB.1 □ AB.2

□ 1.1 □ 1.2 □ 1.3 □ 1.4 □ 1.5 ☑ 1.6 □ 1.7

□ 2.1 □ 2.2 □ 2.3 □ 2.4 □ 2.5 ☑ 2.6 ☑ 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

NGSS.P6

• Apply scientific ideas, principles, and/or evidence to construct, revise and/or use an explanation for realworld phenomena, examples, or events.

□ AB.1 □ AB.2

 \square 1.1 \checkmark 1.2 \checkmark 1.3 \checkmark 1.4 \checkmark 1.5 \square 1.6 \square 1.7

□ 2.1 □ 2.2 □ 2.3 □ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

□ 3.1 □ 3.2 ☑ 3.3 ☑ 3.4

NGSS.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 ☑ 1.4 ☑ 1.5 □ 1.6 □ 1.7

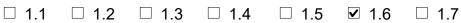
□ 2.1 □ 2.2 ☑ 2.3 ☑ 2.4 ☑ 2.5 ☑ 2.6 ☑ 2.7

 \square 3.1 \square 3.2 \square 3.3 \square 3.4

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



□ 3.1 □ 3.2 ☑ 3.3 ☑ 3.4

NGSS.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 □ AB.2

$$\square$$
 1.1 \square 1.2 \square 1.3 \square 1.4 \square 1.5 \square 1.6 \square 1.7

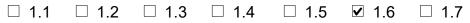
$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

NGSS.P6

• Optimize performance of a design by prioritizing criteria, making tradeoffs, testing, revising, and retesting.

✓ AB.1 □ AB.2

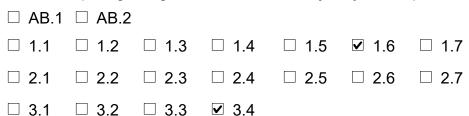


$$\square$$
 2.1 \square 2.2 \square 2.3 \square 2.4 \square 2.5 \square 2.6 \square 2.7

□ 3.1 □ 3.2 □ 3.3 ☑ 3.4

NGSS.P7

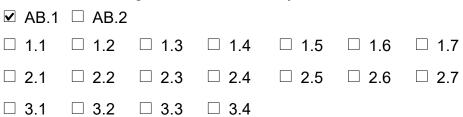
• Evaluate competing design solutions based on jointly developed and agreed-upon design criteria.



Obtaining, Evaluating, and Communicating Information

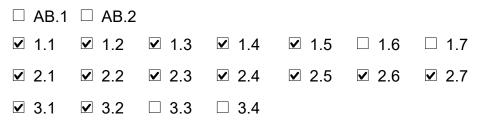
NGSS.P8

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.



NGSS.P8

• 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).



References

International Society for Technology in Education. (2020) *ISTE Standards For Students*. Retrieved from http://www.iste.org/standards/for-students

International Technology and Engineering Educators Association. (2020). Standards for technological and engineering literacy: The role of technology and engineering in STEM education. Retrieved from https://www.iteea.org/STEL.aspx

National Governors Association Center for Best Practices, & Council of Chief State School Officers. (2010). *Common Core State Standards*. Washington, DC: National Governors Association Center for Best Practices, Council of Chief State School Officers. Retrieved from http://www.corestandards.org/read-the-standards/