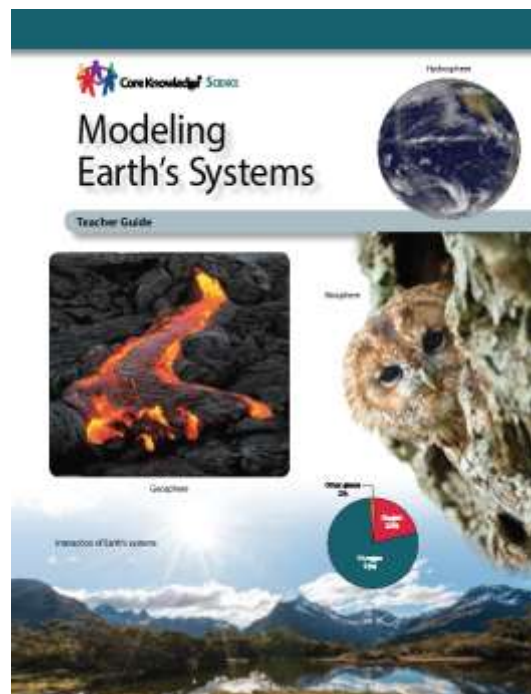


Modeling Earth's Systems

Click on each lesson to access its online resources. Page numbers refer to pages in the Teacher Guide. Some links provide access to files created by the Core Knowledge Foundation, including PDF documents that you can download and view with the appropriate software (such as [Adobe Reader](#)).

	About This Unit
Part A	Lesson 1
	Lesson 2
	Lesson 3
	Lesson 4
	Lesson 5
	Lesson 6
Part B	Lesson 7
	Lesson 8
	Lesson 9
	Lesson 10
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	Lesson 12
Unit Review & Assessment	UR Lesson
	Culminating Resources
	Teacher Resources



Extend and customize this unit using the [CKSci Additional Activities](#)



Online Resources

About This Unit

Page	Resource Links
1	<p>Note to Teachers and Curriculum Planners</p> <ul style="list-style-type: none">• The learning progressions of Disciplinary Core Ideas offer guidance regarding the scope and sequence of learning about Earth’s Systems in the elementary grades and beyond:<ul style="list-style-type: none">○ ESS2.C The Roles of Water in Earth’s Surface Processes○ ESS2.A: Earth Materials and Systems• Learn more about these core ideas and their related content by reading the corresponding section of A Framework for K–12 Science Education. <p>See also the Teachers Resources section of this guide.</p>
2	<p>Notes to Core Knowledge Teachers: 2019 Core Knowledge Science Sequence for this unit: Domain—Modeling Earth’s Systems CKSci correlations to the 2010 Core Knowledge Sequence—</p> <ul style="list-style-type: none">• GRADE 3• GRADE 4• GRADE 5
3	<p>This unit has been informed by the following Next Generation Science Standards (NGSS) Performance Expectations: Topic—5. Earth’s Systems</p> <ul style="list-style-type: none">• 5-ESS2-1• 5-ESS2-2
14	Resources for Effective and Safe Classroom Activities
15	Materials Supply List: Grade 5 Unit 3 Modeling Earth’s Systems
17	Pacing Guides for CKSci Grades 3–5

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Part A: SPHERES OF THE EARTH

Lesson 1

Page	Resource Links
23	Performance Expectation: <ul style="list-style-type: none"> • 5-ESS2-1 • Evidence Statements for 5-ESS2-1
	Disciplinary Core Idea: <i>ESS2.A Earth Materials and Systems</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 56-59
26	[VIDEO] Earth from space

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Lesson 2

Page	Resource Links
28	Performance Expectation: <ul style="list-style-type: none"> • 5-ESS2-2 • Evidence Statements for 5-ESS2-2
	Disciplinary Core Idea: ESS2.C <i>The Roles of Water in Earth's Surface Processes</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 184-186
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 89-91
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Using Mathematics and Computational Thinking</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 64-67
29, 31	[web link] Google Earth

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Lesson 3

Page	Resource Links
36	Performance Expectation: <ul style="list-style-type: none"> • 5-ESS2-2 • Evidence Statements for 5-ESS2-2
	Disciplinary Core Idea: ESS2.C <i>The Roles of Water in Earth's Surface Processes</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 184-186
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 89-91
	Science and Engineering Practice: <i>Using Mathematics and Computational Thinking</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 64-67
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none"> • From the <i>Framework</i>: pg. 56-59

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Online Resources

Lesson 4

Page	Resource Links
41	Disciplinary Core Idea: <i>ESS2.A Earth Materials and Systems</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 91-94
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 89-91
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 56-59
42	[VIDEO] Eruption of Kilauea
45	[WEBLINK] Volcano world

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Online Resources

Lesson 5

Page	Resource Links
48	Disciplinary Core Idea: <i>ESS2.A Earth Materials and Systems</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 91-94
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 89-91
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 56-59

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Online Resources

Lesson 6

Page	Resource Links
54	Disciplinary Core Idea: <i>ESS2.A Earth Materials and Systems</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 56-59
58	[weblink] <ul style="list-style-type: none">World biome mapTerrestrial biomes

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Part B: MODELING EARTH'S SYTEMS

Lesson 7

Page	Resource Links
63	Disciplinary Core Idea: <i>ESS2.A Earth Materials and Systems</i> <ul style="list-style-type: none"> From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none"> From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none"> From the <i>Framework</i>: pg. 56-59
65	[VIDEO] Landslide
66	[VIDEO] Volcanic eruption
67-68	[WEBLINK options] <ul style="list-style-type: none"> Gorilla diorama Girl with donkey diorama Water cycle diagram Flowchart Organization chart Venn diagram Graph

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Online Resources

Lesson 8

Page	Resource Links
70	Disciplinary Core Idea: <i>ESS2.A Earth Materials and Systems</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 56-59

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Lesson 9

Page	Resource Links
76	Disciplinary Core Idea: ESS2.A <i>Earth Materials and Systems</i> <ul style="list-style-type: none"> From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none"> From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none"> From the <i>Framework</i>: pg. 56-59
79	[VIDEO] Time lapse of island formation
81	[web link] Google Earth

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Online Resources

Lesson 10

Page	Resource Links
83	Disciplinary Core Idea: ESS2.A <i>Earth Materials and Systems</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 56-59

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Online Resources

Lesson 11

Page	Resource Links
89	Disciplinary Core Idea: <i>ESS2.A Earth Materials and Systems</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 56-59
93	[VIDEO] Parrotfish feeding on coral

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Online Resources

Lesson 12

Page	Resource Links
94	Disciplinary Core Idea: <i>ESS2.A Earth Materials and Systems</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 179-182
	Crosscutting Concept: <i>Systems and System Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 91-94
	Science and Engineering Practice: <i>Developing and Using Models</i> <ul style="list-style-type: none">From the <i>Framework</i>: pg. 56-59
98	[WEBLINK OPTIONS] <ul style="list-style-type: none">National GeographicPBS LearningBrittanicaNational Science Foundation-GeosciencesNational Science Foundation-Biological SciencesNational Oceanic and Atmospheric AdministrationSmithsonian

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[Unit Review Lesson →](#)

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Online Resources

Unit Review and Assessment

UR Lesson

Page	Resource Links
102	Performance Expectation: <ul style="list-style-type: none">• 5-ESS2-1• Evidence Statements for 5-ESS2-1
	Performance Expectation: <ul style="list-style-type: none">• 5-ESS2-2• Evidence Statements for 5-ESS2-2
104	[VIDEO] Kepler telescope findings
105	[WEBLINK] Kepler mission timeline
106	[WEBLINK options] <ul style="list-style-type: none">• Ocean biome in Biosphere 2• Biosphere 2 documentary• Kepler end of mission• TESS

Culminating Unit Assessment

Page	Resource Links
158	Unit Assessment: Teacher Evaluation Guide

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Online Resources

Teacher Resources

Page	Resource Links
10	Resources for Effective & Safe Classroom Activities (also, see below re: page 116)
11	Materials Supply List: Grade 5 Unit 3 Modeling Earth's Systems
108	Activity Pages Answer Key
110	Unit Assessment: Teacher Evaluation Guide
116	Safety in the Science Classroom: <ul style="list-style-type: none">• NSTA Safety Resources• Safety Resources for Elementary Teachers
	Teacher Guide Appendices: <ul style="list-style-type: none">• Appendix A – Glossary• Appendix B – Safety for Activities• Appendix C – Strategies for Acquiring Materials• Appendix D – Advance Preparation• Appendix E – Unexpected Activity Results

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