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

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Unit 6: Geold	ogy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	nyiscal weathering, chemical Id erosion occur										<b>✓</b>	✓				
Identify geolog	gic features that provide evidence of d erosion										<b>✓</b>	<b>√</b>				
	e movement of tectonic plates can t kinds of mountains												<b>√</b>			
Identify differe of each	nt types of mountains and key features												<b>√</b>			
Identify and loo	cate major mountain ranges on Earth's												<b>√</b>			
Describe the se	eafloor features hydrothermal vents s													<b>√</b>	<b>√</b>	
Reading S	Standards for Literature															
Key Ideas a																
STD RL.4.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.							<b>✓</b>								<b>✓</b>
STD RL.4.2	Determine a theme of a story, drama, or poem from details in the text; summarize the text.							<b>√</b>								<b>✓</b>
STD RL.4.3	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).							<b>✓</b>								
Craft and St	tructure															
STD RL.4.4	Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology (e.g., Herculean).							<b>✓</b>								<b>✓</b>
STD RL.4.5	Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.															
STD RL.4.6	Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.															

Unit 6. Coole								Le	esso	ns						
Unit 6: Geold	ogy	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.							<b>✓</b>								
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.							<b>✓</b>								<b>✓</b>
Range of Re	eading and Level of Text Compl	exit	y													
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.							<b>✓</b>								<b>✓</b>
Reading S	tandards for Informationa	ıl Te	ext													
Key Ideas a																
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.	✓	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	✓	✓	<b>✓</b>
STD RI.4.2	Determine the main idea of a text and explain how it is supported by key details; summarize the text.	✓	<b>✓</b>	<b>√</b>	<b>✓</b>	<b>√</b>	<b>√</b>						<b>√</b>	<b>√</b>		<b>✓</b>
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.	<b>√</b>	<b>✓</b>	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>	<b>√</b>	<b>✓</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>✓</b>
Craft and St	tructure															
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.		<b>✓</b>	<b>√</b>		<b>✓</b>			<b>✓</b>	<b>✓</b>		<b>√</b>		<b>√</b>		<b>✓</b>
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.	✓	<b>✓</b>		<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>		<b>✓</b>		<b>√</b>		<b>√</b>	<b>✓</b>

Unit 6. Cool								L	esso	ns						
Unit 6: Geol	ogy 	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STD RI.4.6	Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided.															
Integration	of Knowledge and Ideas															
STD RI.4.7	Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears.	<b>✓</b>	<b>✓</b>		<b>√</b>		✓		<b>✓</b>		<b>✓</b>					
STD RI.4.8	Explain how an author uses reasons and evidence to support particular points in a text.			<b>√</b>	<b>✓</b>	<b>√</b>					<b>√</b>	<b>√</b>	<b>√</b>			<b>√</b>
STD RI.4.9	Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably.															
Range of R	eading and Level of Text Comp	lexit	ty													
STD RI.4.10	By the end of year, read and comprehend informational texts, including history/social studies, science, and technical texts, in the Grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.		<b>√</b>	<b>✓</b>	<b>√</b>	<b>✓</b>	✓		<b>✓</b>	<b>✓</b>	<b>✓</b>	✓	<b>✓</b>		<b>✓</b>	<b>√</b>
Reading S	Standards for Foundationa	l Sk	ills													
Phonics an	d Word Recognition															
STD RF.4.3	Know and apply grade-level phonics and word analysis skills in decoding words.		<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>	<b>✓</b>	<b>✓</b>	✓	<b>✓</b>		<b>✓</b>	<b>✓</b>
STD RF.4.3a	Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context.		<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	✓		<b>√</b>	<b>√</b>	<b>√</b>	✓	<b>√</b>		<b>√</b>	<b>√</b>
Fluency																
STD RF.4.4	Read with sufficient accuracy and fluency to support comprehension.		<b>✓</b>	<b>√</b>	<b>✓</b>	<b>✓</b>	✓	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	✓	<b>√</b>		<b>√</b>	<b>√</b>
STD RF.4.4a	Read on-level text with purpose and understanding.		<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	$\checkmark$	<b>√</b>	<b>√</b>	<b>√</b>	<b>✓</b>	$\checkmark$	<b>√</b>		<b>✓</b>	$\checkmark$

Unit 6. Cook								Le	esso	ns					-	
Unit 6: Geol	ugy 	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STD RF.4.4b	Read on-level prose and poetry orally with accuracy, appropriate rate, and expression on successive readings.															
STD RF.4.4c	Use context to confirm or self- correct word recognition and understanding, rereading as necessary.		<b>✓</b>	<b>✓</b>	✓	<b>√</b>	✓	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	✓	✓		<b>✓</b>	✓
Writing St	tandards															
Text Types	and Purposes: Opinion															
STD W.4.1	Write opinion pieces on topics or texts, supporting a point of view with reasons and information.															
STD W.4.1a	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.															
STD W.4.1b	Provide reasons that are supported by facts and details.															
STD W.4.1c	Link opinion and reasons using words and phrases (e.g., for instance, in order to, in addition).															
STD W.4.1d	Provide a concluding statement or section related to the opinion presented.															
Text Types	and Purposes: Informative/Exp	lana	ator	y												
STD W.4.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.					<b>✓</b>			<b>✓</b>		<b>✓</b>					<b>√</b>
STD W.4.2a	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>✓</b>					<b>✓</b>					<b>✓</b>
STD W.4.2b	Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.					<b>√</b>			<b>√</b>		<b>√</b>					<b>√</b>
STD W.4.2c	Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).															<b>√</b>
STD W.4.2d	Use precise language and domain- specific vocabulary to inform about or explain the topic.		<b>✓</b>	<b>✓</b>		<b>✓</b>			<b>✓</b>		<b>✓</b>					<b>√</b>

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Unit 6: Geol	ogy 	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STD W.4.2e	Provide a concluding statement or section related to the information or explanation presented.															<b>√</b>
<b>Text Types</b>	and Purposes: Narrative															
STD W.4.3	Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.												<b>✓</b>	<b>✓</b>		
STD W.4.3a	Orient the reader by establishing a situation and introducing a narrator and/or characters; organize an event sequence that unfolds naturally.															
STD W.4.3b	Use dialogue and description to develop experiences and events or show the responses of characters to situations.												<b>✓</b>	<b>✓</b>		
STD W.4.3c	Use a variety of transitional words and phrases to manage the sequence of events.															
STD W.4.3d	Use concrete words and phrases and sensory details to convey experiences and events precisely.												<b>✓</b>	<b>✓</b>		
STD W.4.3e	Provide a conclusion that follows from the narrated experiences or events.												<b>✓</b>	<b>✓</b>		
Production	and Distribution of Writing															
STD W.4.4	Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Gradespecific expectations for writing types are defined in Standards 1–3 above.)			<b>✓</b>		<b>✓</b>			<b>✓</b>		<b>✓</b>		<b>✓</b>	<b>✓</b>		<b>✓</b>
STD W.4.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language Standards 1–3 up to and including Grade 4.)		<b>√</b>	<b>✓</b>		<b>✓</b>			<b>✓</b>		<b>✓</b>		<b>✓</b>	<b>✓</b>		
STD W.4.6	With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.															

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Unit 6: Geolo	ogy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Research to	<b>Build and Present Knowledge</b>															
STD W.4.7	Conduct short research projects that build knowledge through investigation of different aspects of a topic.								<b>✓</b>							
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.								<b>✓</b>							
STD W.4.9	Draw evidence from literary or informational texts to support analysis, reflection, and research.		<b>✓</b>	<b>√</b>		<b>✓</b>			<b>✓</b>							
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").					<b>√</b>			<b>√</b>							
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.		<b>✓</b>	<b>✓</b>					<b>✓</b>		<b>✓</b>			<b>√</b>		
Speaking	and Listening Standards															
	sion and Collaboration															
STD SL.4.1	Engage effectively in a range of collaborative discussions (one-onone, in groups, and teacher-led) with diverse partners on Grade 4 topics and texts, building on others' ideas and expressing their own clearly.	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>✓</b>	
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.	<b>√</b>													<b>✓</b>	
STD SL.4.1b	Follow agreed-upon rules for discussions and carry out assigned roles.	<b>√</b>		<b>√</b>		<b>✓</b>			<b>√</b>				<b>√</b>			

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Unit 6: Geol	ogy 	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STD SL.4.1c	Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.															
STD SL.4.1d	Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.															
STD SL.4.2	Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.															
STD SL.4.3	Identify the reasons and evidence a speaker provides to support particular points.															
Presentatio	on of Knowledge and Ideas															
STD SL.4.4	Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.	<b>√</b>														
STD SL.4.5	Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.															
STD SL.4.6	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion); use formal English when appropriate to task and situation. (See Grade 4 Language Standards 1 for specific expectations.)	<b>✓</b>													<b>✓</b>	
Language	Standards															
Convention	s of Standard English															
STD L.4.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	<b>✓</b>		<b>✓</b>					<b>✓</b>	<b>✓</b>						
STD L.4.1a	Use relative pronouns (who, whose, whom, which, that) and relative adverbs (where, when, why).															

Unit & God	OCU							L	esso	ns						
Unit 6: Geol	ogy	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
STD L.4.1b	Form and use the progressive (e.g., I was walking; I am walking; I will be walking) verb tenses.															
STD L.4.1c	Use modal auxiliaries (e.g., can, may, must) to convey various conditions.															
STD L.4.1d	Order adjectives within sentences according to conventional patterns (e.g., a small red bag rather than a red small bag).											<b>√</b>			<b>✓</b>	<b>✓</b>
STD L.4.1e	Form and use prepositional phrases.															
STD L.4.1f	Produce complete sentences, recognizing and correcting inappropriate fragments and runons.															
STD L.4.1g	Correctly use frequently confused words (e.g., to, too, two; there, their).															
STD L.4.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.		<b>√</b>		<b>√</b>		<b>√</b>			<b>√</b>		✓			<b>✓</b>	<b>✓</b>
STD L.4.2a	Use correct capitalization.		<b>√</b>		$\checkmark$		<b>√</b>			<b>√</b>		<b>√</b>			<b>√</b>	
STD L.4.2b	Use commas and quotation marks to mark direct speech and quotations from a text.						✓			<b>✓</b>						<b>✓</b>
STD L.4.2c	Use a comma before a coordinating conjunction in a compound sentence.															
STD L.4.2d	Spell grade-appropriate words correctly, consulting references as needed.						✓			<b>✓</b>	<b>✓</b>	✓			<b>✓</b>	<b>✓</b>
Knowledge	e of Language															
STD L.4.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	✓	<b>√</b>	<b>√</b>	<b>✓</b>	<b>✓</b>
STD L.4.3a	Choose words and phrases to convey ideas precisely.	<b>√</b>	<b>✓</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>✓</b>	<b>✓</b>
STD L.4.3b	Choose punctuation for effect.															
STD L.4.3c	Differentiate between contexts that call for formal English (e.g., presenting ideas) and situations where informal discourse is appropriate (e.g., small-group discussion).	✓													<b>✓</b>	

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Unit 6: Geol	ogy 	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Vocabulary	Acquisition and Use															
STD L.4.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on Grade 4 reading and content, choosing flexibly from a range of strategies.		<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>√</b>	<b>✓</b>			<b>✓</b>
STD L.4.4a	Use context (e.g., definitions, examples, or restatements in text) as a clue to the meaning of a word or phrase.		<b>√</b>	<b>√</b>				<b>√</b>	<b>√</b>		<b>√</b>			<b>√</b>		<b>✓</b>
STD L.4.4b	Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., telegraph, photograph, autograph).		<b>√</b>		<b>√</b>		<b>✓</b>			<b>√</b>		<b>√</b>			<b>√</b>	<b>✓</b>
STD L.4.4c	Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.	<b>✓</b>	<b>√</b>		<b>✓</b>		<b>✓</b>	<b>✓</b>	<b>✓</b>		<b>✓</b>		<b>✓</b>	<b>✓</b>		
STD L.4.5	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	✓		<b>√</b>							
STD L.4.5a	Explain the meaning of simple similes and metaphors (e.g., as pretty as a picture) in context.	<b>✓</b>	<b>√</b>	<b>√</b>						<b>√</b>					<b>√</b>	
STD L.4.5b	Recognize and explain the meaning of common idioms, adages, and proverbs.			<b>√</b>						<b>√</b>		✓				<b>√</b>
STD L.4.5c	Demonstrate understanding of words by relating them to their opposites (antonyms) and to words with similar but not identical meanings (synonyms).				<b>√</b>	<b>✓</b>			<b>√</b>	<b>√</b>		<b>√</b>		<b>✓</b>		
STD L.4.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal precise actions, emotions, or states of being (e.g., quizzed, whined, stammered) and that are basic to a particular topic (e.g., wildlife, conservation, and endangered when discussing animal preservation).	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	✓	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>	✓	<b>✓</b>	<b>✓</b>	<b>✓</b>	<b>✓</b>

Unit 6. Coo	James							Le	essol	ns						
Unit 6: Geo	оюду	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CKLA Ob	jectives															
CKLA	Use a comma to separate day and year in a date; city and state in an address; and items in a series		<b>✓</b>		<b>✓</b>											<b>✓</b>
CKLA	Use common, grade-appropriate roots and affixes as clues to the meaning of a word.											<b>✓</b>			<b>✓</b>	<b>✓</b>