

## Alignment to the Core Knowledge Sequence and the Common Core State Standards

The following chart indicates which lessons in the *Geology* unit address content from the Core Knowledge Sequence (Core Content Objectives) and Common Core State Standards (CCSS).

| Unit 5: Geology                                                                                          | Lessons |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|----------------------------------------------------------------------------------------------------------|---------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
|                                                                                                          | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| <b>Core Content Objectives</b>                                                                           |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Define <i>geology</i> as the study of the makeup of the earth and the processes that shape and change it | ✓       |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Describe observations scientists made that provide evidence of changes on Earth's surface                | ✓       |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Explain the continental drift hypothesis, including the existence of Pangaea                             | ✓       |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Identify Earth's layers and explain the characteristics of each                                          |         | ✓ | ✓ |   |   |   |   |   |   |    |    |    |    |    |    |
| Explain the theory of plate tectonics and describe the different ways tectonic plates move               |         | ✓ | ✓ |   |   |   |   |   |   |    |    |    |    |    |    |
| Explain how seafloor spreading causes mid-ocean ridges and ocean trenches                                |         | ✓ | ✓ |   |   |   |   |   |   |    |    |    | ✓  | ✓  |    |
| Describe faults and the role they play in earthquakes                                                    |         |   |   | ✓ | ✓ |   |   |   |   |    |    |    |    |    |    |
| Describe two ways scientists measure the intensity of earthquakes                                        |         |   |   | ✓ | ✓ |   |   |   |   |    |    |    |    |    |    |
| Explain how earthquakes and tsunamis are related                                                         |         |   |   | ✓ | ✓ |   |   |   |   |    |    |    |    |    |    |
| Explain what occurs above and below Earth's surface to form volcanoes                                    |         |   |   |   |   | ✓ |   |   |   |    |    |    |    |    |    |
| Describe the differences between active, dormant, and extinct volcanoes                                  |         |   |   |   |   | ✓ |   |   |   |    |    |    |    |    |    |
| Explain what occurs above and below Earth's surface to form geysers                                      |         |   |   |   |   | ✓ |   |   |   |    |    |    |    |    |    |
| Explain why volcanoes, geysers, and hot springs are common along plate boundaries and above hotspots     |         |   |   |   |   | ✓ |   |   |   |    |    |    |    |    |    |
| Explain that myths helped explain unpredictable natural events                                           |         |   |   |   |   |   | ✓ |   |   |    |    |    |    |    |    |
| Describe how myths were used in early civilizations to explain volcanic activity                         |         |   |   |   |   |   | ✓ |   |   |    |    |    |    |    |    |
| Identify rocks as naturally occurring nonliving solids made of minerals                                  |         |   |   |   |   |   |   | ✓ | ✓ |    |    |    |    |    |    |
| Describe the formation and characteristics of igneous, sedimentary, and metamorphic rocks                |         |   |   |   |   |   |   | ✓ | ✓ |    |    |    |    |    |    |
| Explain how the rock cycle accounts for the changes that occur in rocks over very long periods of time   |         |   |   |   |   |   |   | ✓ | ✓ |    |    |    |    |    |    |
| Identify weathering and erosion as two powerful forces that reshape Earth's surface                      |         |   |   |   |   |   |   |   |   | ✓  | ✓  |    |    |    |    |



| Unit 5: Geology                               |                                                                                                                                                                                                                     | Lessons |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
|                                               |                                                                                                                                                                                                                     | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Integration of Knowledge and Ideas            |                                                                                                                                                                                                                     |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| STD RL.4.7                                    | Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.                      |         |   |   |   |   |   | ✓ |   |   |    |    |    |    |    |    |
| STD RL.4.8                                    | (Not applicable to literature)                                                                                                                                                                                      |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| STD RL.4.9                                    | Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures. |         |   |   |   |   |   | ✓ |   |   |    |    |    |    |    | ✓  |
| Range of Reading and Level of Text Complexity |                                                                                                                                                                                                                     |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| STD RL.4.10                                   | By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the Grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.        |         |   |   |   |   |   | ✓ |   |   |    |    |    |    |    | ✓  |
| Reading Standards for Informational Text      |                                                                                                                                                                                                                     |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Key Ideas and Details                         |                                                                                                                                                                                                                     |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| STD RI.4.1                                    | Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.                                                                                    | ✓       | ✓ | ✓ | ✓ | ✓ | ✓ |   | ✓ | ✓ | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| STD RI.4.2                                    | Determine the main idea of a text and explain how it is supported by key details; summarize the text.                                                                                                               | ✓       | ✓ | ✓ | ✓ | ✓ | ✓ |   |   |   |    |    | ✓  | ✓  |    | ✓  |
| STD RI.4.3                                    | Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.                                          | ✓       | ✓ | ✓ | ✓ | ✓ | ✓ |   | ✓ | ✓ | ✓  | ✓  | ✓  | ✓  | ✓  | ✓  |
| Craft and Structure                           |                                                                                                                                                                                                                     |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| STD RI.4.4                                    | Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a Grade 4 topic or subject area.                                                                               |         | ✓ | ✓ |   | ✓ |   |   | ✓ | ✓ |    | ✓  |    | ✓  |    | ✓  |
| STD RI.4.5                                    | Describe the overall structure (e.g., chronology, comparison, cause/ effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.                                              | ✓       | ✓ |   | ✓ | ✓ | ✓ |   | ✓ |   | ✓  |    | ✓  |    | ✓  | ✓  |

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| Unit 5: Geology                                         |                                                                                                                                                                                             | Lessons |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|
|                                                         |                                                                                                                                                                                             | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| <b>STD RF.4.4b</b>                                      | Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.                                                                               |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>STD RF.4.4c</b>                                      | Use context to confirm or self-correct word recognition and understanding, rereading as necessary.                                                                                          |         | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓  | ✓  | ✓  |    | ✓  | ✓  |
| <b>Writing Standards</b>                                |                                                                                                                                                                                             |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>Text Types and Purposes: Opinion</b>                 |                                                                                                                                                                                             |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>STD W.4.1</b>                                        | Write opinion pieces on topics or texts, supporting a point of view with reasons and information.                                                                                           |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>STD W.4.1a</b>                                       | Introduce a topic or text clearly, state an opinion, and create an organizational structure in which related ideas are grouped to support the writer's purpose.                             |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>STD W.4.1b</b>                                       | Provide reasons that are supported by facts and details.                                                                                                                                    |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>STD W.4.1c</b>                                       | Link opinion and reasons using words and phrases (e.g., <i>for instance</i> , <i>in order to</i> , <i>in addition</i> ).                                                                    |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>STD W.4.1d</b>                                       | Provide a concluding statement or section related to the opinion presented.                                                                                                                 |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>Text Types and Purposes: Informative/Explanatory</b> |                                                                                                                                                                                             |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| <b>STD W.4.2</b>                                        | Write informative/explanatory texts to examine a topic and convey ideas and information clearly.                                                                                            |         |   |   |   | ✓ |   |   | ✓ |   | ✓  |    |    |    |    | ✓  |
| <b>STD W.4.2a</b>                                       | Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension. |         |   |   |   | ✓ |   |   |   |   | ✓  |    |    |    |    | ✓  |
| <b>STD W.4.2b</b>                                       | Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.                                                            |         |   |   |   | ✓ |   |   | ✓ |   | ✓  |    |    |    |    | ✓  |
| <b>STD W.4.2c</b>                                       | Link ideas within categories of information using words and phrases (e.g., <i>another</i> , <i>for example</i> , <i>also</i> , <i>because</i> ).                                            |         |   |   |   |   |   |   |   |   |    |    |    |    |    | ✓  |
| <b>STD W.4.2d</b>                                       | Use precise language and domain-specific vocabulary to inform about or explain the topic.                                                                                                   |         | ✓ | ✓ |   | ✓ |   |   | ✓ |   | ✓  |    |    |    |    | ✓  |

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| Unit 5: Geology                         |                                                                                                                                                                                                                           | Lessons |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
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|                                         |                                                                                                                                                                                                                           | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Research to Build and Present Knowledge |                                                                                                                                                                                                                           |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| STD W.4.7                               | Conduct short research projects that build knowledge through investigation of different aspects of a topic.                                                                                                               |         |   |   |   |   |   |   | ✓ |   |    |    |    |    |    |    |
| STD W.4.8                               | Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.                                         |         |   |   |   |   |   |   | ✓ |   |    |    |    |    |    |    |
| STD W.4.9                               | Draw evidence from literary or informational texts to support analysis, reflection, and research.                                                                                                                         |         | ✓ | ✓ |   | ✓ |   |   | ✓ |   |    |    |    |    |    |    |
| STD W.4.9a                              | Apply Grade 4 Reading standards to literature (e.g., “Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character’s thoughts, words, or actions].”). |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| STD W.4.9b                              | Apply Grade 4 Reading standards to informational texts (e.g., “Explain how an author uses reasons and evidence to support particular points in a text”).                                                                  |         |   |   |   | ✓ |   |   | ✓ |   |    |    |    |    |    |    |
| STD W.4.10                              | Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.     |         | ✓ | ✓ |   |   |   |   | ✓ |   | ✓  |    |    | ✓  |    |    |
| Speaking and Listening Standards        |                                                                                                                                                                                                                           |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| Comprehension and Collaboration         |                                                                                                                                                                                                                           |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| STD SL.4.1                              | Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on Grade 4 topics and texts, building on others’ ideas and expressing their own clearly.        | ✓       | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓  | ✓  | ✓  | ✓  | ✓  |    |
| STD SL.4.1a                             | Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.                                | ✓       |   |   |   |   |   |   |   |   |    |    |    |    | ✓  |    |
| STD SL.4.1b                             | Follow agreed-upon rules for discussions and carry out assigned roles.                                                                                                                                                    | ✓       |   | ✓ |   | ✓ |   |   | ✓ |   |    |    | ✓  |    |    |    |

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| Unit 5: Geology |                                                                                                     | Lessons |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
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|                 |                                                                                                     | 1       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| CKLA Objectives |                                                                                                     |         |   |   |   |   |   |   |   |   |    |    |    |    |    |    |
| CKLA            | Use a comma to separate day and year in a date; city and state in an address; and items in a series |         | ✓ |   | ✓ |   |   |   |   |   |    |    |    |    |    | ✓  |
| CKLA            | Use common, grade-appropriate roots and affixes as clues to the meaning of a word.                  |         |   |   |   |   |   |   |   |   |    | ✓  |    |    | ✓  | ✓  |