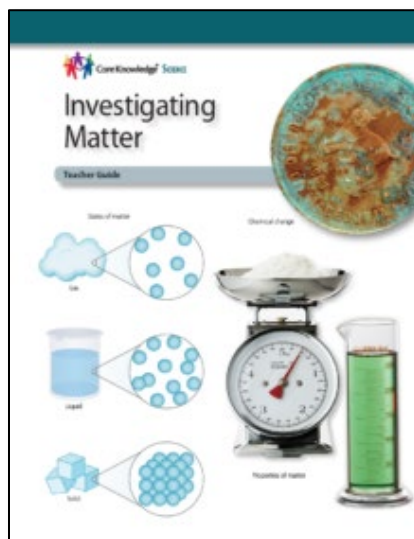


## Investigating Matter

Click on each section link 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](#)).

	<a href="#">About This Unit</a>
<b>Part A</b>	<a href="#">Lesson 1</a>
	<a href="#">Lesson 2</a>
	<a href="#">Lesson 3</a>
<b>Part B</b>	<a href="#">Lesson 4</a>
	<a href="#">Lesson 5</a>
<b>Part C</b>	<a href="#">Lesson 6</a>
	<a href="#">Lesson 7</a>
<b>Part D</b>	<a href="#">Lesson 8</a>
	<a href="#">Lesson 9</a>
	<a href="#">Lesson 10</a>
<b>Part E</b>	<a href="#">Lesson 11</a>
	<a href="#">Lesson 12</a>
<b>Unit Review &amp; Assessment</b>	<a href="#">UR Lesson</a>
	<a href="#">Culminating Assessment</a>
	<a href="#">Teacher Resources</a>



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



## About This Unit

Page	Resource Links
1	<p>Note to Teachers and Curriculum Planners:</p> <ul style="list-style-type: none"> <li>The learning progressions of Disciplinary Core Idea <a href="#">PS1.A Structure and Properties of Matter</a> as well as <a href="#">PS1.B Chemical Reactions</a> offer guidance regarding the scope and sequence of learning about matter in the elementary grades and beyond.</li> <li>Learn more about these core ideas and their related content by reading the corresponding section of <i>A Framework for K–12 Science Education</i>: <a href="#">pg. 106–111</a></li> </ul> <p>See also the <a href="#">Teacher Resources</a> section of this guide.</p>
2	<p>Notes to Core Knowledge Teachers:</p> <p><i>2019 Core Knowledge Science Sequence</i> for this unit:</p> <p>Domain—<a href="#">Investigating Matter</a></p> <p>CKSci correlations to the <i>2010 Core Knowledge Sequence</i>—</p> <ul style="list-style-type: none"> <li><a href="#">GRADE 3</a></li> <li><a href="#">GRADE 4</a></li> <li><a href="#">GRADE 5</a></li> <li><a href="#">Interactive graphic of these correlations</a></li> </ul>
3	<p>This unit has been informed by the following Next Generation Science Standards (NGSS) Performance Expectations:</p> <p>Topic—<a href="#">5. Structure and Properties of Matter</a></p> <ul style="list-style-type: none"> <li><a href="#">5-PS1-1</a></li> <li><a href="#">5-PS1-2</a></li> <li><a href="#">5-PS1-3</a></li> <li><a href="#">5-PS1-4</a></li> </ul> <p>Learn more about the Next Generation Science Standards:</p> <p><a href="#">Additional Resources to Understand the Three Dimensions of the Next Generation Science Standards</a></p>
11	<a href="#">Resources for Effective &amp; Safe Classroom Activities</a>
12	<a href="#">Materials Supply List: Grade 5 Unit 1 Matter</a>
14	<a href="#">Pacing Guides for CKSci Grades 3–5</a>

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[Lesson 1 →](#)

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## Part A: Properties of Matter

### Lesson 1

Page	Resource Links
20	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106–109</a></li> </ul>
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 89–91</a></li> </ul>
	Science and Engineering Practice: <i>Planning and Carrying Out Investigations</i> From the <i>Framework</i> : <a href="#">Bottom of pg. 59–61</a>

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## Lesson 2

Page	Resource Links
28	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106-109</a></li> </ul>
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 89-91</a></li> </ul>
31	<ul style="list-style-type: none"> <li>Consider the goals of <a href="#">5-PS1-3</a> (fully addressed during Lesson 3)</li> </ul>
33	[VIDEO OPTION] <ul style="list-style-type: none"> <li>PBS ZOOM: <a href="#">Buoyancy</a></li> </ul>

## Lesson 3

Page	Resource Links
36	Performance Expectation: <a href="#">5-PS1-3</a> <ul style="list-style-type: none"> <li><a href="#">Evidence Statements for 5-PS1-3</a></li> </ul>
	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106-109</a></li> </ul>
	Science and Engineering Practices: <ul style="list-style-type: none"> <li><i>Planning and Carrying Out Investigations</i> (SEP #3) From the <i>Framework</i> <a href="#">pg. 59-61</a></li> <li><i>Engaging in Argument from Evidence</i> From the <i>Framework</i> pg. <a href="#">71-74</a></li> </ul>
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 89-91</a></li> </ul>

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## Part B: Structure of Matter

### Lesson 4

Page	Resource Links
49	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106–109</a></li> </ul>
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 89–91</a></li> </ul>
	Science and Engineering Practices Developing and Using Models (SEP #2); From the <i>Framework</i> <a href="#">pg. 56–59</a>
56	[VIDEO OPTION] <ul style="list-style-type: none"> <li><a href="#">Boiling Ocean Water</a></li> </ul>

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## Part B: (continued)

### Lesson 5

Page	Resource Links
58	Performance Expectation: <a href="#">5-PS1-1</a> <ul style="list-style-type: none"> <li><a href="#">Evidence Statements for 5-PS1-1</a></li> </ul>
	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106–109</a></li> </ul>
	Science and Engineering Practices <ul style="list-style-type: none"> <li>Developing and Using Models (SEP #2); From the <i>Framework</i> <a href="#">pg. 56–59</a></li> </ul>
62	[VIDEO OPTION] <ul style="list-style-type: none"> <li><a href="#">Convection in Water</a></li> </ul>

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## Part C: Physical Changes in Matter

### Lesson 6

Page	Resource Links
66	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106-109</a></li> </ul>
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 89-91</a></li> </ul>
	Science and Engineering Practices: <i>Using Mathematics and Computational Thinking</i> (SEP #5) <ul style="list-style-type: none"> <li>From the <i>Framework</i> <a href="#">pg. 64-67</a></li> </ul>

### Lesson 7

Page	Resource Links
72	Performance Expectation: <a href="#">5-PS1-2</a> <ul style="list-style-type: none"> <li><a href="#">Evidence Statements for 5-PS1-2</a></li> </ul>
	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106-109</a></li> </ul>
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 89-91</a></li> </ul>
	Science and Engineering Practices: <i>Using Mathematics and Computational Thinking</i> (SEP #5) <ul style="list-style-type: none"> <li>From the <i>Framework</i> <a href="#">pg. 64-67</a></li> </ul>

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## Part D: Interactions of Matter

### Lesson 8

Page	Resource Links
77	Disciplinary Core Idea: PS1.B <i>Chemical Reactions</i> From the <i>Framework</i> : <a href="#">Middle of pg. 109-111</a>
	Crosscutting Concept: <i>Cause and Effect</i> From the <i>Framework</i> : <a href="#">pg. 86-89</a>
	Science and Engineering Practice: <i>Planning and Carrying Out Investigations</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 59-61</a></li> </ul>
79	Classroom Safety Resources: <ul style="list-style-type: none"> <li><a href="#">Teacher Guide Appendix B – Safety for Activities</a></li> <li><a href="#">NSTA Safety Resources</a></li> <li><a href="#">Safety Resources for Elementary Teachers</a></li> </ul>

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## Part D: (continued)

### Lesson 9

Page	Resource Links
82	Disciplinary Core Idea: PS1.B <i>Chemical Reactions</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Middle of pg. 109-111</a></li> </ul>
	Crosscutting Concept: <i>Cause and Effect</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 86-89</a></li> </ul>
84	[VIDEO OPTION] <ul style="list-style-type: none"> <li><a href="#">Precipitation</a></li> </ul>

### Lesson 10

Page	Resource Links
89	Performance Expectations: <a href="#">5-PS1-4</a> (as well as reinforcing/extending 5-PS1-2) <ul style="list-style-type: none"> <li><a href="#">Evidence Statements for 5-PS1-4</a></li> </ul>
	Disciplinary Core Idea: PS1.B <i>Chemical Reactions</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Middle of pg. 109-111</a></li> </ul>
	Crosscutting Concepts: <ul style="list-style-type: none"> <li><i>Cause and Effect</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 86-89</a></li> </ul> </li> <li><i>Systems and System Models</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 91-94</a></li> </ul> </li> </ul>
	Science and Engineering Practice: <i>Planning and Carrying Out Investigations</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 59-61</a></li> </ul>

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## Part E: Introduction to the Language of Chemistry

### Lesson 11

Page	Resource Links
94	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106–109</a></li> </ul>
	Crosscutting Concept: <i>Scale, Proportion, and Quantity</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">Bottom of pg. 89–91</a></li> </ul>
	Science and Engineering Practice: <i>Obtaining, Evaluating, and Communicating Information</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: Bottom of pg. 87–89</li> </ul>
97	[Student/Teacher Reference] <ul style="list-style-type: none"> <li><a href="#">Royal Society of Chemistry – Periodic Table</a></li> <li><a href="#">Interactive Periodic Table</a></li> <li><a href="#">The Photographic Periodic Table</a></li> </ul>

### Lesson 12

Page	Resource Links
100	Disciplinary Core Idea: PS1.A <i>Structure and Properties of Matter</i> <ul style="list-style-type: none"> <li>From the <i>Framework</i>: <a href="#">pg. 106–109</a></li> </ul>
	Science and Engineering Practices: <ul style="list-style-type: none"> <li>Developing and Using Models (SEP #2); From the <i>Framework</i> <a href="#">pg. 56–59</a></li> </ul>

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## Unit Review and Assessment

### UR Lesson

Page	Resource Links
103	NGSS Performance Expectations addressed by this unit: Topic— <a href="#">5. Structure and Properties of Matter</a> <ul style="list-style-type: none"> <li>• <a href="#">5-PS1-1</a></li> <li>• <a href="#">5-PS1-2</a></li> <li>• <a href="#">5-PS1-3</a></li> <li>• <a href="#">5-PS1-4</a></li> </ul>

## Culminating Unit Assessment

Page	Resource Links
155	<a href="#">Unit Assessment: Teacher Evaluation Guide</a>

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[Teacher Resources →](#)



## Teacher Resources

Page	Resource Links
3	<a href="#">Additional Resources to Understand the Three Dimensions of the Next Generation Science Standards</a>
11	<a href="#">Resources for Effective &amp; Safe Classroom Activities</a> (see also links below re: page 159)
12	<a href="#">Materials Supply List: Grade 5 Unit 1 Matter</a>
15	<a href="#">Pacing Guides for CKSci Grades 3–5</a>
108	<a href="#">Activity Pages Answer Key</a>
155	<a href="#">Unit Assessment: Teacher Evaluation Guide</a>
159	Safety in the Science Classroom: <ul style="list-style-type: none"> <li>• <a href="#">NSTA Safety Resources</a></li> <li>• <a href="#">Safety Resources for Elementary Teachers</a></li> </ul>
	<b>Teacher Guide Appendices:</b> <ul style="list-style-type: none"> <li>• Appendix A – <a href="#">Glossary</a></li> <li>• Appendix B – <a href="#">Safety for Activities</a></li> <li>• Appendix C – <a href="#">Strategies for Acquiring Materials</a></li> <li>• Appendix D – <a href="#">Advance Preparation</a></li> <li>• Appendix E – <a href="#">Unexpected Activity Results</a></li> </ul>

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