



**A Correlation of the  
STC PROGRAM™  
with the Arkansas K-8  
Science Curriculum Framework**

Prepared by

**Carolina Biological Supply Company**

2700 York Road • Burlington NC 27215-3398  
800.227.1150 • [www.carolina.com](http://www.carolina.com)

## Introduction

The STC PROGRAM™ is made up of 2 research-based, inquiry-centered curriculums:

- Science and Technology for Children® (STC®) for grades K–6; and
- Science and Technology Concepts for Middle Schools™ (STC/MS™) for grades 6–8

This document gives a quick visual guide to the alignment of STC PROGRAM™ units with the Arkansas Science Curriculum Framework, grades K–8. Although each STC® and STC/MS™ unit was developed for use at a specific grade level, there is some flexibility in grade placement. Recommended grade ranges are indicated in the chart below.

For more information about any of these instructional materials, visit [www.carolina.com/STC](http://www.carolina.com/STC).

**STC PROGRAM™ Units with Recommended Grade Ranges**

	Grades	Life Science	Earth Science	Physical Science	Technology
<b>STC®</b>	<b>K–1</b>	<i>Organisms</i> (O)	<i>Weather</i> (W)	<i>Solids and Liquids</i> (SL)	<i>Comparing and Measuring</i> (CM)
	<b>1–3</b>	<i>The Life Cycle of Butterflies</i> (LCB)	<i>Soils</i> (S)	<i>Changes</i> (C)	<i>Balancing and Weighing</i> (BW)
	<b>2–4</b>	<i>Plant Growth and Development</i> (PGD)	<i>Rocks and Minerals</i> (RM)	<i>Chemical Tests</i> (CT)	<i>Sound</i> (So)
	<b>3–5</b>	<i>Animal Studies</i> (AS)	<i>Land and Water</i> (LW)	<i>Electric Circuits</i> (EC)	<i>Motion and Design</i> (MD)
	<b>4–6</b>	<i>Microworlds</i> (M)	<i>Ecosystems</i> (E)	<i>Food Chemistry</i> (FC)	<i>Floating and Sinking</i> (FS)
	<b>5–7</b>	<i>Experiments with Plants</i> (EP)	<i>Measuring Time</i> (MT)	<i>Magnets and Motors</i> (MM)	<i>The Technology of Paper</i> (TP)
<b>STC/MS™</b>	<b>6–8</b>	<i>Human Body Systems</i> (HBS)	<i>Catastrophic Events</i> (CE)	<i>Properties of Matter</i> (PM)	<i>Energy, Machines, and Motion</i> (EMM)
		<i>Organisms—From Macro to Micro</i> (OMM)	<i>Earth in Space</i> (ES)	<i>Light</i> (L)	<i>Electrical Energy and Circuit Design</i> (EED)

## Legend

To save paper, the curriculum location information in this document has been abbreviated as follows:

- Unit abbreviations = noted in parentheses in the chart above
- TG = Teacher’s guide
- SG = Student Guide (for the STC/MS™ units only. All information found in an STC® student book is included in that unit’s Teacher’s Guide, so STC® student books aren’t mentioned in this document)
- S-Sec3 = Section 3 (containing a section on safety) in the STC® Teacher’s Guide
- Sec4 = Section 4 (containing the unit lessons) in the STC® Teacher’s Guide

- L01, L02, etc. = Lesson 1, Lesson 2, etc.
- p, pp = page, pages
- RB = STC BOOK™ (a science reading book included in the grades 3–5, 4–6, and 5–7 STC® unit kits)
- Exts = Extensions (found at the end of most lessons in the Teacher’s Guide)

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Arkansas K–8 Science Curriculum Framework**

<b>KINDERGARTEN</b>	
<b>Strand 1: Nature of Science</b>	<b>Curriculum Location</b>
<i>Standard 1: Characteristics and Processes of Science</i>	
NS.1.K.1 Record observations pictorially, orally, and in writing	CM - TG: Sec4.All lessons O - TG: Sec4.All lessons except L13 and L14 SL - TG: Sec4.All lessons except L08 W - TG: Sec4.All lessons except L14
NS.1.K.2 Ask questions based on observations	SL - TG: Sec4.L06 (pp47-54)
NS.1.K.3 Conduct <i>scientific investigations</i> as a class and in teams: <ul style="list-style-type: none"> <li>▪ <i>lab activities</i></li> <li>▪ <i>field studies</i></li> </ul>	CM - TG: Sec4.All lessons O - TG: Sec4.All lessons SL - TG: Sec4.All lessons W - TG: Sec4.All lessons
NS.1.K.4 Estimate and measure length, <i>mass</i> , and capacity/volume of familiar objects using non-standard units	CM - TG: Sec4.All lessons SL - TG: Sec4.L09.Exts (p73) W - TG: Sec4.L03 (pp25-32) W - TG: Sec4.L04 (pp33-42) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L07 (pp63-70) W - TG: Sec4.L08 (pp71-82) W - TG: Sec4.L10 (pp91-100) W - TG: Sec4.L17 (pp149-150)
NS.1.K.5 Estimate relative <i>temperature of matter</i> (e.g., objects, <i>living things</i> , and earth materials)	W - TG: Sec4.L06.Exts (pp57-58) W - TG: Sec4.L07.Exts (p67) W - TG: Sec4.L08.Exts (p76)
NS.1.K.6 Collect <i>empirical evidence</i> as a class	CM - TG: Sec4.All lessons O - TG: Sec4.L01 (pp3-10) O - TG: Sec4.L03 (pp21-36) SL - TG: Sec4.L02 (pp11-18) SL - TG: Sec4.L04 (pp29-40) SL - TG: Sec4.L07 (pp55-62) SL - TG: Sec4.L09 (pp69-80) SL - TG: Sec4.L10.Exts (p85) SL - TG: Sec4.L11.Exts (p92) W - TG: Sec4.L02 (pp11-24) W - TG: Sec4.L03 (pp25-32) W - TG: Sec4.L04 (pp33-42) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L06 (pp55-62) W - TG: Sec4.L07 (pp63-70) W - TG: Sec4.L08 (pp71-82) W - TG: Sec4.L09 (pp83-90) W - TG: Sec4.L10 (pp91-100) W - TG: Sec4.L11 (pp101-112) W - TG: Sec4.L12 (pp113-122) W - TG: Sec4.L15 (pp135-140) W - TG: Sec4.L16 (pp141-148)

<p>NS.1.K.7 Use age-appropriate equipment and tools in <i>scientific investigations</i> (e.g., balances and hand lenses)</p>	<p>CM - TG: Sec4.All lessons O - TG: Sec4.All lessons except L01 and L17 SL - TG: Sec4.All lessons W - TG: Sec4.L04 (pp33-42) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L06 (pp55-62) W - TG: Sec4.L07 (pp63-70) W - TG: Sec4.L08 (pp71-82) W - TG: Sec4.L10 (pp91-100)</p>
<p>NS.1.K.8 Apply appropriate rules of safety related to daily activities</p>	<p>CM - TG: S-Sec3 (pp8-11) O - TG: S-Sec3 (pp19-24) SL - TG: Sec4.L10 (pp81-86) SL - TG: S-Sec3 (pp9-18) W - TG: Sec4.L04 (pp33-42) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L07 (pp63-70) W - TG: Sec4.L08 (pp71-82) W - TG: Sec4.L09 (pp83-90) W - TG: Sec4.L11 (pp101-112) W - TG: Sec4.L13 (pp123-128) W - TG: S-Sec3 (pp9-12)</p>
<p>NS.1.K.9 Apply lab safety rules as they relate to specific science <i>lab activities</i> (see Arkansas Lab Safety Guide)</p>	<p>CM - TG: S-Sec3 (pp8-11) O - TG: S-Sec3 (pp19-24) SL - TG: Sec4.L10 (pp81-86) SL - TG: S-Sec3 (pp9-18) W - TG: Sec4.L04 (pp33-42) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L07 (pp63-70) W - TG: Sec4.L08 (pp71-82) W - TG: Sec4.L09 (pp83-90) W - TG: Sec4.L11 (pp101-112) W - TG: Sec4.L13 (pp123-128) W - TG: S-Sec3 (pp9-12)</p>
<p><b>Strand 2: Life Science</b></p>	
<p><i>Standard 2: Living Systems: Characteristics, Structure, and Function</i></p>	
<p>LS.2.K.1 Classify <i>living</i> and <i>non-living</i> things</p>	<p>O - TG: Sec4.L01 (pp3-10) O - TG: Sec4.L15 (pp155-168) O - TG: Sec4.L17 (pp179-182)</p>
<p>LS.2.K.2 Differentiate between plants and animals</p>	<p>O - TG: Sec4.L04 (pp36-52) O - TG: Sec4.L05 (pp53-64) O - TG: Sec4.L06 (pp65-74) O - TG: Sec4.L13 (pp135-148) O - TG: Sec4.L14 (pp149-154) O - TG: Sec4.L15.Exts (pp159-160) W - TG: Sec4.L10.Exts (p95)</p>
<p>LS.2.K.3 Match parents and offspring</p>	<p>O - TG: Sec4.L07 (pp75-86) O - TG: Sec4.L08 (pp87-96) O - TG: Sec4.L09 (pp97-104) O - TG: Sec4.L10 (pp105-118)</p>
<p>LS.2.K.4 Identify basic needs of plants and animals:</p> <ul style="list-style-type: none"> <li>▪ food</li> <li>▪ water</li> </ul>	<p>O - TG: Sec4.All lessons except L11</p>

<ul style="list-style-type: none"> <li>▪ light</li> <li>▪ air</li> <li>▪ space</li> </ul>	
<p>LS.2.K.5 Name and describe the five senses</p>	<p>O - TG: Sec4.L02 (pp11-20) W - TG: Sec4.L02 (pp11-24)</p>
<p>LS.2.K.6 Discuss the functions of the five senses</p>	
<p>LS.2.K.7 Identify the basic materials for oral hygiene</p>	
<p>LS.2.K.8 Demonstrate the proper technique for cleaning teeth</p>	
<i>Standard 3: Life Cycles, Reproduction, and Heredity</i>	
<p>LS.3.K.1 Describe plant development and growth</p>	<p>O - TG: Sec4.L03.Exts (pp29-30) O - TG: Sec4.L06 (pp65-74) O - TG: Sec4.L11 (pp119-126) O - TG: Sec4.L12 (pp127-134) O - TG: Sec4.L13 (pp135-148)</p>
<p>LS.3.K.2 Illustrate <i>complete metamorphosis</i> (e.g., butterfly, frog)</p>	<p>O - TG: Sec4.L09 (pp97-104) O - TG: Sec4.L10 (pp105-118)</p>
<i>Standard 4: Populations and Ecosystems</i>	
<p>LS.4.K.1 Recognize what it means for a <i>species</i> to be <i>extinct</i></p>	
<b>Strand 3: Physical Science</b>	
<i>Standard 5: Matter: Properties and Changes</i>	
<p>PS.5.K.1 List and classify objects according to the single properties of</p> <ul style="list-style-type: none"> <li>▪ size</li> <li>▪ color</li> <li>▪ shape</li> </ul>	
<i>Standard 6: Motion and Forces</i>	
<p>PS.6.K.1 Demonstrate spatial relationships, including but not limited to</p> <ul style="list-style-type: none"> <li>▪ over</li> <li>▪ under</li> <li>▪ left</li> <li>▪ right</li> </ul>	
<p>PS.6.K.2 Demonstrate various ways that objects can move, including but not limited to</p> <ul style="list-style-type: none"> <li>▪ straight</li> <li>▪ zig-zag</li> <li>▪ back and forth</li> <li>▪ round and round</li> <li>▪ fast and slow</li> </ul>	
<p>PS.6.K.3 Demonstrate the effects of the <i>force of gravity</i> on objects</p>	<p>SL - TG: Sec4.L03 (pp19-28) SL - TG: Sec4.L04 (pp29-40)</p>
<i>Standard 7: Energy and Transfer of Energy</i>	
<p>PS.7.K.1 Classify objects in terms of their relative <i>temperature</i> (e.g., hotter and colder)</p>	<p>W - TG: Sec4.L06.Exts (pp57-58) W - TG: Sec4.L07.Exts (p67) W - TG: Sec4.L08.Exts (p76)</p>

PS.7.K.2 Identify uses of <i>electricity</i>	
PS.7.K.3 Identify ways to conserve <i>electricity</i> in the classroom and at home	
PS.7.K.4 Demonstrate effects of magnets on each other and other objects	SL - TG: Sec4.L07 (pp55-62) SL - TG: Sec4.L08 (pp63-68) SL - TG: Sec4.L09 (pp69-80)
PS.7.K.5 List some uses of magnets in everyday objects	SL - TG: Sec4.L07 (pp55-62) SL - TG: Sec4.L08 (pp63-68) SL - TG: Sec4.L09 (pp69-80)
PS.7.K.6 Investigate magnets of various shapes	
<b>Strand 4: Earth and Space Science</b>	
<i>Standard 8: Earth Systems: Structure and Properties</i>	
ESS.8.K.1 Identify various characteristics of Earth's surface	
ESS.8.K.2 Identify the uses of land and water	
ESS.8.K.3 Classify resources as natural or man-made	W - TG: Sec4.L12 (pp113-122)
ESS.8.K.4 Identify ways natural and man-made materials can be reused or recycled	SL - TG: Sec4.L14.Exts (p114)
ESS.8.K.5 Chart weather conditions every day	W - TG: Sec4.All lessons except L08
ESS.8.K.6 Describe the four seasons	O - TG: Sec4.L04.Exts (pp43-45)
ESS.8.K.7 Demonstrate safety procedures related to severe weather	W - TG: Sec4.L01 (pp3-10) W - TG: Sec4.L06 (pp55-62) W - TG: Sec4.L15 (pp135-140) W - TG: Sec4.L17 (pp149-150)
<i>Standard 10: Objects in the Universe</i>	
ESS.10.K.1 Distinguish between celestial bodies and other objects in the sky: <ul style="list-style-type: none"> <li>▪ sun</li> <li>▪ moon</li> <li>▪ other stars</li> <li>▪ clouds</li> <li>▪ birds</li> <li>▪ planes</li> </ul>	
<b>GRADE 1</b>	
<b>Strand 1: Nature of Science</b>	<b>Curriculum Location</b>
<i>Standard 1: Characteristics and Processes of Science</i>	
NS.1.1.1 Communicate observations orally, in writing, and in graphic organizers: <ul style="list-style-type: none"> <li>▪ T-charts</li> <li>▪ pictographs</li> </ul>	BW - TG: Sec4.All lessons CM - TG: Sec4.All lessons C - TG: Sec4.All lessons LCB - TG: Sec4.All lessons O - TG: Sec4.All lessons except L13 SL - TG: Sec4.All lessons S - TG: Sec4.All lessons

	W - TG: Sec4.All lessons except L09 and I10
NS.1.1.2 Ask questions based on observations	BW - TG: Sec4.L01 (pp3-8) BW - TG: Sec4.L11.Exts (p94) BW - TG: Sec4.L14 (pp115-122) SL - TG: Sec4.L06 (pp47-54) S - TG: Sec4.L17 (pp169-172)
NS.1.1.3 Conduct <i>scientific investigations</i> as a class and in teams: <ul style="list-style-type: none"> <li>▪ <i>lab activities</i></li> <li>▪ <i>field studies</i></li> </ul>	BW - TG: Sec4.All lessons CM - TG: Sec4.All lessons C - TG: Sec4.All lessons LCB - TG: Sec4.All lessons O - TG: Sec4.All lessons SL - TG: Sec4.All lessons S - TG: Sec4.All lessons W - TG: Sec4.All lessons
NS.1.1.4 Estimate and measure length and <i>temperature</i> using International System of Units (SI) as a class	
NS.1.1.5 Collect measurable <i>empirical evidence</i> as a class and in teams	BW - TG: Sec4.All lessons CM - TG: Sec4.All lessons C - TG: Sec4.All lessons LCB - TG: Sec4.L02 (pp11-18) LCB - TG: Sec4.L13 (pp81-84) O - TG: Sec4.L01 (pp3-10) O - TG: Sec4.L03 (pp21-36) SL - TG: Sec4.L02 (pp11-18) SL - TG: Sec4.L04 (pp29-40) SL - TG: Sec4.L07 (pp55-62) SL - TG: Sec4.L09 (pp69-80) SL - TG: Sec4.L10.Exts (p85) SL - TG: Sec4.L11.Exts (p92) W - TG: Sec4.L02 (pp11-24) W - TG: Sec4.L03 (pp25-32) W - TG: Sec4.L04 (pp33-42) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L06 (pp55-62) W - TG: Sec4.L07 (pp63-70) W - TG: Sec4.L08 (pp71-82) W - TG: Sec4.L09 (pp83-90) W - TG: Sec4.L10 (pp91-100) W - TG: Sec4.L11 (pp101-112) W - TG: Sec4.L12 (pp113-122) W - TG: Sec4.L15 (pp135-140) W - TG: Sec4.L16 (pp141-148)
NS.1.1.6 Make predictions as a class and in teams based upon <i>empirical evidence</i> (e.g., predict which object is heavier)	BW - TG: Sec4.L08 (pp61-72) BW - TG: Sec4.L09 (pp73-78) BW - TG: Sec4.L13 (pp107-114) BW - TG: Sec4.L14.Exts (pp118-119) BW - TG: Sec4.L16 (pp129-136) CM - TG: Sec4.L04 (pp23-30) CM - TG: Sec4.L05 (pp31-42) CM - TG: Sec4.L08 (pp59-64) CM - TG: Sec4.L11 (pp75-80) CM - TG: Sec4.L12 (pp81-86) CM - TG: Sec4.L14 (pp93-98)

	<p>CM - TG: Sec4.L16 (pp111-116)  C - TG: Sec4.L01 (pp3-20)  C - TG: Sec4.L02 (pp21-30)  C - TG: Sec4.L03 (pp31-42)  C - TG: Sec4.L09 (pp85-94)  C - TG: Sec4.L11 (pp103-110)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  LCB - TG: Sec4.L04 (pp23-28)  LCB - TG: Sec4.L07.Exts (p43)  LCB - TG: Sec4.L08 (pp47-52)  LCB - TG: Sec4.L09 (pp53-62)  LCB - TG: Sec4.L10 (pp63-68)  O - TG: Sec4.L03 (pp21-36)  SL - TG: Sec4.L04 (pp29-40)  SL - TG: Sec4.L10.Exts (p85)  SL - TG: Sec4.L11.Exts (p92)  SL - TG: Sec4.L12.Exts (p98)  SL - TG: Sec4.L13 (pp101-108)  SL - TG: Sec4.L16 (pp131-136)</p>
<p>NS.1.1.7  Use age appropriate equipment and tools in <i>scientific investigations</i> (e.g., balances, hand lenses, rulers, and <i>thermometers</i>)</p>	<p>BW - TG: Sec4.All lessons  CM - TG: Sec4.All lessons  C - TG: Sec4.L01 (pp3-20)  C - TG: Sec4.L04 (pp43-52)  C - TG: Sec4.L05 (pp53-62)  C - TG: Sec4.L06 (pp63-70)  C - TG: Sec4.L07 (pp71-78)  C - TG: Sec4.L08 (pp79-84)  C - TG: Sec4.L09 (pp85-94)  C - TG: Sec4.L11 (pp103-110)  C - TG: Sec4.L12 (pp111-118)  C - TG: Sec4.L13 (pp119-128)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  C - TG: Sec4.L17 (pp155-158)  LCB - TG: Sec4.L01.Exts (p7)  LCB - TG: Sec4.L02 (pp11-18)  LCB - TG: Sec4.L03 (pp19-22)  LCB - TG: Sec4.L04 (pp23-28)  LCB - TG: Sec4.L05 (pp29-34)  LCB - TG: Sec4.L06 (pp35-38)  LCB - TG: Sec4.L07 (pp39-46)  LCB - TG: Sec4.L08 (pp47-52)  LCB - TG: Sec4.L09 (pp53-62)  LCB - TG: Sec4.L11.Exts (pp71-73)  LCB - TG: Sec4.L12 (pp75-80)  LCB - TG: Sec4.L14 (pp85-88)  O - TG: Sec4.All lessons except L01 and L17  SL - TG: Sec4.All lessons  S - TG: Sec4.L01.Exts (p12)  S - TG: Sec4.L02 (pp17-26)  S - TG: Sec4.L03 (pp27-36)  S - TG: Sec4.L05 (pp45-56)</p>

	<p>S - TG: Sec4.L06 (pp57-64)  S - TG: Sec4.L07 (pp65-72)  S - TG: Sec4.L08 (pp73-86)  S - TG: Sec4.L10 (pp97-108)  S - TG: Sec4.L11 (pp109-114)  S - TG: Sec4.L12 (pp115-124)  S - TG: Sec4.L13 (pp125-138)  S - TG: Sec4.L14 (pp139-148)  S - TG: Sec4.L15 (pp149-158)  W - TG: Sec4.L04 (pp33-42)  W - TG: Sec4.L05 (pp43-54)  W - TG: Sec4.L06 (pp55-62)  W - TG: Sec4.L07 (pp63-70)  W - TG: Sec4.L08 (pp71-82)  W - TG: Sec4.L10 (pp91-100)</p>
<p>NS.1.1.8  Apply appropriate rules of safety related to daily activities</p>	<p>BW - TG: S-Sec3 (pp17-22)  CM - TG: S-Sec3 (pp8-11)  C - TG: Sec4.L09.Exts (pp89-90)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  C - TG: S-Sec3 (pp9-29)  LCB - TG: Sec4.L02 (pp11-18)  LCB - TG: S-Sec3 (pp17-22)  O - TG: S-Sec3 (pp19-24)  SL - TG: Sec4.L10 (pp81-86)  SL - TG: S-Sec3 (pp9-18)  S - TG: S-Sec3 (pp12-17)  W - TG: Sec4.L04 (pp33-42)  W - TG: Sec4.L05 (pp43-54)  W - TG: Sec4.L07 (pp63-70)  W - TG: Sec4.L08 (pp71-82)  W - TG: Sec4.L09 (pp83-90)  W - TG: Sec4.L11 (pp101-112)  W - TG: Sec4.L13 (pp123-128)  W - TG: S-Sec3 (pp9-12)</p>
<p>NS.1.1.9  Apply lab safety rules as they relate to specific science <i>lab activities</i> (see Arkansas Lab Safety Guide)</p>	<p>BW - TG: S-Sec3 (pp17-22)  CM - TG: S-Sec3 (pp8-11)  C - TG: Sec4.L09.Exts (pp89-90)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  C - TG: S-Sec3 (pp9-29)  LCB - TG: Sec4.L02 (pp11-18)  LCB - TG: S-Sec3 (pp17-22)  O - TG: S-Sec3 (pp19-24)  SL - TG: Sec4.L10 (pp81-86)  SL - TG: S-Sec3 (pp9-18)  S - TG: S-Sec3 (pp12-17)  W - TG: Sec4.L04 (pp33-42)  W - TG: Sec4.L05 (pp43-54)  W - TG: Sec4.L07 (pp63-70)  W - TG: Sec4.L08 (pp71-82)  W - TG: Sec4.L09 (pp83-90)  W - TG: Sec4.L11 (pp101-112)  W - TG: Sec4.L13 (pp123-128)</p>

	W - TG: S-Sec3 (pp9-12)
<b>Strand 2: Life Science</b>	
<i>Standard 2: Living Systems: Characteristics, Structure, and Function</i>	
LS.2.1.1 Classify animals according to common characteristics (e.g., movement, body coverings, diet)	
LS.2.1.2 Differentiate between <i>herbivores</i> and <i>carnivores</i>	
LS.2.1.3 Locate the following human body parts: <ul style="list-style-type: none"> <li>▪ heart</li> <li>▪ lungs</li> <li>▪ brain</li> <li>▪ stomach</li> <li>▪ muscles</li> <li>▪ bones</li> </ul>	
LS.2.1.4 Locate plant parts: <ul style="list-style-type: none"> <li>▪ leaves</li> <li>▪ stems</li> <li>▪ flowers</li> <li>▪ roots</li> </ul>	O - TG: Sec4.L06 (pp65-74) O - TG: Sec4.L13 (pp135-148) O - TG: Sec4.L15 (pp155-168) S - TG: Sec4.L10 (pp97-108) S - TG: Sec4.L16.Exts (pp164-166)
<i>Standard 3: Life Cycles, Reproduction, and Heredity</i>	
LS.3.1.1 Illustrate <i>incomplete metamorphosis</i> (e.g., grasshopper)	LCB - TG: Sec4.L01 (pp3-10) LCB - TG: Sec4.L03 (pp19-22) LCB - TG: Sec4.L04.Exts (pp26-27) LCB - TG: Sec4.L06.Exts (p37) LCB - TG: Sec4.L07 (pp39-46) LCB - TG: Sec4.L08 (pp47-52) LCB - TG: Sec4.L09 (pp53-62) LCB - TG: Sec4.L12.Exts (p77) LCB - TG: Sec4.L13 (pp81-84) O - TG: Sec4.L09 (pp97-104) O - TG: Sec4.L10 (pp105-118)
LS.3.1.2 Compare and contrast <i>complete metamorphosis</i> and <i>incomplete metamorphosis</i>	LCB - TG: Sec4.L01 (pp3-10) LCB - TG: Sec4.L03 (pp19-22) LCB - TG: Sec4.L04.Exts (pp26-27) LCB - TG: Sec4.L06.Exts (p37) LCB - TG: Sec4.L07 (pp39-46) LCB - TG: Sec4.L08 (pp47-52) LCB - TG: Sec4.L09 (pp53-62) LCB - TG: Sec4.L12.Exts (p77) LCB - TG: Sec4.L13 (pp81-84) O - TG: Sec4.L09 (pp97-104) O - TG: Sec4.L10.Exts (p115) O - TG: Sec4.L10 (pp105-118)
<i>Standard 4: Populations and Ecosystems</i>	
LS.4.1.1 Identify some endangered <i>species</i> in Arkansas	
<b>Strand 3: Physical Science</b>	
<i>Standard 5: Matter: Properties and Changes</i>	

<p>PS.5.1.1 Compare and contrast objects according to the single properties of</p> <ul style="list-style-type: none"> <li>▪ size</li> <li>▪ color</li> <li>▪ shape</li> <li>▪ texture</li> <li>▪ <i>magnetism</i></li> </ul>	<p>SL - TG: Sec4.L07 (pp55-62) SL - TG: Sec4.L08 (pp63-68) SL - TG: Sec4.L09 (pp69-80)</p>
<p>PS.5.1.2 Identify characteristics of solids and liquids</p>	<p>C - TG: Sec4.L01 (pp3-20) C - TG: Sec4.L02 (pp21-30) C - TG: Sec4.L03 (pp31-42) C - TG: Sec4.L04 (pp43-52) C - TG: Sec4.L05 (pp53-62) C - TG: Sec4.L06 (pp63-70) C - TG: Sec4.L07 (pp71-78) C - TG: Sec4.L09 (pp85-94) C - TG: Sec4.L10 (pp95-102) C - TG: Sec4.L11 (pp103-110) C - TG: Sec4.L14 (pp129-136) SL - TG: Sec4.L01.Exts (pp7-8) SL - TG: Sec4.L05.Exts (pp43-45) SL - TG: Sec4.L06.Exts (pp51-52) SL - TG: Sec4.L07.Exts (pp59-60) SL - TG: Sec4.L08 (pp63-68) SL - TG: Sec4.L09 (pp69-80) SL - TG: Sec4.L10 (pp81-86) SL - TG: Sec4.L11 (pp87-94) SL - TG: Sec4.L12 (pp95-100) SL - TG: Sec4.L13 (pp101-108) SL - TG: Sec4.L14 (pp109-120) SL - TG: Sec4.L15 (pp121-130) SL - TG: Sec4.L16.Exts (pp135-136) SL - TG: Sec4.L17 (pp137-140) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L13 (pp123-128)</p>
<i>Standard 6: Motion and Forces</i>	
<p>PS.6.1.1 List orally the various ways that objects can move, including but not limited to</p> <ul style="list-style-type: none"> <li>▪ straight</li> <li>▪ zig-zag</li> <li>▪ back and forth</li> <li>▪ round and round</li> <li>▪ fast and slow</li> </ul>	
<p>PS.6.1.2 Investigate the relationship between <i>mass</i> and <i>weight</i> (e.g., identical filled and empty containers)</p>	<p>BW - TG: Sec4.All lessons</p>
<i>Standard 7: Energy and Transfer of Energy</i>	
<p>PS.7.1.1 Compare natural sources of light (e.g., sun, fireflies, deep sea creatures, fire, lightning) to artificial sources of light (e.g., light bulbs, matches, candles)</p>	

PS.7.1.2 Investigate the properties of <i>transparent</i> and <i>opaque</i> objects (e.g., plastic wrap and aluminum foil)	
PS.7.1.3 Compare natural sources of <i>heat</i> (e.g., sun, fire, lightning) to artificial sources of <i>heat</i> (e.g., stove, toaster)	CM - TG: Sec4.L03 (pp17-22) C - TG: Sec4.All lessons except L10 and L11 SL - TG: Sec4.L13.Exts (pp104-105) W - TG: Sec4.L01 (pp3-10) W - TG: Sec4.L02 (pp11-24) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L06 (pp55-62) W - TG: Sec4.L07 (pp63-70) W - TG: Sec4.L08 (pp71-82) W - TG: Sec4.L09 (pp83-90) W - TG: Sec4.L11 (pp101-112) W - TG: Sec4.L15 (pp135-140) W - TG: Sec4.L16 (pp141-148) W - TG: Sec4.L17 (pp149-150)
PS.7.1.4 Chart <i>temperature</i> over time using the Celsius scale	
PS.7.1.5 Demonstrate methods of producing static <i>electricity</i> (e.g., balloons, shuffling across carpet)	
PS.7.1.6 Classify materials as magnetic or nonmagnetic	SL - TG: Sec4.L07 (pp55-62) SL - TG: Sec4.L08 (pp63-68) SL - TG: Sec4.L09 (pp69-80)
PS.7.1.7 Investigate the properties of magnets: <ul style="list-style-type: none"> <li>▪ attraction</li> <li>▪ repulsion</li> </ul>	SL - TG: Sec4.L07 (pp55-62) SL - TG: Sec4.L08 (pp63-68) SL - TG: Sec4.L09 (pp69-80)
<b>Strand 4: Earth and Space Science</b>	
<i>Standard 8: Earth Systems: Structure and Properties</i>	
ESS.8.1.1 Identify the features of major landforms	
ESS.8.1.2 Identify common uses of Earth's resources	
ESS.8.1.3 Chart weather conditions every day	W - TG: Sec4.All lessons except L08
ESS.8.1.4 Identify the sequence of seasons	O - TG: Sec4.L04.Exts (pp43-45)
ESS.8.1.5 Demonstrate safety procedures related to severe weather	W - TG: Sec4.L01 (pp3-10) W - TG: Sec4.L06 (pp55-62) W - TG: Sec4.L15 (pp135-140) W - TG: Sec4.L17 (pp149-150)
ESS.8.1.6 Read a Celsius <i>thermometer</i> as a class	
<i>Standard 10: Objects in the Universe</i>	
ESS.10.1.1 Illustrate the sequence of planets in the <i>solar system</i>	
<b>GRADE 2</b>	
<b>Strand 1: Nature of Science</b>	<b>Curriculum Location</b>
<i>Standard 1: Characteristics and Processes of Science</i>	

<p>NS.1.2.1 Communicate observations orally, in writing, and in graphic organizers:</p> <ul style="list-style-type: none"> <li>▪ T-charts</li> <li>▪ pictographs</li> <li>▪ Venn diagrams</li> <li>▪ bar graphs</li> </ul>	<p>BW - TG: Sec4.All lessons  CM - TG: Sec4.All lessons  C - TG: Sec4.All lessons  CT - TG: Sec4.All lessons  LCB - TG: Sec4.All lessons  O - TG: Sec4.All lessons except L13  PGD - TG: Sec4.All lessons  RM - TG: Sec4.All lessons except L08  SL - TG: Sec4.All lessons  So - TG: Sec4.All lessons  S - TG: Sec4.All lessons  W - TG: Sec4.All lessons except L09 and L10</p>
<p>NS.1.2.2 Develop questions that guide scientific inquiry</p>	<p>BW - TG: Sec4.L01 (pp3-8)  BW - TG: Sec4.L02.Exts (p12)  BW - TG: Sec4.L03.Exts (p20)  BW - TG: Sec4.L04.Exts (p30)  BW - TG: Sec4.L11.Exts (p94)  BW - TG: Sec4.L14 (pp115-122)  BW - TG: Sec4.L17 (pp137-138)  CM - TG: Sec4.L01 (pp3-10)  CM - TG: Sec4.L02 (pp11-16)  CM - TG: Sec4.L06 (pp43-48)  CM - TG: Sec4.L07 (pp49-58)  CM - TG: Sec4.L08 (pp59-64)  CM - TG: Sec4.L09 (pp65-70)  CM - TG: Sec4.L10 (pp71-74)  CM - TG: Sec4.L11 (pp75-80)  CM - TG: Sec4.L12 (pp81-86)  CM - TG: Sec4.L13 (pp87-92)  CM - TG: Sec4.L14 (pp93-98)  CM - TG: Sec4.L15 (pp99-110)  C - TG: Sec4.All lessons  CT - TG: Sec4.All lessons  LCB - TG: Sec4.All lessons  O - TG: Sec4.All lessons  PGD - TG: Sec4.All lessons  RM - TG: Sec4.All lessons  SL - TG: Sec4.All lessons  So - TG: Sec4.All lessons  S - TG: Sec4.All lessons  W - TG: Sec4.All lessons</p>
<p>NS.1.2.3 Conduct <i>scientific investigations</i> individually and in teams:</p> <ul style="list-style-type: none"> <li>▪ <i>lab activities</i></li> <li>▪ <i>field studies</i></li> </ul>	<p>BW - TG: Sec4.All lessons  CM - TG: Sec4.All lessons  C - TG: Sec4.All lessons  CT - TG: Sec4.All lessons  LCB - TG: Sec4.All lessons  O - TG: Sec4.All lessons  PGD - TG: Sec4.All lessons  RM - TG: Sec4.All lessons  SL - TG: Sec4.All lessons  So - TG: Sec4.All lessons  S - TG: Sec4.All lessons  W - TG: Sec4.All lessons</p>

<p>NS.1.2.4 Estimate and measure length and <i>temperature</i> using International System of Units (SI)</p>	<p>PGD - TG: Sec4.L05 (pp29-34) PGD - TG: Sec4.L06 (pp33-38) PGD - TG: Sec4.L07 (pp39-42) PGD - TG: Sec4.L12 (pp67-70) PGD - TG: Sec4.L15 (pp89-94)</p>
<p>NS.1.2.5 Collect measurable <i>empirical evidence</i> in teams and as individuals</p>	<p>BW - TG: Sec4.All lessons CM - TG: Sec4.All lessons C - TG: Sec4.All lessons CT - TG: Sec4.All lessons LCB - TG: Sec4.L02 (pp11-18) LCB - TG: Sec4.L13 (pp81-84) O - TG: Sec4.L01 (pp3-10) O - TG: Sec4.L03 (pp21-36) PGD - TG: Sec4.L01 (pp3-8) PGD - TG: Sec4.L02 (pp9-12) PGD - TG: Sec4.L03 (pp13-24) PGD - TG: Sec4.L05 (pp29-34) PGD - TG: Sec4.L06 (pp33-38) PGD - TG: Sec4.L07 (pp39-42) PGD - TG: Sec4.L12 (pp67-70) PGD - TG: Sec4.L15 (pp89-94) RM - TG: Sec4. All lessons SL - TG: Sec4.L02 (pp11-18) SL - TG: Sec4.L04 (pp29-40) SL - TG: Sec4.L07 (pp55-62) SL - TG: Sec4.L09 (pp69-80) SL - TG: Sec4.L10.Exts (p85) SL - TG: Sec4.L11.Exts (p92) W - TG: Sec4.L02 (pp11-24) W - TG: Sec4.L03 (pp25-32) W - TG: Sec4.L04 (pp33-42) W - TG: Sec4.L05 (pp43-54) W - TG: Sec4.L06 (pp55-62) W - TG: Sec4.L07 (pp63-70) W - TG: Sec4.L08 (pp71-82) W - TG: Sec4.L09 (pp83-90) W - TG: Sec4.L10 (pp91-100) W - TG: Sec4.L11 (pp101-112) W - TG: Sec4.L12 (pp113-122) W - TG: Sec4.L15 (pp135-140) W - TG: Sec4.L16 (pp141-148)</p>
<p>NS.1.2.6 Make predictions in teams and as individuals based upon <i>empirical evidence</i></p>	<p>BW - TG: Sec4.L08 (pp61-72) BW - TG: Sec4.L09 (pp73-78) BW - TG: Sec4.L13 (pp107-114) BW - TG: Sec4.L14.Exts (pp118-119) BW - TG: Sec4.L16 (pp129-136) CM - TG: Sec4.L04 (pp23-30) CM - TG: Sec4.L05 (pp31-42) CM - TG: Sec4.L08 (pp59-64) CM - TG: Sec4.L11 (pp75-80) CM - TG: Sec4.L12 (pp81-86) CM - TG: Sec4.L14 (pp93-98) CM - TG: Sec4.L16 (pp111-116) C - TG: Sec4.L01 (pp3-20) C - TG: Sec4.L02 (pp21-30) C - TG: Sec4.L03 (pp31-42)</p>

	<p>C - TG: Sec4.L09 (pp85-94)  C - TG: Sec4.L11 (pp103-110)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  CT - TG: Sec4.L04 (pp35-44)  CT - TG: Sec4.L05 (pp45-56)  CT - TG: Sec4.L06 (pp57-68)  CT - TG: Sec4.L07 (pp69-78)  CT - TG: Sec4.L08 (pp79-84)  CT - TG: Sec4.L09 (pp85-92)  CT - TG: Sec4.L10 (pp93-100)  CT - TG: Sec4.L11 (pp101-106)  LCB - TG: Sec4.L04 (pp23-28)  LCB - TG: Sec4.L07.Exts (p43)  LCB - TG: Sec4.L08 (pp47-52)  LCB - TG: Sec4.L09 (pp53-62)  LCB - TG: Sec4.L10 (pp63-68)  O - TG: Sec4.L03 (pp21-36)  PGD - TG: Sec4.L01 (pp3-8)  PGD - TG: Sec4.L07 (pp39-42)  RM - TG: Sec4.All lessons except L10  SL - TG: Sec4.L04 (pp29-40)  SL - TG: Sec4.L10.Exts (p85)  SL - TG: Sec4.L11.Exts (p92)  SL - TG: Sec4.L12.Exts (p98)  SL - TG: Sec4.L13 (pp101-108)  SL - TG: Sec4.L16 (pp131-136)  So - TG: Sec4.L03.Exts (p20)  So - TG: Sec4.L05.Exts (pp35-36)</p>
<p>NS.1.2.7  Use age appropriate equipment and tools in <i>scientific investigations</i> (e.g., balances, hand lenses, rulers, and <i>thermometers</i>)</p>	<p>BW - TG: Sec4.All lessons  CM - TG: Sec4.All lessons  C - TG: Sec4.L01 (pp3-20)  C - TG: Sec4.L04 (pp43-52)  C - TG: Sec4.L05 (pp53-62)  C - TG: Sec4.L06 (pp63-70)  C - TG: Sec4.L07 (pp71-78)  C - TG: Sec4.L08 (pp79-84)  C - TG: Sec4.L09 (pp85-94)  C - TG: Sec4.L11 (pp103-110)  C - TG: Sec4.L12 (pp111-118)  C - TG: Sec4.L13 (pp119-128)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  C - TG: Sec4.L17 (pp155-158)  CT - TG: Sec4.All lessons  LCB - TG: Sec4.L01.Exts (p7)  LCB - TG: Sec4.L02 (pp11-18)  LCB - TG: Sec4.L03 (pp19-22)  LCB - TG: Sec4.L04 (pp23-28)  LCB - TG: Sec4.L05 (pp29-34)  LCB - TG: Sec4.L06 (pp35-38)  LCB - TG: Sec4.L07 (pp39-46)  LCB - TG: Sec4.L08 (pp47-52)  LCB - TG: Sec4.L09 (pp53-62)</p>

	<p>LCB - TG: Sec4.L11.Exts (pp71-73)  LCB - TG: Sec4.L12 (pp75-80)  LCB - TG: Sec4.L14 (pp85-88)  O - TG: Sec4.All lessons except L01 and L17  PGD - TG: Sec4.L01 (pp3-8)  PGD - TG: Sec4.L02 (pp9-12)  PGD - TG: Sec4.L04 (pp25-28)  PGD - TG: Sec4.L05 (pp29-34)  PGD - TG: Sec4.L06 (pp33-38)  PGD - TG: Sec4.L07 (pp39-42)  PGD - TG: Sec4.L08 (pp43-46)  PGD - TG: Sec4.L09 (pp47 - 54)  PGD - TG: Sec4.L10 (pp55-60)  PGD - TG: Sec4.L11 (pp61-66)  PGD - TG: Sec4.L12 (pp67-70)  PGD - TG: Sec4.L15 (pp89-94)  RM - TG: Sec4.All lessons except L07  SL - TG: Sec4.All lessons  So - TG: Sec4. All lessons except L01  S - TG: Sec4.L01.Exts (p12)  S - TG: Sec4.L02 (pp17-26)  S - TG: Sec4.L03 (pp27-36)  S - TG: Sec4.L05 (pp45-56)  S - TG: Sec4.L06 (pp57-64)  S - TG: Sec4.L07 (pp65-72)  S - TG: Sec4.L08 (pp73-86)  S - TG: Sec4.L10 (pp97-108)  S - TG: Sec4.L11 (pp109-114)  S - TG: Sec4.L12 (pp115-124)  S - TG: Sec4.L13 (pp125-138)  S - TG: Sec4.L14 (pp139-148)  S - TG: Sec4.L15 (pp149-158)  W - TG: Sec4.L04 (pp33-42)  W - TG: Sec4.L05 (pp43-54)  W - TG: Sec4.L06 (pp55-62)  W - TG: Sec4.L07 (pp63-70)  W - TG: Sec4.L08 (pp71-82)  W - TG: Sec4.L10 (pp91-100)</p>
<p>NS.1.2.8  Apply lab safety rules as they relate to specific science <i>lab activities</i> (see Arkansas Lab Safety Guide)</p>	<p>BW - TG: Sec4.L05 (pp35-44)  BW - TG: S-Sec3 (pp17-22)  CM - TG: S-Sec3 (pp8-11)  C - TG: Sec4.L09.Exts (pp89-90)  C - TG: Sec4.L11 (pp103-110)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  C - TG: S-Sec3 (pp9-29)  CT - TG: Sec4.All lessons  CT - TG: S-Sec3 (pp18-46)  LCB - TG: Sec4.L02 (pp11-18)  LCB - TG: S-Sec3 (pp17-22)  O - TG: S-Sec3 (pp19-24)  PGD - TG: Sec4.L03 (pp13-24)  PGD - TG: S-Sec3 (pp10-14)</p>

	<p>RM - TG: Sec4.All lessons except L01 and L03</p> <p>RM - TG: S-Sec3 (pp10-14)</p> <p>SL - TG: Sec4.L10 (pp81-86)</p> <p>SL - TG: S-Sec3 (pp9-18)</p> <p>So - TG: Sec4.L01 (pp11-16)</p> <p>So - TG: Sec4.L02 (pp17-22)</p> <p>So - TG: Sec4.L03 (pp23-27)</p> <p>So - TG: Sec4.L06 (pp39-48)</p> <p>So - TG: Sec4.L09 (pp63-66)</p> <p>So - TG: Sec4.L15 (pp103-112)</p> <p>So - TG: Sec4.L16 (pp113-116)</p> <p>So - TG: Sec4.L17 (pp117-118)</p> <p>So - TG: S-Sec3 (pp9-12)</p> <p>S - TG: S-Sec3 (pp12-17)</p> <p>W - TG: Sec4.L04 (pp33-42)</p> <p>W - TG: Sec4.L05 (pp43-54)</p> <p>W - TG: Sec4.L07 (pp63-70)</p> <p>W - TG: Sec4.L08 (pp71-82)</p> <p>W - TG: Sec4.L09 (pp83-90)</p> <p>W - TG: Sec4.L11 (pp101-112)</p> <p>W - TG: Sec4.L13 (pp123-128)</p> <p>W - TG: S-Sec3 (pp9-12)</p>
<b>Strand 2: Life Science</b>	
<i>Standard 2: Living Systems: Characteristics, Structure, and Function</i>	
<p>LS.2.2.1</p> <p>Classify animals into major groups according to their structure:</p> <ul style="list-style-type: none"> <li>▪ mammals</li> <li>▪ birds</li> <li>▪ fish</li> </ul>	<p>LCB - TG: Sec4.L03.Exts (p21)</p> <p>O - TG: Sec4.L08 (pp87-96)</p>
<p>LS.2.2.2</p> <p>Differentiate among <i>herbivores</i>, <i>carnivores</i>, and omnivores</p>	
<p>LS.2.2.3</p> <p>Identify basic needs of most plants:</p> <ul style="list-style-type: none"> <li>▪ nutrients</li> <li>▪ water</li> <li>▪ light</li> <li>▪ air</li> <li>▪ temperature</li> <li>▪ space</li> </ul>	<p>LCB - TG: Sec4.L03.Exts (p21)</p> <p>O - TG: Sec4.L03 (pp21-36)</p> <p>O - TG: Sec4.L04 (pp36-52)</p> <p>O - TG: Sec4.L05 (pp53-64)</p> <p>O - TG: Sec4.L13 (pp135-148)</p> <p>O - TG: Sec4.L15 (pp155-168)</p> <p>PGD - TG: Sec4.L03 (pp13-24)</p> <p>PGD - TG: Sec4.L04 (pp25-28)</p> <p>PGD - TG: Sec4.L16.Exts (pp96-97)</p> <p>S - TG: Sec4.L09 (pp87-96)</p>
<p>LS.2.2.4</p> <p>Compare different types of flowering plants and <i>conifers</i></p>	<p>O - TG: Sec4.L04 (pp36-52)</p> <p>O - TG: Sec4.L05 (pp53-64)</p> <p>O - TG: Sec4.L06 (pp65-74)</p> <p>O - TG: Sec4.L13 (pp135-148)</p> <p>PGD - TG: Sec4.L02.Exts (p11)</p> <p>PGD - TG: Sec4.L10.Exts (pp56-57)</p> <p>RM - TG: Sec4.L16.Exts (p117)</p> <p>W - TG: Sec4.L10.Exts (p95)</p>
<p>LS.2.2.5</p> <p>Identify the major parts and functions of the skeletal system</p>	<p>LCB - TG: Sec4.L05 (pp29-34)</p>

<p>LS.2.2.6 Describe the function of the following plant parts:</p> <ul style="list-style-type: none"> <li>▪ leaves</li> <li>▪ stems</li> <li>▪ flowers</li> <li>▪ roots</li> </ul>	<p>O - TG: Sec4.L06 (pp65-74)  O - TG: Sec4.L13 (pp135-148)  O - TG: Sec4.L15 (pp155-168)  PGD - TG: Sec4.L02 (pp9-12)  PGD - TG: Sec4.L03 (pp13-24)  PGD - TG: Sec4.L04 (pp25-28)  PGD - TG: Sec4.L05 (pp29-34)  PGD - TG: Sec4.L06 (pp33-38)  PGD - TG: Sec4.L07 (pp39-42)  PGD - TG: Sec4.L08 (pp43-46)  PGD - TG: Sec4.L10 (pp55-60)  PGD - TG: Sec4.L11 (pp61-66)  PGD - TG: Sec4.L12 (pp67-70)  PGD - TG: Sec4.L13 (pp71-78)  PGD - TG: Sec4.L14.Exts (pp86-87)  PGD - TG: Sec4.L16 (pp95-98)  PGD - TG: Sec4.L17 (pp99-100)  S - TG: Sec4.L10 (pp97-108)  S - TG: Sec4.L16.Exts (pp164-166)</p>
<p><i>Standard 3: Life Cycles, Reproduction, and Heredity</i></p>	
<p>LS.3.2.1 Illustrate embryonic development (e.g., chicken)</p>	
<p>LS.3.2.2 Compare and contrast embryonic development and <i>incomplete metamorphosis</i></p>	<p>LCB - TG: Sec4.L01 (pp3-10)  LCB - TG: Sec4.L03 (pp19-22)  LCB - TG: Sec4.L04.Exts (pp26-27)  LCB - TG: Sec4.L06.Exts (p37)  LCB - TG: Sec4.L07 (pp39-46)  LCB - TG: Sec4.L08 (pp47-52)  LCB - TG: Sec4.L09 (pp53-62)  LCB - TG: Sec4.L12.Exts (p77)  LCB - TG: Sec4.L13 (pp81-84)  O - TG: Sec4.L09 (pp97-104)  O - TG: Sec4.L10 (pp105-118)</p>
<p><i>Standard 4: Populations and Ecosystems</i></p>	
<p>LS.4.2.1 Compare and contrast living and <i>extinct species</i></p>	
<p>LS.4.2.2 Describe characteristics of various <i>habitats</i></p>	<p>LCB - TG: Sec4.L01 (pp3-10)  LCB - TG: Sec4.L02 (pp11-18)  LCB - TG: Sec4.L03 (pp19-22)  LCB - TG: Sec4.L12 (pp75-80)  O - TG: Sec4.L04 (pp36-52)  O - TG: Sec4.L05 (pp53-64)  O - TG: Sec4.L11 (pp119-126)  O - TG: Sec4.L12 (pp127-134)</p>
<p><b>Strand 3: Physical Science</b></p>	
<p><i>Standard 5: Matter: Properties and Changes</i></p>	
<p>PS.5.2.1 Classify objects based on two or more properties</p>	<p>BW - TG: Sec4.L07 (pp55-60)  BW - TG: Sec4.L08 (pp61-72)  BW - TG: Sec4.L09 (pp73-78)  BW - TG: Sec4.L10 (pp79-88)  BW - TG: Sec4.L11 (pp89-100)  BW - TG: Sec4.L12 (pp101-106)  BW - TG: Sec4.L13 (pp107-114)  BW - TG: Sec4.L14 (pp115-122)  BW - TG: Sec4.L15 (pp123-128)</p>

	BW - TG: Sec4.L16 (pp129-136) CM - TG: Sec4.All lessons except L13 C - TG: Sec4.All lessons CT - TG: Sec4.All lessons RM - TG: Sec4.All lessons SL - TG: Sec4.All lessons S - TG: Sec4.L01 (pp3-16) S - TG: Sec4.L03 (pp27-36) S - TG: Sec4.L04 (pp37-44) S - TG: Sec4.L05 (pp45-56) S - TG: Sec4.L06 (pp57-64) S - TG: Sec4.L07 (pp65-72) S - TG: Sec4.L08 (pp73-86) W - TG: Sec4.L02 (pp11-24) W - TG: Sec4.L03 (pp25-32) W - TG: Sec4.L04 (pp33-42) W - TG: Sec4.L09 (pp83-90) W - TG: Sec4.L11 (pp101-112) W - TG: Sec4.L12 (pp113-122) W - TG: Sec4.L13 (pp123-128) W - TG: Sec4.L14 (pp129-134) W - TG: Sec4.L16 (pp141-148)
PS.5.2.2 Investigate the effect of physical phenomena on various materials (e.g., heat absorption by different colored materials)	C - TG: Sec4.L01 (pp3-20) C - TG: Sec4.L03 (pp31-42) C - TG: Sec4.L04 (pp43-52) C - TG: Sec4.L09 (pp85-94) C - TG: Sec4.L12 (pp111-118) C - TG: Sec4.L13.Exts (p123) C - TG: Sec4.L17 (pp155-158) RM - TG: Sec4.L12.Exts (p87) W - TG: Sec4.L12 (pp113-122)
<i>Standard 6: Motion and Forces</i>	
PS.6.2.1 Investigate the relationship between <i>force</i> and motion	SL - TG: Sec4.L03 (pp19-28) SL - TG: Sec4.L04 (pp29-40)
<i>Standard 7: Energy and Transfer of Energy</i>	
PS.7.2.1 Classify materials as <i>transparent</i> , <i>translucent</i> , or <i>opaque</i> (e.g., plastic wrap, wax paper, and aluminum foil)	
PS.7.2.2 Compare <i>temperatures</i> using the Celsius scale	
PS.7.2.3 Demonstrate methods of using <i>electricity</i> to produce light, <i>heat</i> , and sound	
<b>Strand 4: Earth and Space Science</b>	
<i>Standard 8: Earth Systems: Structure and Properties</i>	
ESS.8.2.1 Conduct investigations to distinguish among the following components of soil: <ul style="list-style-type: none"> <li>▪ clay</li> <li>▪ sand</li> <li>▪ silt</li> <li>▪ humus</li> </ul>	S - TG: Sec4.All lessons

ESS.8.2.2 Recognize and discuss the different properties of soil: <ul style="list-style-type: none"> <li>▪ color</li> <li>▪ texture</li> <li>▪ ability to retain water</li> <li>▪ ability to support plant growth</li> </ul>	S - TG: Sec4.All lessons
ESS.8.2.3 Conduct investigations to determine which soil best supports bean plant growth	S - TG: Sec4.L01 (pp3-16) S - TG: Sec4.L02 (pp17-26) S - TG: Sec4.L03 (pp27-36) S - TG: Sec4.L04.Exts (p41) S - TG: Sec4.L05 (pp45-56) S - TG: Sec4.L07 (pp65-72) S - TG: Sec4.L08.Exts (p79) S - TG: Sec4.L11 (pp109-114) S - TG: Sec4.L12 (pp115-124) S - TG: Sec4.L13 (pp125-138)
ESS.8.2.4 Identify products derived from <i>natural resources</i>	
ESS.8.2.5 Chart weather conditions every day	W - TG: Sec4.All lessons except L08
ESS.8.2.6 Demonstrate safety procedures related to severe weather	W - TG: Sec4.L01 (pp3-10) W - TG: Sec4.L06 (pp55-62) W - TG: Sec4.L15 (pp135-140) W - TG: Sec4.L17 (pp149-150)
ESS.8.2.7 Describe characteristics of <i>cumulus</i> , <i>stratus</i> , and <i>cirrus</i> clouds	W - TG: Sec4.L14 (pp129-134)
ESS.8.2.8 Predict weather based on cloud type	W - TG: Sec4.L13.Exts (p126) W - TG: Sec4.L14 (pp129-134)
ESS.8.2.9 Read a Celsius <i>thermometer</i>	
<i>Standard 10: Objects in the Universe</i>	
ESS.10.2.1 Illustrate four <i>moon phases</i> : <ul style="list-style-type: none"> <li>▪ full</li> <li>▪ half</li> <li>▪ crescent</li> <li>▪ new</li> </ul>	
ESS.10.2.2 Model the movement of Earth and its moon	
ESS.10.2.3 Contrast the visibility of the sun and moon	
<b>GRADE 3</b>	
<b>Strand 1: Nature of Science</b>	<b>Curriculum Location</b>
<i>Standard 1: Characteristics and Processes of Science</i>	
NS.1.3.1 Communicate observations orally, in writing, and in graphic organizers: <ul style="list-style-type: none"> <li>▪ T-charts</li> <li>▪ pictographs</li> <li>▪ Venn diagrams</li> <li>▪ bar graphs</li> </ul>	AS - RB: (pp58-61) AS - TG: Sec4.L02 (pp11-20) AS - TG: Sec4.L03 (pp21-36) AS - TG: Sec4.L04 (pp37-48) AS - TG: Sec4.L05 (pp49-64) AS - TG: Sec4.L06 (pp65-74) AS - TG: Sec4.L08 (pp87-96) AS - TG: Sec4.L09 (pp97-106)

<ul style="list-style-type: none"> <li>▪ frequency tables</li> </ul>	AS - TG: Sec4.L15 (pp157-164) AS - TG: Sec4.L17 (pp169-172) BW - TG: Sec4.All lessons C - TG: Sec4.All lessons CT - TG: Sec4.All lessons EC - RB: All readings EC - TG: Sec4.All lessons LCB - TG: Sec4.All lessons LW - TG: Sec4.All lessons MD - TG: Sec4.All lessons except L05 PGD - TG: Sec4.All lessons RM - TG: Sec4.All lessons except L08 So - TG: Sec4.All lessons S - TG: Sec4.All lessons
NS.1.3.2 Develop questions that guide scientific inquiry	AS - TG: Sec4.All lessons BW - TG: Sec4.L01 (pp3-8) BW - TG: Sec4.L02.Exts (p12) BW - TG: Sec4.L03.Exts (p20) BW - TG: Sec4.L04.Exts (p30) BW - TG: Sec4.L11.Exts (p94) BW - TG: Sec4.L14 (pp115-122) BW - TG: Sec4.L17 (pp137-138) C - TG: Sec4.L02 (pp21-30) C - TG: Sec4.L03 (pp31-42) C - TG: Sec4.L04 (pp43-52) C - TG: Sec4.L05 (pp53-62) C - TG: Sec4.L06.Exts (pp67-69) C - TG: Sec4.L08 (pp79-84) C - TG: Sec4.L10 (pp95-102) C - TG: Sec4.L11 (pp103-110) CT - TG: Sec4.L01 (pp3-12) CT - TG: Sec4.L06 (pp57-68) CT - TG: Sec4.L12 (pp107-114) CT - TG: Sec4.L15.Exts (pp140-141) CT - TG: Sec4.L17 (pp155-158) EC - TG: Sec4.All lessons except L02 LCB - TG: Sec4.All lessons LW - TG: Sec4.L01 (pp3-10) LW - TG: Sec4.L02 (pp11-28) LW - TG: Sec4.L07 (pp75-84) LW - TG: Sec4.L08 (pp85-98) LW - TG: Sec4.L09 (pp99-108) LW - TG: Sec4.L10 (pp109-118) LW - TG: Sec4.L11 (pp119-128) LW - TG: Sec4.L12 (pp129-142) LW - TG: Sec4.L13 (pp143-152) LW - TG: Sec4.L16 (pp173-182) LW - TG: Sec4.L17 (pp182-186) MD - TG: Sec4.L01 (pp1-14) MD - TG: Sec4.L03 (pp25-34) MD - TG: Sec4.L04 (pp35-46) MD - TG: Sec4.L05 (pp47-56) MD - TG: Sec4.L06 (pp57-64) MD - TG: Sec4.L07 (pp65-72) MD - TG: Sec4.L08 (pp73-80) MD - TG: Sec4.L09 (pp81-90)

	<p>MD - TG: Sec4.L10 (pp91-100)  MD - TG: Sec4.L11 (pp101-108)  MD - TG: Sec4.L12 (pp109-116)  MD - TG: Sec4.L13 (pp117-124)  MD - TG: Sec4.L15 (pp139-144)  MD - TG: Sec4.L17 (pp153-156)  PGD - TG: Sec4.L02 (pp9-12)  PGD - TG: Sec4.L03 (pp13-24)  PGD - TG: Sec4.L04 (pp25-28)  PGD - TG: Sec4.L05 (pp29-34)  PGD - TG: Sec4.L06 (pp33-38)  PGD - TG: Sec4.L08 (pp43-46)  PGD - TG: Sec4.L09 (pp47 - 54)  PGD - TG: Sec4.L10 (pp55-60)  PGD - TG: Sec4.L11 (pp61-66)  PGD - TG: Sec4.L13 (pp71-78)  PGD - TG: Sec4.L14 (pp79-88)  PGD - TG: Sec4.L15 (pp89-94)  PGD - TG: Sec4.L16 (pp95-98)  PGD - TG: Sec4.L17 (pp99-100)  RM - TG: Sec4.All lessons  So - TG: Sec4.All lessons  S - TG: Sec4.All lessons</p>
<p>NS.1.3.3  Conduct <i>scientific investigations</i> individually and in teams:</p> <ul style="list-style-type: none"> <li>▪ <i>lab activities</i></li> <li>▪ <i>field studies</i></li> </ul>	<p>AS - TG: Sec4.All lessons  BW - TG: Sec4.All lessons  C - TG: Sec4.All lessons  CT - TG: Sec4.All lessons  EC - RB: (pp13-16)  EC - RB: (pp60-61)  EC - TG: Sec4.All lessons  LCB - TG: Sec4.All lessons  LW - TG: Sec4.All lessons  MD - RB: (pp23-28)  MD - TG: Sec4.All lessons except L02  PGD - TG: Sec4.All lessons  RM - TG: Sec4.All lessons  So - TG: Sec4.All lessons  S - TG: Sec4.All lessons</p>
<p>NS.1.3.4  Communicate the results of <i>scientific investigations</i> (e.g., age-appropriate graphs, charts, and writings)</p>	<p>AS - RB: (pp58-61)  AS - TG: Sec4.L02 (pp11-20)  AS - TG: Sec4.L03 (pp21-36)  AS - TG: Sec4.L04 (pp37-48)  AS - TG: Sec4.L05 (pp49-64)  AS - TG: Sec4.L06 (pp65-74)  AS - TG: Sec4.L08 (pp87-96)  AS - TG: Sec4.L09 (pp97-106)  AS - TG: Sec4.L15 (pp157-164)  AS - TG: Sec4.L17 (pp169-172)  BW - TG: Sec4.All lessons  C - TG: Sec4.All lessons  CT - TG: Sec4.All lessons  EC - TG: Sec4.All lessons  LCB - TG: Sec4.All lessons  LW - TG: Sec4.All lessons except L06  MD - TG: Sec4.All lessons except L05  PGD - TG: Sec4.All lessons</p>

	RM - TG: Sec4.All lessons except L08 So - TG: Sec4.All lessons S - TG: Sec4.All lessons
NS.1.3.5 Estimate and measure length, <i>mass</i> , <i>temperature</i> , and elapsed time using International System of Units (SI)	LW - TG: Sec4.L02 (pp11-28) LW - TG: Sec4.L03 (pp29-36) LW - TG: Sec4.L05 (pp51-62) LW - TG: Sec4.L07 (pp75-84) LW - TG: Sec4.L10 (pp109-118) LW - TG: Sec4.L11 (pp119-128) LW - TG: Sec4.L12 (pp129-142) LW - TG: Sec4.L13 (pp143-152) LW - TG: Sec4.L14 (pp153-162) LW - TG: Sec4.L16 (pp173-182) PGD - TG: Sec4.L05 (pp29-34) PGD - TG: Sec4.L06 (pp33-38) PGD - TG: Sec4.L07 (pp39-42) PGD - TG: Sec4.L12 (pp67-70) PGD - TG: Sec4.L15 (pp89-94)
NS.1.3.6 Collect and analyze measurable <i>empirical evidence</i> as a team and/or as individuals	AS - TG: Sec4.L04 (pp37-48) AS - TG: Sec4.L05 (pp49-64) AS - TG: Sec4.L06 (pp65-74) AS - TG: Sec4.L07 (pp75 - 86) AS - TG: Sec4.L08 (pp87-96) AS - TG: Sec4.L09 (pp97-106) AS - TG: Sec4.L11 (pp115-122) AS - TG: Sec4.L12 (pp123-134) AS - TG: Sec4.L16 (pp165-168) BW - TG: Sec4.All lessons C - TG: Sec4.All lessons CT - TG: Sec4.All lessons EC - TG: Sec4.All lessons LCB - TG: Sec4.L02 (pp11-18) LCB - TG: Sec4.L13 (pp81-84) LW - TG: Sec4.All lessons MD - TG: Sec4.L03 (pp25-34) MD - TG: Sec4.L04 (pp35-46) MD - TG: Sec4.L05 (pp47-56) MD - TG: Sec4.L07 (pp65-72) MD - TG: Sec4.L10 (pp91-100) MD - TG: Sec4.L12 (pp109-116) MD - TG: Sec4.L14 (pp125-138) MD - TG: Sec4.L15 (pp139-144) MD - TG: Sec4.L16 (pp145-152) PGD - TG: Sec4.L01 (pp3-8) PGD - TG: Sec4.L02 (pp9-12) PGD - TG: Sec4.L03 (pp13-24) PGD - TG: Sec4.L05 (pp29-34) PGD - TG: Sec4.L06 (pp33-38) PGD - TG: Sec4.L07 (pp39-42) PGD - TG: Sec4.L12 (pp67-70) PGD - TG: Sec4.L15 (pp89-94) RM - TG: Sec4.All lessons So - TG: Sec4.All lessons
NS.1.3.7 Make and explain predictions based on prior knowledge	BW - TG: Sec4.L02 (pp9-14) BW - TG: Sec4.L03 (pp15-26) BW - TG: Sec4.L04.Exts (p30)

	<p>BW - TG: Sec4.L05 (pp35-44)          BW - TG: Sec4.L06 (pp45-54)          BW - TG: Sec4.L08 (pp61-72)          BW - TG: Sec4.L09 (pp73-78)          BW - TG: Sec4.L12 (pp101-106)          BW - TG: Sec4.L13 (pp107-114)          BW - TG: Sec4.L14.Exts (pp118-119)          BW - TG: Sec4.L15 (pp123-128)          BW - TG: Sec4.L16 (pp129-136)          C - TG: Sec4.L01 (pp3-20)          C - TG: Sec4.L02 (pp21-30)          C - TG: Sec4.L03 (pp31-42)          C - TG: Sec4.L09 (pp85-94)          C - TG: Sec4.L11 (pp103-110)          C - TG: Sec4.L14 (pp129-136)          C - TG: Sec4.L15 (pp137-146)          C - TG: Sec4.L16 (pp147-154)          CT - TG: Sec4.L04 (pp35-44)          CT - TG: Sec4.L05 (pp45-56)          CT - TG: Sec4.L06 (pp57-68)          CT - TG: Sec4.L07 (pp69-78)          CT - TG: Sec4.L08 (pp79-84)          CT - TG: Sec4.L09 (pp85-92)          CT - TG: Sec4.L10 (pp93-100)          CT - TG: Sec4.L11 (pp101-106)          EC - TG: Sec4.L03 (pp15-20)          EC - TG: Sec4.L05 (pp25-32)          EC - TG: Sec4.L09 (pp49-52)          EC - TG: Sec4.L11 (pp59-64)          LCB - TG: Sec4.L04 (pp23-28)          LCB - TG: Sec4.L07.Exts (p43)          LCB - TG: Sec4.L08 (pp47-52)          LCB - TG: Sec4.L09 (pp53-62)          LCB - TG: Sec4.L10 (pp63-68)          LCB - TG: Sec4.L13 (pp81-84)          LW - TG: Sec4.L01 (pp3-10)          LW - TG: Sec4.L03.Exts (p35)          LW - TG: Sec4.L04 (pp37-50)          LW - TG: Sec4.L09 (pp99-108)          LW - TG: Sec4.L10 (pp109-118)          LW - TG: Sec4.L13 (pp143-152)          LW - TG: Sec4.L14 (pp153-162)          LW - TG: Sec4.L15 (pp163-172)          LW - TG: Sec4.L16 (pp173-182)          LW - TG: Sec4.L17 (pp182-186)          MD - TG: Sec4.L07 (pp65-72)          PGD - TG: Sec4.L01 (pp3-8)          PGD - TG: Sec4.L07 (pp39-42)          PGD - TG: Sec4.L09 (pp47 - 54)          PGD - TG: Sec4.L17 (pp99-100)          RM - TG: Sec4.All lessons except L10          So - TG: Sec4.L03.Exts (p20)          So - TG: Sec4.L05.Exts (pp35-36)</p>
<p>NS.1.3.8          Use simple equipment, age appropriate tools, technology, and</p>	<p>AS - TG: Sec4.L02 (pp11-20)          AS - TG: Sec4.L03 (pp21-36)          AS - TG: Sec4.L04 (pp37-48)</p>

<p>mathematics in <i>scientific investigations</i> (e.g., balances, hand lenses, microscopes, rulers, <i>thermometers</i>, calculators, computers)</p>	<p>AS - TG: Sec4.L05 (pp49-64)  AS - TG: Sec4.L06 (pp65-74)  AS - TG: Sec4.L07 (pp75 - 86)  AS - TG: Sec4.L08 (pp87-96)  AS - TG: Sec4.L09 (pp97-106)  AS - TG: Sec4.L10 (pp107-114)  AS - TG: Sec4.L12 (pp123-134)  AS - TG: Sec4.L13 (pp135-142)  AS - TG: Sec4.L14 (pp143-156)  AS - TG: Sec4.L15 (pp157-164)  BW - TG: Sec4.All lessons  C - TG: Sec4.L01 (pp3-20)  C - TG: Sec4.L04 (pp43-52)  C - TG: Sec4.L05 (pp53-62)  C - TG: Sec4.L06 (pp63-70)  C - TG: Sec4.L07 (pp71-78)  C - TG: Sec4.L08 (pp79-84)  C - TG: Sec4.L09 (pp85-94)  C - TG: Sec4.L11 (pp103-110)  C - TG: Sec4.L12 (pp111-118)  C - TG: Sec4.L13 (pp119-128)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  C - TG: Sec4.L17 (pp155-158)  CT - TG: Sec4.All lessons  EC - TG: Sec4.All lessons  LCB - TG: Sec4.L01.Exts (p7)  LCB - TG: Sec4.L02 (pp11-18)  LCB - TG: Sec4.L03 (pp19-22)  LCB - TG: Sec4.L04 (pp23-28)  LCB - TG: Sec4.L05 (pp29-34)  LCB - TG: Sec4.L06 (pp35-38)  LCB - TG: Sec4.L07 (pp39-46)  LCB - TG: Sec4.L08 (pp47-52)  LCB - TG: Sec4.L09 (pp53-62)  LCB - TG: Sec4.L11.Exts (pp71-73)  LCB - TG: Sec4.L12 (pp75-80)  LCB - TG: Sec4.L14 (pp85-88)  LW - RB: (pp32-35)  LW - TG: Sec4.L04 (pp37-50)  LW - TG: Sec4.L05 (pp51-62)  LW - TG: Sec4.L06 (pp63-74)  LW - TG: Sec4.L07 (pp75-84)  LW - TG: Sec4.L08 (pp85-98)  LW - TG: Sec4.L09 (pp99-108)  LW - TG: Sec4.L10 (pp109-118)  LW - TG: Sec4.L11 (pp119-128)  LW - TG: Sec4.L12 (pp129-142)  LW - TG: Sec4.L13 (pp143-152)  LW - TG: Sec4.L14 (pp153-162)  LW - TG: Sec4.L15 (pp163-172)  LW - TG: Sec4.L16 (pp173-182)  MD - TG: Sec4.L02 (pp15-24)  MD - TG: Sec4.L03 (pp25-34)  MD - TG: Sec4.L06 (pp57-64)</p>
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	<p>MD - TG: Sec4.L08 (pp73-80)  MD - TG: Sec4.L09 (pp81-90)  MD - TG: Sec4.L11 (pp101-108)  MD - TG: Sec4.L12 (pp109-116)  MD - TG: Sec4.L13 (pp117-124)  MD - TG: Sec4.L14 (pp125-138)  MD - TG: Sec4.L16 (pp145-152)  PGD - TG: Sec4.L01 (pp3-8)  PGD - TG: Sec4.L02 (pp9-12)  PGD - TG: Sec4.L04 (pp25-28)  PGD - TG: Sec4.L05 (pp29-34)  PGD - TG: Sec4.L06 (pp33-38)  PGD - TG: Sec4.L07 (pp39-42)  PGD - TG: Sec4.L08 (pp43-46)  PGD - TG: Sec4.L09 (pp47-54)  PGD - TG: Sec4.L10 (pp55-60)  PGD - TG: Sec4.L11 (pp61-66)  PGD - TG: Sec4.L12 (pp67-70)  PGD - TG: Sec4.L15 (pp89-94)  RM - TG: Sec4.All lessons except L07  So - TG: Sec4.All lessons except L01  S - TG: Sec4.L01.Exts (p12)  S - TG: Sec4.L02 (pp17-26)  S - TG: Sec4.L03 (pp27-36)  S - TG: Sec4.L05 (pp45-56)  S - TG: Sec4.L06 (pp57-64)  S - TG: Sec4.L07 (pp65-72)  S - TG: Sec4.L08 (pp73-86)  S - TG: Sec4.L10 (pp97-108)  S - TG: Sec4.L11 (pp109-114)  S - TG: Sec4.L12 (pp115-124)  S - TG: Sec4.L13 (pp125-138)  S - TG: Sec4.L14 (pp139-148)  S - TG: Sec4.L15 (pp149-158)</p>
<p>NS.1.3.9  Apply lab safety rules as they relate to specific science <i>lab activities</i> (see Arkansas Lab Safety Guide)</p>	<p>AS - TG: Sec4.L04 (pp37-48)  AS - TG: Sec4.L06 (pp65-74)  AS - TG: S-Sec3 (pp16-26)  BW - TG: S-Sec3 (pp17-22)  C - TG: Sec4.L09.Exts (pp89-90)  C - TG: Sec4.L14 (pp129-136)  C - TG: Sec4.L15 (pp137-146)  C - TG: Sec4.L16 (pp147-154)  C - TG: S-Sec3 (pp9-29)  CT - TG: Sec4.All lessons except L12  and L17  CT - TG: S-Sec3 (pp18-46)  EC - RB: (pp29-31)  EC - RB: (pp32-33)  EC - RB: (pp42-44)  EC - TG: Sec4.L01 (pp3-6)  EC - TG: Sec4.L02 (pp7-14)  EC - TG: Sec4.L08 (pp45-48)  EC - TG: S-Sec3 (pp16-19)  LCB - TG: Sec4.L02 (pp11-18)  LCB - TG: S-Sec3 (pp17-22)  LW - TG: Sec4.L02 (pp11-28)</p>

	<p>LW - TG: Sec4.L04 (pp37-50)  LW - TG: Sec4.L06 (pp63-74)  LW - TG: Sec4.L15 (pp163-172)  LW - TG: S-Sec3 (pp13-18)  MD - TG: Sec4.L02 (pp15-24)  MD - TG: Sec4.L03 (pp25-34)  MD - TG: Sec4.L04 (pp35-46)  MD - TG: Sec4.L05 (pp47-56)  MD - TG: Sec4.L06 (pp57-64)  MD - TG: Sec4.L07 (pp65-72)  MD - TG: Sec4.L08 (pp73-80)  MD - TG: Sec4.L09 (pp81-90)  MD - TG: Sec4.L10 (pp91-100)  MD - TG: Sec4.L11 (pp101-108)  MD - TG: Sec4.L12 (pp109-116)  MD - TG: Sec4.L13 (pp117-124)  MD - TG: Sec4.L15 (pp139-144)  MD - TG: Sec4.L17 (pp153-156)  MD - TG: S-Sec3 (pp8-11)  PGD - TG: Sec4.L03 (pp13-24)  PGD - TG: S-Sec3 (pp10-14)  RM - TG: Sec4.L02 (pp13-18)  RM - TG: Sec4.L05 (pp35-42)  RM - TG: Sec4.L06 (pp43-50)  RM - TG: Sec4.L07 (pp51-56)  RM - TG: Sec4.L08 (pp57-62)  RM - TG: Sec4.L09 (pp63-70)  RM - TG: Sec4.L10 (pp71-78)  RM - TG: Sec4.L11 (pp79-84)  RM - TG: Sec4.L12 (pp85-90)  RM - TG: Sec4.L13 (pp91-94)  RM - TG: Sec4.L14 (pp95-102)  RM - TG: Sec4.L15 (pp103-112)  RM - TG: Sec4.L16 (pp113-126)  RM - TG: S-Sec3 (pp10-14)  So - TG: Sec4.L01 (pp11-16)  So - TG: Sec4.L02 (pp17-22)  So - TG: Sec4.L03 (pp23-27)  So - TG: Sec4.L06 (pp39-48)  So - TG: Sec4.L09 (pp63-66)  So - TG: Sec4.L15 (pp103-112)  So - TG: Sec4.L16 (pp113-116)  So - TG: Sec4.L17 (pp117-118)  So - TG: S-Sec3 (pp9-12)  S - TG: S-Sec3 (pp12-17)</p>
<b>Strand 2: Life Science</b>	
<i>Standard 2: Living Systems: Characteristics, Structure, and Function</i>	
<p>LS.2.3.1  Classify animals as vertebrates and <i>invertebrates</i> according to their structure</p>	<p>AS - RB: (pp09-11)  AS - RB: (pp30-32)  AS - RB: (pp38-39)  AS - RB: (pp50-52)  AS - TG: Sec4.L05 (pp49-64)  AS - TG: Sec4.L06 (pp65-74)  AS - TG: Sec4.L08 (pp87-96)</p>

	AS - TG: Sec4.L09 (pp97-106) LCB - TG: Sec4.L06.Exts (p37)
LS.2.3.2 Identify major parts and functions of the following systems: <ul style="list-style-type: none"> <li>▪ respiratory</li> <li>▪ muscular</li> </ul>	
<i>Standard 3: Life Cycles, Reproduction, and Heredity</i>	
LS.3.3.3 Differentiate among <i>complete metamorphosis, incomplete metamorphosis, and embryonic development</i>	AS - RB: (pp06-08) AS - RB: (pp38-39) LCB - TG: Sec4.L01 (pp3-10) LCB - TG: Sec4.L03 (pp19-22) LCB - TG: Sec4.L04.Exts (pp26-27) LCB - TG: Sec4.L06.Exts (p37) LCB - TG: Sec4.L07 (pp39-46) LCB - TG: Sec4.L08 (pp47-52) LCB - TG: Sec4.L09 (pp53-62) LCB - TG: Sec4.L12.Exts (p77) LCB - TG: Sec4.L13 (pp81-84)
<b>Strand 3: Physical Science</b>	
<i>Standard 5: Matter: Properties and Changes</i>	
PS.5.3.1 Compare and contrast objects based on two or more properties	BW - TG: Sec4.L12.Exts (p104) C - TG: Sec4.All lessons CT - TG: Sec4.All lessons RM - TG: Sec4.All lessons S - TG: Sec4.L01 (pp3-16) S - TG: Sec4.L03 (pp27-36) S - TG: Sec4.L04 (pp37-44) S - TG: Sec4.L05 (pp45-56) S - TG: Sec4.L06 (pp57-64) S - TG: Sec4.L07 (pp65-72) S - TG: Sec4.L08 (pp73-86)
PS.5.3.2 Demonstrate physical changes in <i>matter</i>	C - TG: Sec4.L01 (pp3-20) C - TG: Sec4.L03 (pp31-42) C - TG: Sec4.L04 (pp43-52) C - TG: Sec4.L09 (pp85-94) C - TG: Sec4.L12 (pp111-118) C - TG: Sec4.L13.Exts (p123) C - TG: Sec4.L17 (pp155-158) RM - TG: Sec4.L12.Exts (p87)
PS.5.3.3 Determine the <i>mass</i> of solids	BW - TG: Sec4.All lessons C - TG: Sec4.L02.Exts (pp26-27) MD - TG: Sec4.L04 (pp35-46)
PS.5.3.4 Compare and contrast solids and liquids	C - TG: Sec4.L01 (pp3-20) C - TG: Sec4.L02 (pp21-30) C - TG: Sec4.L03 (pp31-42) C - TG: Sec4.L04 (pp43-52) C - TG: Sec4.L05 (pp53-62) C - TG: Sec4.L06 (pp63-70) C - TG: Sec4.L07 (pp71-78) C - TG: Sec4.L09 (pp85-94) C - TG: Sec4.L10 (pp95-102) C - TG: Sec4.L11 (pp103-110) C - TG: Sec4.L13.Exts (p123) C - TG: Sec4.L14 (pp129-136) CT - TG: Sec4.L04.Exts (p39)

	CT - TG: Sec4.L06 (pp57-68) CT - TG: Sec4.L07 (pp69-78) CT - TG: Sec4.L08 (pp79-84) CT - TG: Sec4.L09 (pp85-92) CT - TG: Sec4.L14 (pp125-134) CT - TG: Sec4.L15 (pp135-148) CT - TG: Sec4.L16.Exts (pp152-153)
<i>Standard 6: Motion and Forces</i>	
PS.6.3.1 Identify characteristics of wave motion: <ul style="list-style-type: none"> <li>▪ <i>amplitude</i></li> <li>▪ <i>frequency</i></li> </ul>	
PS.6.3.2 Investigate the relationship between sound and wave motion	So - TG: Sec4.L02 (pp17-22) So - TG: Sec4.L03 (pp23-27) So - TG: Sec4.L04 (pp28-32) So - TG: Sec4.L05 (pp33-38) So - TG: Sec4.L06 (pp39-48) So - TG: Sec4.L07 (pp49-56) So - TG: Sec4.L08 (pp57-62) So - TG: Sec4.L09 (pp63-66) So - TG: Sec4.L10 (pp67-72) So - TG: Sec4.L11 (pp73-78) So - TG: Sec4.L12 (pp79-84) So - TG: Sec4.L13 (pp85-90) So - TG: Sec4.L14 (pp91-102) So - TG: Sec4.L17 (pp117-118)
PS.6.3.3 Determine the impact of the following <i>variables</i> on pitch: <ul style="list-style-type: none"> <li>▪ length</li> <li>▪ <i>mass</i></li> <li>▪ tension</li> <li>▪ <i>state of matter</i></li> </ul>	
<i>Standard 7: Energy and Transfer of Energy</i>	
PS.7.3.1 Classify materials as those which can <i>reflect, refract,</i> or absorb light	RM - TG: Sec4.L08 (pp57-62) RM - TG: Sec4.L09 (pp63-70)
PS.7.3.2 Calculate a change in <i>temperature</i> using the Celsius scale	
PS.7.3.3 Identify methods of producing <i>electricity</i> relative to Arkansas: <ul style="list-style-type: none"> <li>▪ <i>hydroelectric</i></li> <li>▪ coal</li> <li>▪ oil</li> <li>▪ natural gas</li> <li>▪ nuclear</li> <li>▪ solar</li> <li>▪ wind</li> </ul>	
PS.7.3.4 Differentiate between magnets and non-magnets	RM - TG: Sec4.L11 (pp79-84) RM - TG: Sec4.L15 (pp103-112)
PS.7.3.5 Describe the effect of distance on attraction and repulsion	

PS.7.3.6 Construct a magnet by the “Touch/Stroke” method	RM - TG: Sec4.L11.Exts (p80)
<b>Strand 4: Earth and Space Science</b>	
<i>Standard 8: Earth Systems: Structure and Properties</i>	
ESS.8.3.1 Distinguish among Earth’s materials: <ul style="list-style-type: none"> <li>▪ rocks</li> <li>▪ minerals</li> <li>▪ <i>fossils</i></li> <li>▪ soils</li> </ul>	LW - RB: (pp15-18) LW - RB: (pp36-38) LW - TG: Sec4.L05.Exts (p56) RM - TG: Sec4.L01 (pp3-12) RM - TG: Sec4.L02 (pp13-18) RM - TG: Sec4.L03.Exts (p22) RM - TG: Sec4.L04 (pp27-34) RM - TG: Sec4.L10.Exts (pp73-74) RM - TG: Sec4.L11.Exts (p80) RM - TG: Sec4.L12.Exts (p87) RM - TG: Sec4.L15.Exts (p107) RM - TG: Sec4.L16 (pp113-126) S - TG: Sec4.All lessons
ESS.8.3.2 Classify rocks by their properties, including but not limited to <ul style="list-style-type: none"> <li>▪ size</li> <li>▪ shape</li> <li>▪ color</li> <li>▪ texture</li> <li>▪ patterns</li> </ul>	LW - RB: (pp15-18) RM - TG: Sec4.L01 (pp3-12) RM - TG: Sec4.L02 (pp13-18) RM - TG: Sec4.L03.Exts (p22) RM - TG: Sec4.L04 (pp27-34) RM - TG: Sec4.L11.Exts (p80) RM - TG: Sec4.L16 (pp113-126)
ESS.8.3.3 Identify the three categories of rocks: <ul style="list-style-type: none"> <li>▪ <i>metamorphic</i></li> <li>▪ <i>igneous</i></li> <li>▪ <i>sedimentary</i></li> </ul>	LW - RB: (pp15-18) LW - TG: Sec4.L06.Exts (pp67-68) RM - TG: Sec4.L01 (pp3-12) RM - TG: Sec4.L02 (pp13-18) RM - TG: Sec4.L03 (pp19-26) RM - TG: Sec4.L04 (pp27-34) RM - TG: Sec4.L11.Exts (p80) RM - TG: Sec4.L16 (pp113-126) RM - TG: Sec4.L17 (pp127-128)
ESS.8.3.4 Identify the <i>physical properties</i> of minerals: <ul style="list-style-type: none"> <li>▪ hardness</li> <li>▪ color</li> <li>▪ luster</li> <li>▪ streak</li> </ul>	C - TG: Sec4.L09.Exts (pp89-90) CT - TG: Sec4.L06.Exts (p61) RM - TG: Sec4.All lessons except L02 and L03
ESS.8.3.5 Identify areas in Arkansas that are the main sources of the following minerals: <ul style="list-style-type: none"> <li>▪ bauxite</li> <li>▪ novaculite</li> <li>▪ quartz crystal</li> <li>▪ diamond</li> <li>▪ bromine</li> </ul>	RM - TG: Sec4.L10.Exts (pp73-74) RM - TG: Sec4.L12.Exts (p87) RM - TG: Sec4.L15.Exts (p107)
ESS.8.3.6 Describe the layers of Earth: <ul style="list-style-type: none"> <li>▪ crust</li> <li>▪ mantle</li> <li>▪ inner core</li> </ul>	LW - RB: (pp10-11)

<ul style="list-style-type: none"> <li>▪ outer core</li> </ul>	
ESS.8.3.7 Identify common uses of rocks and minerals	
ESS.8.3.8 Chart <i>precipitation</i> levels over time	
ESS.8.3.9 Demonstrate safety procedures related to severe weather	EC - RB: (pp56-59)
ESS.8.3.10 Construct and read a rain gauge	EC - RB: (pp56-59) LW - RB: (pp59-61)
<i>Standard 9: Earth's History: Changes in Earth and Sky</i>	
ESS.9.3.1 Analyze the effect of wind and water on Earth's surface	LW - RB: (pp36-38) LW - TG: Sec4.L03 (pp29-36) LW - TG: Sec4.L04 (pp37-50) LW - TG: Sec4.L05 (pp51-62) LW - TG: Sec4.L06 (pp63-74) LW - TG: Sec4.L07 (pp75-84) LW - TG: Sec4.L09.Exts (p103) LW - TG: Sec4.L10 (pp109-118) LW - TG: Sec4.L11 (pp119-128) LW - TG: Sec4.L12 (pp129-142) LW - TG: Sec4.L13 (pp143-152) LW - TG: Sec4.L14 (pp153-162) LW - TG: Sec4.L15 (pp163-172) LW - TG: Sec4.L16 (pp173-182)
<i>Standard 10: Objects in the Universe</i>	
ESS.10.3.1 Demonstrate how the planets <i>orbit</i> the sun	
ESS.10.3.2 Demonstrate the <i>orbit</i> of Earth and its moon around the sun	
ESS.10.3.3 Relate Earth's rotation to the day/night cycle	
<b>GRADE 4</b>	
<b>Strand 1: Nature of Science</b>	<b>Curriculum Location</b>
<i>Standard 1: Characteristics and Processes of Science</i>	
NS.1.4.1 Communicate observations orally, in writing, and in graphic organizers: <ul style="list-style-type: none"> <li>▪ T-charts</li> <li>▪ pictographs</li> <li>▪ Venn diagrams</li> <li>▪ bar graphs</li> <li>▪ frequency tables</li> <li>▪ line graphs</li> </ul>	AS - RB: (pp58-61) AS - TG: Sec4.L02 (pp11-20) AS - TG: Sec4.L03 (pp21-36) AS - TG: Sec4.L04 (pp37-48) AS - TG: Sec4.L05 (pp49-64) AS - TG: Sec4.L06 (pp65-74) AS - TG: Sec4.L08 (pp87-96) AS - TG: Sec4.L09 (pp97-106) AS - TG: Sec4.L15 (pp157-164) AS - TG: Sec4.L17 (pp169-172) CT - TG: Sec4.All lessons EC - RB: All readings EC - TG: Sec4.All lessons E - RB: All readings E - TG: Sec4.All lessons except L01 FC - TG: Sec4.All lessons except L05 and L15 FS - TG: Sec4.All lessons LW - TG: Sec4.All lessons except L06

	<p>MD - TG: Sec4.All lessons except L05  M - RB: All readings  M - TG: Sec4. All lessons except L05  PGD - TG: Sec4.All lessons  RM - TG: Sec4.All lessons except L08  So - TG: Sec4.All lessons</p>
<p>NS.1.4.2  Refine questions that guide scientific inquiry</p>	<p>AS - TG: Sec4.All lessons  CT - TG: Sec4.L01 (pp3-12)  CT - TG: Sec4.L06 (pp57-68)  CT - TG: Sec4.L12 (pp107-114)  CT - TG: Sec4.L15.Exts (pp140-141)  CT - TG: Sec4.L17 (pp155-158)  EC - TG: Sec4. All lessons except L02  E - RB: (pp43-44)  E - TG: Sec4.All lessons  FC - TG: Sec4.All lessons except L01  and L15  FS - TG: Sec4.All lessons  LW - TG: Sec4.L01 (pp3-10)  LW - TG: Sec4.L02 (pp11-28)  LW - TG: Sec4.L07 (pp75-84)  LW - TG: Sec4.L08 (pp85-98)  LW - TG: Sec4.L09 (pp99-108)  LW - TG: Sec4.L10 (pp109-118)  LW - TG: Sec4.L11 (pp119-128)  LW - TG: Sec4.L12 (pp129-142)  LW - TG: Sec4.L13 (pp143-152)  LW - TG: Sec4.L16 (pp173-182)  LW - TG: Sec4.L17 (pp182-186)  MD - TG: Sec4.L01 (pp1-14)  MD - TG: Sec4.L03 (pp25-34)  MD - TG: Sec4.L04 (pp35-46)  MD - TG: Sec4.L05 (pp47-56)  MD - TG: Sec4.L06 (pp57-64)  MD - TG: Sec4.L07 (pp65-72)  MD - TG: Sec4.L08 (pp73-80)  MD - TG: Sec4.L09 (pp81-90)  MD - TG: Sec4.L10 (pp91-100)  MD - TG: Sec4.L11 (pp101-108)  MD - TG: Sec4.L12 (pp109-116)  MD - TG: Sec4.L13 (pp117-124)  MD - TG: Sec4.L15 (pp139-144)  MD - TG: Sec4.L17 (pp153-156)  M - RB: (pp23-25)  M - TG: Sec4.All lessons  PGD - TG: Sec4.L02 (pp9-12)  PGD - TG: Sec4.L03 (pp13-24)  PGD - TG: Sec4.L04 (pp25-28)  PGD - TG: Sec4.L05 (pp29-34)  PGD - TG: Sec4.L06 (pp33-38)  PGD - TG: Sec4.L08 (pp43-46)  PGD - TG: Sec4.L09 (pp47-54)  PGD - TG: Sec4.L10 (pp55-60)  PGD - TG: Sec4.L11 (pp61-66)  PGD - TG: Sec4.L13 (pp71-78)  PGD - TG: Sec4.L14 (pp79-88)</p>

	PGD - TG: Sec4.L15 (pp89-94) PGD - TG: Sec4.L16 (pp95-98) PGD - TG: Sec4.L17 (pp99-100) RM - TG: Sec4.All lessons So - TG: Sec4.All lessons
NS.1.4.3 Conduct <i>scientific investigations</i> individually and in teams: <ul style="list-style-type: none"> <li>▪ <i>lab activities</i></li> <li>▪ <i>field studies</i></li> </ul>	AS - TG: Sec4.All lessons CT - TG: Sec4.All lessons EC - RB: (pp13-16) EC - RB: (pp60-61) EC - TG: Sec4.All lessons E - RB: (pp43-44) E - TG: Sec4.All lessons except L01 FC - TG: Sec4.All lessons except L15 FS - RB: (pp60-61) FS - TG: Sec4.All lessons LW - TG: Sec4.All lessons MD - RB: (pp23-28) MD - TG: Sec4.All lessons except L02 M - RB: (pp23-25) M - TG: Sec4.All lessons PGD - TG: Sec4.All lessons RM - TG: Sec4.All lessons So - TG: Sec4.All lessons
NS.1.4.5 Communicate the designs, procedures, and results of <i>scientific investigations</i> (e.g., age-appropriate graphs, charts, and writings)	AS - RB: (pp58-61) AS - TG: Sec4.L17 (pp169-172) CT - TG: Sec4.All lessons EC - TG: Sec4.All lessons E - RB: All readings E - TG: Sec4.All lessons except L01 and L11 FC - TG: Sec4.L07 (pp69-78) FC - TG: Sec4.L08 (pp79-84) FC - TG: Sec4.L13 (pp117-124) FS - TG: Sec4.All readings LW - TG: Sec4.L01 (pp3-10) LW - TG: Sec4.L02 (pp11-28) LW - TG: Sec4.L03 (pp29-36) LW - TG: Sec4.L04 (pp37-50) LW - TG: Sec4.L05 (pp51-62) LW - TG: Sec4.L08 (pp85-98) LW - TG: Sec4.L10 (pp109-118) LW - TG: Sec4.L11 (pp119-128) LW - TG: Sec4.L12 (pp129-142) LW - TG: Sec4.L13 (pp143-152) LW - TG: Sec4.L14 (pp153-162) LW - TG: Sec4.L16 (pp173-182) LW - TG: Sec4.L17 (pp182-186) MD - TG: Sec4.All lessons except L05 M - TG: Sec4.L01 (pp3-8) M - TG: Sec4.L02 (pp9-14) PGD - TG: Sec4.All lessons RM - TG: Sec4.All lessons except L08 and L12 So - TG: Sec4.All lessons

<p>NS.1.4.6 Estimate and measure length, <i>mass</i>, <i>temperature</i>, capacity/volume, and elapsed time using International System of Units (SI)</p>	<p>FS - TG: Sec4.L04 (pp31-38)  FS - TG: Sec4.L05 (pp39-48)  FS - TG: Sec4.L07 (pp55-60)  FS - TG: Sec4.L08 (pp61-68)  FS - TG: Sec4.L09 (pp69-78)  FS - TG: Sec4.L10 (pp79-86)  FS - TG: Sec4.L11 (pp87-94)  FS - TG: Sec4.L12 (pp95-102)  FS - TG: Sec4.L14 (pp113-118)  FS - TG: Sec4.L15.Exts (p124)  FS - TG: Sec4.L16 (pp129-134)  LW - TG: Sec4.L02 (pp11-28)  LW - TG: Sec4.L03 (pp29-36)  LW - TG: Sec4.L04 (pp37-50)  LW - TG: Sec4.L05 (pp51-62)  LW - TG: Sec4.L06 (pp63-74)  LW - TG: Sec4.L07 (pp75-84)  LW - TG: Sec4.L10 (pp109-118)  LW - TG: Sec4.L11 (pp119-128)  LW - TG: Sec4.L12 (pp129-142)  LW - TG: Sec4.L13 (pp143-152)  LW - TG: Sec4.L14 (pp153-162)  LW - TG: Sec4.L16 (pp173-182)  MD - TG: Sec4.L04 (pp35-46)  M - TG: Sec4.L07 (pp37-42)  PGD - TG: Sec4.L05 (pp29-34)  PGD - TG: Sec4.L06 (pp33-38)  PGD - TG: Sec4.L07 (pp39-42)  PGD - TG: Sec4.L12 (pp67-70)  PGD - TG: Sec4.L15 (pp89-94)</p>
<p>NS.1.4.7 Collect and interpret measurable <i>empirical evidence</i> in teams and as individuals</p>	<p>AS - TG: Sec4.L04 (pp37-48)  AS - TG: Sec4.L05 (pp49-64)  AS - TG: Sec4.L06 (pp65-74)  AS - TG: Sec4.L07 (pp75-86)  AS - TG: Sec4.L08 (pp87-96)  AS - TG: Sec4.L09 (pp97-106)  AS - TG: Sec4.L11 (pp115-122)  AS - TG: Sec4.L12 (pp123-134)  AS - TG: Sec4.L16 (pp165-168)  CT - TG: Sec4.All lessons  EC - TG: Sec4.All lessons  E - TG: Sec4.L03 (pp25-38)  E - TG: Sec4.L04 (pp39-52)  E - TG: Sec4.L06 (pp61-74)  E - TG: Sec4.L11 (pp111-116)  E - TG: Sec4.L13 (pp125-132)  E - TG: Sec4.L16.Exts (p167)  FC - TG: Sec4.L01 (pp3-10)  FC - TG: Sec4.L03 (pp23-38)  FC - TG: Sec4.L05 (pp49-56)  FC - TG: Sec4.L06 (pp57-68)  FC - TG: Sec4.L08 (pp79-84)  FC - TG: Sec4.L09 (pp85-94)  FC - TG: Sec4.L10 (pp95-100)  FC - TG: Sec4.L11 (pp101-106)  FC - TG: Sec4.L12 (pp107-116)</p>

	FC - TG: Sec4.L14 (pp125-130) FC - TG: Sec4.L15 (pp131-148) FC - TG: Sec4.L16 (pp149-154) FC - TG: Sec4.L17 (pp155-156) FS - TG: Sec4.All lessons LW - TG: Sec4.All lessons MD - TG: Sec4.L03 (pp25-34) MD - TG: Sec4.L04 (pp35-46) MD - TG: Sec4.L05 (pp47-56) MD - TG: Sec4.L07 (pp65-72) MD - TG: Sec4.L10 (pp91-100) MD - TG: Sec4.L12 (pp109-116) MD - TG: Sec4.L14 (pp125-138) MD - TG: Sec4.L15 (pp139-144) MD - TG: Sec4.L16 (pp145-152) M - TG: Sec4.All lessons PGD - TG: Sec4.L01 (pp3-8) PGD - TG: Sec4.L02 (pp9-12) PGD - TG: Sec4.L03 (pp13-24) PGD - TG: Sec4.L05 (pp29-34) PGD - TG: Sec4.L06 (pp33-38) PGD - TG: Sec4.L07 (pp39-42) PGD - TG: Sec4.L12 (pp67-70) PGD - TG: Sec4.L15 (pp89-94) RM - TG: Sec4.All lessons So - TG: Sec4.All lessons
NS.1.4.8 Develop a <i>hypothesis</i> based on prior knowledge and observations	LW - RB: (pp07-09)
NS.1.4.9 Identify <i>variables</i> that affect investigations	CT - TG: Sec4.L07 (pp69-78) LW - TG: Sec4.L15 (pp163-172)
NS.1.4.10 Identify patterns and trends in data	AS - TG: Sec4.L16 (pp165-168) CT - TG: Sec4.L04 (pp35-44) CT - TG: Sec4.L06 (pp57-68) CT - TG: Sec4.L09 (pp85-92) CT - TG: Sec4.L11 (pp101-106) CT - TG: Sec4.L13 (pp115-124) CT - TG: Sec4.L16 (pp149-154) CT - TG: Sec4.L17 (pp155-158) E - TG: Sec4.L13 (pp125-132) FC - TG: Sec4.L03 (pp23-38) FC - TG: Sec4.L05 (pp49-56) FC - TG: Sec4.L06 (pp57-68) FC - TG: Sec4.L08 (pp79-84) FC - TG: Sec4.L09 (pp85-94) FC - TG: Sec4.L11 (pp101-106) FC - TG: Sec4.L12 (pp107-116) FC - TG: Sec4.L14 (pp125-130) FC - TG: Sec4.L15 (pp131-148) FS - TG: Sec4.L03 (pp21-30) FS - TG: Sec4.L09 (pp69-78) FS - TG: Sec4.L10 (pp79-86) FS - TG: Sec4.L11 (pp87-94) FS - TG: Sec4.L12 (pp95-102) FS - TG: Sec4.L13 (pp103-112) FS - TG: Sec4.L14 (pp113-118)

	<p>FS - TG: Sec4.L16 (pp129-134)  LW - TG: Sec4.L06 (pp63-74)  LW - TG: Sec4.L08 (pp85-98)  LW - TG: Sec4.L10 (pp109-118)  LW - TG: Sec4.L11 (pp119-128)  LW - TG: Sec4.L12 (pp129-142)  LW - TG: Sec4.L15 (pp163-172)  LW - TG: Sec4.L16 (pp173-182)  MD - TG: Sec4.L04 (pp35-46)  MD - TG: Sec4.L05 (pp47-56)  MD - TG: Sec4.L07 (pp65-72)  MD - TG: Sec4.L10 (pp91-100)  MD - TG: Sec4.L12 (pp109-116)  MD - TG: Sec4.L15 (pp139-144)  MD - TG: Sec4.L16 (pp145-152)  PGD - TG: Sec4.L07 (pp39-42)  PGD - TG: Sec4.L15 (pp89-94)  So - TG: Sec4.All lessons</p>
<p>NS.1.4.11  Generate conclusions based on evidence</p>	<p>CT - TG: Sec4.L13 (pp115-124)  CT - TG: Sec4.L16 (pp149-154)  FC - TG: Sec4.L05 (pp49-56)  FC - TG: Sec4.L08 (pp79-84)  FS - TG: Sec4.L17 (pp135-136)  LW - TG: Sec4.L05 (pp51-62)  LW - TG: Sec4.L10 (pp109-118)  LW - TG: Sec4.L13 (pp143-152)  LW - TG: Sec4.L14 (pp153-162)  LW - TG: Sec4.L17 (pp182-186)  MD - TG: Sec4.L03 (pp25-34)  PGD - TG: Sec4.L16 (pp95-98)  PGD - TG: Sec4.L17 (pp99-100)</p>
<p>NS.1.4.12  Evaluate the quality and feasibility of an idea or project</p>	<p>AS - TG: Sec4.L16 (pp165-168)  EC - TG: Sec4.L11.Exts (p63)  EC - TG: Sec4.L17 (pp85-86)  FC - TG: Sec4.L03 (pp23-38)  FC - TG: Sec4.L05 (pp49-56)  FC - TG: Sec4.L11 (pp101-106)  LW - TG: Sec4.L16 (pp173-182)  MD - TG: Sec4.L05 (pp47-56)  MD - TG: Sec4.L06 (pp57-64)  MD - TG: Sec4.L08 (pp73-80)  MD - TG: Sec4.L13 (pp117-124)  MD - TG: Sec4.L14 (pp125-138)  MD - TG: Sec4.L15 (pp139-144)  MD - TG: Sec4.L16 (pp145-152)</p>
<p>NS.1.4.13  Use simple equipment, age appropriate tools, technology, and mathematics in <i>scientific investigations</i> (e.g., balances, hand lenses, microscopes, rulers, <i>thermometers</i>, calculators, computers)</p>	<p>AS - TG: Sec4.L02 (pp11-20)  AS - TG: Sec4.L03 (pp21-36)  AS - TG: Sec4.L04 (pp37-48)  AS - TG: Sec4.L05 (pp49-64)  AS - TG: Sec4.L06 (pp65-74)  AS - TG: Sec4.L07 (pp75-86)  AS - TG: Sec4.L08 (pp87-96)  AS - TG: Sec4.L09 (pp97-106)  AS - TG: Sec4.L10 (pp107-114)  AS - TG: Sec4.L12 (pp123-134)  AS - TG: Sec4.L13 (pp135-142)</p>

	<p>AS - TG: Sec4.L14 (pp143-156)  AS - TG: Sec4.L15 (pp157-164)  CT - TG: Sec4.All lessons  EC - TG: Sec4.All lessons  FS - TG: Sec4.All lessons  LW - RB: (pp32-35)  LW - TG: Sec4.L04 (pp37-50)  LW - TG: Sec4.L05 (pp51-62)  LW - TG: Sec4.L06 (pp63-74)  LW - TG: Sec4.L07 (pp75-84)  LW - TG: Sec4.L08 (pp85-98)  LW - TG: Sec4.L09 (pp99-108)  LW - TG: Sec4.L10 (pp109-118)  LW - TG: Sec4.L11 (pp119-128)  LW - TG: Sec4.L12 (pp129-142)  LW - TG: Sec4.L13 (pp143-152)  LW - TG: Sec4.L14 (pp153-162)  LW - TG: Sec4.L15 (pp163-172)  LW - TG: Sec4.L16 (pp173-182)  MD - TG: Sec4.L02 (pp15-24)  MD - TG: Sec4.L03 (pp25-34)  MD - TG: Sec4.L06 (pp57-64)  MD - TG: Sec4.L08 (pp73-80)  MD - TG: Sec4.L09 (pp81-90)  MD - TG: Sec4.L11 (pp101-108)  MD - TG: Sec4.L12 (pp109-116)  MD - TG: Sec4.L13 (pp117-124)  MD - TG: Sec4.L14 (pp125-138)  MD - TG: Sec4.L16 (pp145-152)  M - RB: All readings  M - TG: Sec4.All lessons except L07  PGD - TG: Sec4.L01 (pp3-8)  PGD - TG: Sec4.L02 (pp9-12)  PGD - TG: Sec4.L04 (pp25-28)  PGD - TG: Sec4.L05 (pp29-34)  PGD - TG: Sec4.L06 (pp33-38)  PGD - TG: Sec4.L07 (pp39-42)  PGD - TG: Sec4.L08 (pp43-46)  PGD - TG: Sec4.L09 (pp47-54)  PGD - TG: Sec4.L10 (pp55-60)  PGD - TG: Sec4.L11 (pp61-66)  PGD - TG: Sec4.L12 (pp67-70)  PGD - TG: Sec4.L15 (pp89-94)  RM - TG: Sec4.All lessons except L07  So - TG: Sec4.All lessons except L01</p>
<p>NS.1.4.14  Apply lab safety rules as they relate to specific science <i>lab activities</i> (see Arkansas Lab Safety Guide)</p>	<p>AS - TG: Sec4.L04 (pp37-48)  AS - TG: Sec4.L06 (pp65-74)  AS - TG: S-Sec3 (pp16-26)  CT - TG: Sec4.All lessons except L12  CT - TG: S-Sec3 (pp18-46)  EC - RB: (pp29-31)  EC - RB: (pp32-33)  EC - RB: (pp42-44)  EC - TG: Sec4.L01 (pp3-6)  EC - TG: Sec4.L02 (pp7-14)  EC - TG: Sec4.L08 (pp45-48)</p>

EC - TG: S-Sec3 (pp16-19)  
 E - RB: (pp43-44)  
 E - TG: Sec4.L06 (pp61-74)  
 E - TG: S-Sec3 (pp34-44)  
 FC - TG: Sec4.L02 (pp11-22)  
 FC - TG: Sec4.L03 (pp23-38)  
 FC - TG: Sec4.L04 (pp39-48)  
 FC - TG: S-Sec3 (pp10-22)  
 FS - TG: Sec4.All lessons  
 FS - TG: S-Sec3 (pp10-15)  
 LW - TG: Sec4.L02 (pp11-28)  
 LW - TG: Sec4.L04 (pp37-50)  
 LW - TG: Sec4.L06 (pp63-74)  
 LW - TG: Sec4.L15 (pp163-172)  
 LW - TG: S-Sec3 (pp13-18)  
 MD - TG: Sec4.L02 (pp15-24)  
 MD - TG: Sec4.L03 (pp25-34)  
 MD - TG: Sec4.L04 (pp35-46)  
 MD - TG: Sec4.L05 (pp47-56)  
 MD - TG: Sec4.L06 (pp57-64)  
 MD - TG: Sec4.L07 (pp65-72)  
 MD - TG: Sec4.L08 (pp73-80)  
 MD - TG: Sec4.L09 (pp81-90)  
 MD - TG: Sec4.L10 (pp91-100)  
 MD - TG: Sec4.L11 (pp101-108)  
 MD - TG: Sec4.L12 (pp109-116)  
 MD - TG: Sec4.L13 (pp117-124)  
 MD - TG: Sec4.L15 (pp139-144)  
 MD - TG: Sec4.L17 (pp153-156)  
 MD - TG: S-Sec3 (pp8-11)  
 M - TG: Sec4.L05 (pp25-30)  
 M - TG: Sec4.L06 (pp31-36)  
 M - TG: Sec4.L11 (pp61-66)  
 M - TG: Sec4.L15 (pp79-82)  
 M - TG: Sec4.L16 (pp83-86)  
 M - TG: S-Sec3 (pp11-24)  
 PGD - TG: Sec4.L03 (pp13-24)  
 PGD - TG: S-Sec3 (pp10-14)  
 RM - TG: Sec4.L02 (pp13-18)  
 RM - TG: Sec4.L05 (pp35-42)  
 RM - TG: Sec4.L06 (pp43-50)  
 RM - TG: Sec4.L07 (pp51-56)  
 RM - TG: Sec4.L08 (pp57-62)  
 RM - TG: Sec4.L09 (pp63-70)  
 RM - TG: Sec4.L10 (pp71-78)  
 RM - TG: Sec4.L11 (pp79-84)  
 RM - TG: Sec4.L12 (pp85-90)  
 RM - TG: Sec4.L13 (pp91-94)  
 RM - TG: Sec4.L14 (pp95-102)  
 RM - TG: Sec4.L15 (pp103-112)  
 RM - TG: Sec4.L16 (pp113-126)  
 RM - TG: S-Sec3 (pp10-14)  
 So - TG: Sec4.L01 (pp11-16)  
 So - TG: Sec4.L02 (pp17-22)  
 So - TG: Sec4.L03 (pp23-27)  
 So - TG: Sec4.L06 (pp39-48)

	So - TG: Sec4.L09 (pp63-66) So - TG: Sec4.L15 (pp103-112) So - TG: Sec4.L16 (pp113-116) So - TG: Sec4.L17 (pp117-118) So - TG: S-Sec3 (pp9-12)
<b>Strand 2: Life Science</b>	
<i>Standard 2: Living Systems: Characteristics, Structure, and Function</i>	
LS.2.4.1 Classify <i>vertebrates</i> into major subgroups: <ul style="list-style-type: none"> <li>▪ mammals</li> <li>▪ birds</li> <li>▪ fish</li> <li>▪ amphibians</li> <li>▪ reptiles</li> </ul>	AS - RB: (pp06-08) AS - RB: (pp12-15) AS - RB: (pp16-19) AS - RB: (pp22-25) AS - RB: (pp26-29) AS - RB: (pp35-37) AS - RB: (pp38-39) AS - RB: (pp40-42) AS - RB: (pp45-49) AS - RB: (pp53-55) AS - RB: (pp56-57) AS - RB: (pp58-61) AS - TG: Sec4.L03 (pp21-36) AS - TG: Sec4.L04 (pp37-48) AS - TG: Sec4.L07.Exts (pp79-80) AS - TG: Sec4.L09.Exts (pp101-102) AS - TG: Sec4.L10.Exts (p110) AS - TG: Sec4.L14.Exts (p145) EC - RB: (pp47-49) EC - RB: (pp50-52) E - RB: (pp28-30) E - RB: (pp35-37) FS - RB: (pp54-56) FS - RB: (pp60-61) MD - RB: (pp07-09) M - RB: (pp40-43) M - RB: (pp58-61)
LS.2.4.2 Classify some <i>invertebrates</i> according to their structure: <ul style="list-style-type: none"> <li>▪ mollusks</li> <li>▪ segmented worms</li> <li>▪ arthropods</li> </ul>	AS - RB: (pp09-11) AS - RB: (pp30-32) AS - RB: (pp38-39) AS - RB: (pp50-52) AS - TG: Sec4.L05 (pp49-64) AS - TG: Sec4.L06 (pp65-74) AS - TG: Sec4.L08 (pp87-96) AS - TG: Sec4.L09 (pp97-106) E - TG: Sec4.L06 (pp61-74) FS - RB: (pp57-59) MD - RB: (pp12-13) M - RB: (pp31-33) M - RB: (pp34-36) M - TG: Sec4.L14.Exts (p78) PGD - TG: Sec4.L08 (pp43-46) PGD - TG: Sec4.L09 (pp47 - 54) PGD - TG: Sec4.L11.Exts (p63) PGD - TG: Sec4.L14.Exts (pp86-87)

<p>LS.2.4.3 Identify major parts and functions of the following systems:</p> <ul style="list-style-type: none"> <li>▪ digestive</li> <li>▪ circulatory</li> <li>▪ nervous</li> </ul>	<p>EC - RB: (pp11-12) EC - RB: (pp47-49) EC - RB: (pp53-55) FC - RB: (pp39-40)</p>
<i>Standard 4: Populations and Ecosystems</i>	
<p>LS.4.4.1 Recognize <i>environmental adaptations</i> of plants and animals</p>	<p>AS - RB: (pp06-08) AS - RB: (pp09-11) AS - RB: (pp16-19) AS - RB: (pp30-32) AS - RB: (pp45-49) AS - TG: Sec4.All lessons except L05 and L17 E - RB: (pp11-13) FS - RB: (pp51-53) FS - RB: (pp54-56) FS - RB: (pp57-59) FS - RB: (pp60-61) MD - RB: (pp14-17)</p>
<p>LS.4.4.2 Illustrate the interdependence of organisms in an <i>ecosystem</i></p>	<p>E - RB: (pp11-13) E - RB: (pp14-16) E - RB: (pp17-19) E - RB: (pp20-23) E - RB: (pp49-51) E - TG: Sec4.L01 (pp3-12) E - TG: Sec4.L02 (pp13-24) E - TG: Sec4.L03 (pp25-38) E - TG: Sec4.L04 (pp39-52) E - TG: Sec4.L05 (pp53-60) E - TG: Sec4.L06 (pp61-74) E - TG: Sec4.L07 (pp75-82) E - TG: Sec4.L12 (pp117-124) E - TG: Sec4.L17 (pp169-171) M - TG: Sec4.L12.Exts (pp69-70) PGD - TG: Sec4.L08 (pp43-46) PGD - TG: Sec4.L09 (pp47-54) PGD - TG: Sec4.L11 (pp61-66) PGD - TG: Sec4.L14.Exts (pp86-87)</p>
<b>Strand 3: Physical Science</b>	
<i>Standard 5: Matter: Properties and Changes</i>	
<p>PS.5.4.1 Demonstrate multiple ways to classify objects</p>	<p>CT - TG: Sec4.L02 (pp13-22) CT - TG: Sec4.L12 (pp107-114) CT - TG: Sec4.L13 (pp115-124) FS - RB: (pp24-26) So - TG: Sec4.L01 (pp11-16)</p>
<p>PS.5.4.2 Demonstrate <i>chemical changes</i> in matter</p>	<p>CT - TG: Sec4.L10.Exts (p97) CT - TG: Sec4.L11.Exts (pp103-104) CT - TG: Sec4.L17 (pp155-158)</p>
<p>PS.5.4.3 Compare and contrast gases to solids and liquids</p>	
<i>Standard 6: Motion and Forces</i>	
<p>PS.6.4.1 Investigate the relationship between force and direction</p>	<p>FS - TG: Sec4.L09 (pp69-78) MD - TG: Sec4.L03 (pp25-34) MD - TG: Sec4.L04 (pp35-46)</p>

	MD - TG: Sec4.L05 (pp47-56) MD - TG: Sec4.L07.Exts (pp68-69) MD - TG: Sec4.L08 (pp73-80) MD - TG: Sec4.L09 (pp81-90) MD - TG: Sec4.L10 (pp91-100) MD - TG: Sec4.L11 (pp101-108) MD - TG: Sec4.L12 (pp109-116) MD - TG: Sec4.L13 (pp117-124) MD - TG: Sec4.L15 (pp139-144) MD - TG: Sec4.L17 (pp153-156)
PS.6.4.2 Investigate the relationship between <i>force</i> and <i>mass</i>	
<i>Standard 7: Energy and Transfer of Energy</i>	
PS.7.4.1 Interpret trends in <i>temperature</i> over time using the Celsius scale	
PS.7.4.2 Classify electrical <i>conductors</i> and electrical <i>insulators</i>	
PS.7.4.3 Construct simple circuits from circuit diagrams	EC - RB: (pp13-16) EC - RB: (pp29-31) EC - RB: (pp32-33) EC - RB: (pp39-41) EC - RB: (pp42-44) EC - TG: Sec4.All lessons
<b>Strand 4: Earth and Space Science</b>	
<i>Standard 8: Earth Systems: Structure and Properties</i>	
ESS.8.4.1 Locate natural divisions of Arkansas: <ul style="list-style-type: none"> <li>▪ Ozark Plateau</li> <li>▪ Ouachita Mountains</li> <li>▪ Crowley’s Ridge</li> <li>▪ Mississippi Alluvial Plain (Delta)</li> <li>▪ Coastal Plain</li> <li>▪ Arkansas River Valley</li> </ul>	
ESS.8.4.2 Analyze the impact of using <i>natural resources</i>	AS - RB: (pp40-42) E - RB: (pp31-34) E - RB: (pp35-37) E - RB: (pp40-42) E - RB: (pp45-48) E - RB: (pp57-59) LW - RB: (pp36-38)
ESS.8.4.3 Differentiate between renewable and non-renewable resources	LW - RB: (pp47-49)
ESS.8.4.4 Evaluate the impact of water pollution	AS - RB: (pp09-11) AS - RB: (pp38-39) CT - TG: Sec4.L05.Exts (p50) E - TG: Sec4.L13 (pp125-132) E - TG: Sec4.L15 (pp145-164) E - TG: Sec4.L16 (pp165-168) FS - RB: (pp48-50)
ESS.8.4.5 Evaluate the impact of Arkansas’ <i>natural resources</i> on the economy, including but not limited to <ul style="list-style-type: none"> <li>▪ farming</li> </ul>	E - RB: (pp35-37) LW - TG: Sec4.L12 (pp129-142) LW - TG: Sec4.L14 (pp153-162) LW - TG: Sec4.L15 (pp163-172)

<ul style="list-style-type: none"> <li>▪ timber</li> <li>▪ tourism</li> <li>▪ hunting</li> <li>▪ fishing</li> </ul>	LW - TG: Sec4.L16 (pp173-182)
<p>ESS.8.4.6</p> <p>Evaluate human use of Arkansas' <i>natural resources</i> on the <i>environment</i>, including but not limited to</p> <ul style="list-style-type: none"> <li>▪ mining</li> <li>▪ clear cutting</li> <li>▪ dredging</li> </ul>	<p>E - RB: (pp35-37)</p> <p>LW - TG: Sec4.L12 (pp129-142)</p> <p>LW - TG: Sec4.L14 (pp153-162)</p> <p>LW - TG: Sec4.L15 (pp163-172)</p> <p>LW - TG: Sec4.L16 (pp173-182)</p>
<p>ESS.8.4.7</p> <p>Describe the processes of the <i>water cycle</i>:</p> <ul style="list-style-type: none"> <li>▪ <i>precipitation</i></li> <li>▪ <i>evaporation</i></li> <li>▪ <i>condensation</i></li> </ul>	<p>CT - TG: Sec4.L05.Exts (p50)</p> <p>LW - TG: Sec4.L01 (pp3-10)</p> <p>LW - TG: Sec4.L02 (pp11-28)</p> <p>LW - TG: Sec4.L03 (pp29-36)</p> <p>LW - TG: Sec4.L06 (pp63-74)</p> <p>LW - TG: Sec4.L09.Exts (p103)</p> <p>LW - TG: Sec4.L14.Exts (p156)</p> <p>LW - TG: Sec4.L15.Exts (p167)</p>
<p>ESS.8.4.8</p> <p>Organize weather data into tables or charts to identify trends and patterns</p>	
<p>ESS.8.4.9</p> <p>Demonstrate safety procedures related to severe weather</p>	EC - RB: (pp56-59)
<p>ESS.8.4.10</p> <p>Describe weather-related natural disasters</p>	EC - RB: (pp56-59)
<p>ESS.8.4.11</p> <p>Construct and read instruments to collect weather data:</p> <ul style="list-style-type: none"> <li>▪ <i>barometer</i></li> <li>▪ <i>weather vane</i></li> <li>▪ <i>anemometer</i></li> </ul>	<p>EC - RB: (pp56-59)</p> <p>LW - RB: (pp59-61)</p>
<i>Standard 9: Earth's History: Changes in Earth and Sky</i>	
<p>ESS.9.4.1</p> <p>Analyze changes to Earth's surface:</p> <ul style="list-style-type: none"> <li>▪ <i>erosion</i></li> <li>▪ <i>glaciation</i></li> <li>▪ <i>weathering</i></li> <li>▪ <i>earthquakes</i></li> <li>▪ <i>volcanic activity</i></li> </ul>	<p>LW - RB: (pp10-11)</p> <p>LW - RB: (pp12-14)</p> <p>LW - RB: (pp36-38)</p> <p>LW - RB: (pp50-52)</p> <p>LW - TG: Sec4.L03 (pp29-36)</p> <p>LW - TG: Sec4.L04 (pp37-50)</p> <p>LW - TG: Sec4.L05 (pp51-62)</p> <p>LW - TG: Sec4.L06 (pp63-74)</p> <p>LW - TG: Sec4.L07 (pp75-84)</p> <p>LW - TG: Sec4.L10 (pp109-118)</p> <p>LW - TG: Sec4.L11 (pp119-128)</p> <p>LW - TG: Sec4.L12 (pp129-142)</p> <p>LW - TG: Sec4.L13 (pp143-152)</p> <p>LW - TG: Sec4.L14 (pp153-162)</p> <p>LW - TG: Sec4.L15 (pp163-172)</p>
<b>GRADE 5</b>	
<b>Strand 1: Nature of Science</b>	<b>Curriculum Location</b>
<i>Standard 1: Characteristics and Processes of Science</i>	
<p>NS.1.5.1</p> <p>Make accurate observations</p>	<p>AS - TG: Sec4.L02 (pp11-20)</p> <p>AS - TG: Sec4.L04 (pp37-48)</p> <p>AS - TG: Sec4.L05 (pp49-64)</p>

	AS - TG: Sec4.L06 (pp65-74) AS - TG: Sec4.L07 (pp75 - 86) AS - TG: Sec4.L08 (pp87-96) AS - TG: Sec4.L09 (pp97-106) AS - TG: Sec4.L11 (pp115-122) AS - TG: Sec4.L12 (pp123-134) AS - TG: Sec4.L17 (pp169-172) EC - TG: Sec4.All lessons EP - TG: All lessons E - RB: (pp43-44) E - TG: Sec4.All lessons FC - TG: Sec4.All lessons except L01 FS - TG: Sec4.All lessons LW - RB: All readings LW - TG: Sec4.All lessons MD - TG: Sec4.All lessons MM - RB: (pp14-16) MM - RB: (pp33-38) MM - TG: L14 (pp89-94) MM - TG: L16 (pp99-102) M - TG: Sec4.All lessons MT - TG: L03 (pp31-42) MT - TG: L05 (pp49-58) TP - RB: (pp16-19) TP - TG: All lessons
NS.1.5.2 Identify and define components of <i>experimental design</i> used to produce <i>empirical evidence</i> : <ul style="list-style-type: none"> <li>▪ <i>hypothesis</i></li> <li>▪ replication</li> <li>▪ sample size</li> <li>▪ appropriate use of <i>control</i></li> <li>▪ use of standardized <i>variables</i></li> </ul>	EP - TG: L12 (pp91-100) TP - TG: L04 (pp61-74) TP - TG: L10 (pp137-148) TP - TG: L12 (pp157-164) TP - TG: L15 (pp185-196)
NS.1.5.3 Calculate mean, median, mode, and range from scientific data using <i>SI units</i>	
NS.1.5.4 Interpret scientific data using <ul style="list-style-type: none"> <li>▪ data tables/charts</li> <li>▪ bar graphs</li> <li>▪ circle graphs</li> <li>▪ line graphs</li> <li>▪ <i>stem and leaf plots</i></li> <li>▪ Venn diagrams</li> </ul>	AS - TG: Sec4.L02 (pp11-20) AS - TG: Sec4.L03 (pp21-36) AS - TG: Sec4.L04 (pp37-48) AS - TG: Sec4.L05 (pp49-64) AS - TG: Sec4.L06 (pp65-74) AS - TG: Sec4.L08 (pp87-96) AS - TG: Sec4.L09 (pp97-106) AS - TG: Sec4.L15 (pp157-164) AS - TG: Sec4.L16 (pp165-168) EC - TG: Sec4.All lessons except L01 EP - RB: (pp57-59) EP - RB: (pp62) EP - TG: L02 (pp21-30) EP - TG: L05 (pp51-56) EP - TG: L08 (pp71-74) EP - TG: L09 (pp75-80) EP - TG: L10 (pp81-84) EP - TG: L11 (pp85-90) EP - TG: L13 (pp101-104)

	EP - TG: L14 (pp105-114)
	EP - TG: L15 (pp115-122)
	E - TG: Sec4.L02 (pp13-24)
	E - TG: Sec4.L03 (pp25-38)
	E - TG: Sec4.L04 (pp39-52)
	E - TG: Sec4.L05 (pp53-60)
	E - TG: Sec4.L06 (pp61-74)
	E - TG: Sec4.L07 (pp75-82)
	E - TG: Sec4.L08 (pp83-94)
	E - TG: Sec4.L09 (pp95-98)
	E - TG: Sec4.L10 (pp99-110)
	E - TG: Sec4.L11 (pp111-116)
	E - TG: Sec4.L12 (pp117-124)
	E - TG: Sec4.L13 (pp125-132)
	E - TG: Sec4.L14 (pp133-144)
	FC - TG: Sec4.L03 (pp23-38)
	FC - TG: Sec4.L05 (pp49-56)
	FC - TG: Sec4.L06 (pp57-68)
	FC - TG: Sec4.L07 (pp69-78)
	FC - TG: Sec4.L08 (pp79-84)
	FC - TG: Sec4.L09 (pp85-94)
	FC - TG: Sec4.L10 (pp95-100)
	FC - TG: Sec4.L11 (pp101-106)
	FC - TG: Sec4.L12 (pp107-116)
	FC - TG: Sec4.L13 (pp117-124)
	FC - TG: Sec4.L14 (pp125-130)
	FC - TG: Sec4.L15 (pp131-148)
	FC - TG: Sec4.L16 (pp149-154)
	FS - TG: Sec4.L01 (pp3-12)
	FS - TG: Sec4.L02 (pp13-20)
	FS - TG: Sec4.L03 (pp21-30)
	FS - TG: Sec4.L05 (pp39-48)
	FS - TG: Sec4.L07 (pp55-60)
	FS - TG: Sec4.L09 (pp69-78)
	FS - TG: Sec4.L10 (pp79-86)
	FS - TG: Sec4.L11 (pp87-94)
	FS - TG: Sec4.L12 (pp95-102)
	FS - TG: Sec4.L13 (pp103-112)
	FS - TG: Sec4.L14 (pp113-118)
	FS - TG: Sec4.L16 (pp129-134)
	LW - TG: Sec4.L01 (pp3-10)
	LW - TG: Sec4.L02 (pp11-28)
	LW - TG: Sec4.L04 (pp37-50)
	LW - TG: Sec4.L05 (pp51-62)
	LW - TG: Sec4.L06 (pp63-74)
	LW - TG: Sec4.L07 (pp75-84)
	LW - TG: Sec4.L08 (pp85-98)
	LW - TG: Sec4.L09 (pp99-108)
	LW - TG: Sec4.L10 (pp109-118)
	LW - TG: Sec4.L11 (pp119-128)
	LW - TG: Sec4.L12 (pp129-142)
	LW - TG: Sec4.L13 (pp143-152)
	LW - TG: Sec4.L15 (pp163-172)
	LW - TG: Sec4.L16 (pp173-182)
	MD - TG: Sec4.L04 (pp35-46)
	MD - TG: Sec4.L05 (pp47-56)

	<p>MD - TG: Sec4.L07 (pp65-72)  MD - TG: Sec4.L10 (pp91-100)  MD - TG: Sec4.L12 (pp109-116)  MD - TG: Sec4.L15 (pp139-144)  MD - TG: Sec4.L16 (pp145-152)  MM - TG: L17 (pp103-108)  MT - TG: L03 (pp31-42)  MT - TG: L08 (pp75-86)  MT - TG: L09 (pp87-94)  MT - TG: L11 (pp109-114)  MT - TG: L12 (pp115-122)  MT - TG: L16 (pp145-148)  TP - RB: (pp33-35)  TP - TG: L01 (pp19-28)  TP - TG: L02 (pp29-48)  TP - TG: L03 (pp49-60)  TP - TG: L04 (pp61-74)  TP - TG: L05 (pp75-90)  TP - TG: L06 (pp91-106)  TP - TG: L07 (pp107-116)  TP - TG: L09 (pp127-136)  TP - TG: L10 (pp137-148)  TP - TG: L11 (pp149-156)  TP - TG: L12 (pp157-164)  TP - TG: L13 (pp165-170)  TP - TG: L16 (pp197-206)  TP - TG: L18 (pp215-218)</p>
<p>NS.1.5.5  Communicate results and conclusions from scientific inquiry</p>	<p>AS - RB: (pp58-61)  AS - TG: Sec4.L17 (pp169-172)  EC - TG: Sec4.All lessons  EP - TG: L09 (pp75-80)  EP - TG: L10 (pp81-84)  EP - TG: L11 (pp85-90)  EP - TG: L15.Exts (p117)  EP - TG: L16 (pp123-128)  E - RB: All readings  E - TG: Sec4. All lessons except L01 and L11  FC - TG: Sec4.L07 (pp69-78)  FC - TG: Sec4.L08 (pp79-84)  FC - TG: Sec4.L13 (pp117-124)  FS - TG: Sec4.All lessons  LW - TG: Sec4.L01 (pp3-10)  LW - TG: Sec4.L02 (pp11-28)  LW - TG: Sec4.L03 (pp29-36)  LW - TG: Sec4.L04 (pp37-50)  LW - TG: Sec4.L05 (pp51-62)  LW - TG: Sec4.L08 (pp85-98)  LW - TG: Sec4.L10 (pp109-118)  LW - TG: Sec4.L11 (pp119-128)  LW - TG: Sec4.L12 (pp129-142)  LW - TG: Sec4.L13 (pp143-152)  LW - TG: Sec4.L14 (pp153-162)  LW - TG: Sec4.L16 (pp173-182)  LW - TG: Sec4.L17 (pp182-186)  MD - TG: Sec4. All lessons except L05</p>

	M - TG: Sec4.L01 (pp3-8) M - TG: Sec4.L02 (pp9-14) MT - TG: L04 (pp43-48) MT - TG: L06 (pp59-66) MT - TG: L09 (pp87-94) MT - TG: L11 (pp109-114) MT - TG: L14 (pp135-138) MT - TG: L17 (pp149-150)
NS.1.5.6 Develop and implement strategies for long-term, accurate data collection	AS - TG: Sec4.L04 (pp37-48) AS - TG: Sec4.L05 (pp49-64) AS - TG: Sec4.L06 (pp65-74) AS - TG: Sec4.L07 (pp75 - 86) AS - TG: Sec4.L08 (pp87-96) AS - TG: Sec4.L09 (pp97-106) AS - TG: Sec4.L11 (pp115-122) AS - TG: Sec4.L12 (pp123-134) EC - TG: Sec4.All lessons EP - TG: L03 (pp31-38) EP - TG: L06 (pp57-64) EP - TG: L08 (pp71-74) EP - TG: L12 (pp91-100) E - TG: Sec4.L03 (pp25-38) E - TG: Sec4.L04 (pp39-52) E - TG: Sec4.L06 (pp61-74) E - TG: Sec4.L11 (pp111-116) E - TG: Sec4.L16.Exts (p167) FC - TG: Sec4.L01 (pp3-10) FC - TG: Sec4.L06 (pp57-68) FC - TG: Sec4.L09 (pp85-94) FC - TG: Sec4.L10 (pp95-100) FC - TG: Sec4.L12 (pp107-116) FC - TG: Sec4.L16 (pp149-154) FC - TG: Sec4.L17 (pp155-156) FS - TG: Sec4.All lessons LW - TG: Sec4.L01 (pp3-10) LW - TG: Sec4.L02 (pp11-28) LW - TG: Sec4.L03 (pp29-36) LW - TG: Sec4.L04 (pp37-50) LW - TG: Sec4.L05 (pp51-62) LW - TG: Sec4.L07 (pp75-84) LW - TG: Sec4.L09 (pp99-108) LW - TG: Sec4.L13 (pp143-152) LW - TG: Sec4.L14 (pp153-162) LW - TG: Sec4.L17 (pp182-186) MD - TG: Sec4.L03 (pp25-34) MD - TG: Sec4.L04 (pp35-46) MD - TG: Sec4.L05 (pp47-56) MD - TG: Sec4.L07 (pp65-72) MD - TG: Sec4.L14 (pp125-138) MM - TG: L17 (pp103-108) M - TG: Sec4.All lessons MT - TG: L02 (pp21-30) MT - TG: L08 (pp75-86) MT - TG: L11 (pp109-114) MT - TG: L16.Exts (p148) TP - TG: L05 (pp75-90)

	TP - TG: L08 (pp117-126) TP - TG: L15 (pp185-196)
NS.1.5.7 Summarize the characteristics of science	AS - TG: Sec4.L16 (pp165-168) EP - TG: L11.Exts (p89)
NS.1.5.8 Explain the role of observation in the development of a theory	AS - TG: Sec4.L02 (pp11-20) AS - TG: Sec4.L04 (pp37-48) AS - TG: Sec4.L05 (pp49-64) AS - TG: Sec4.L06 (pp65-74) AS - TG: Sec4.L07 (pp75-86) AS - TG: Sec4.L08 (pp87-96) AS - TG: Sec4.L09 (pp97-106) AS - TG: Sec4.L11 (pp115-122) AS - TG: Sec4.L12 (pp123-134) AS - TG: Sec4.L17 (pp169-172) EC - TG: Sec4.All lessons EP - TG: All lessons E - RB: (pp43-44) E - TG: Sec4.All lessons FC - TG: Sec4.All lessons except L01 and L17 FS - TG: Sec4.All lessons LW - RB: All readings LW - TG: Sec4.All lessons MD - TG: Sec4.All lessons except L16 MM - RB: (pp14-16) MM - RB: (pp33-38) MM - TG: L14 (pp89-94) MM - TG: L16 (pp99-102) M - TG: Sec4.All lessons MT - TG: L03 (pp31-42) MT - TG: L05 (pp49-58) TP - RB: (pp16-19) TP - TG: All lessons
NS.1.5.9 Define and give examples of hypotheses	EP - TG: L12 (pp91-100) LW - RB: (pp07-09)
<b>Strand 2: Life Science</b>	
<i>Standard 2: Living Systems: Characteristics, Structure, and Function</i>	
LS.2.5.1 Compare the <i>cell theory</i> to the characteristics of a scientific <i>theory</i>	
LS.2.5.2 Examine cells on a microscopic level	M - TG: Sec4.L11 (pp61-66) M - TG: Sec4.L12 (pp67-70) M - TG: Sec4.L13 (pp71-74) M - TG: Sec4.L14 (pp75-78) M - TG: Sec4.L15 (pp79-82) M - TG: Sec4.L16 (pp83-86)
LS.2.5.3 Describe the similarities of basic <i>cell</i> functions in all <i>organisms</i>	EC - RB: (pp53-55) M - TG: Sec4.L11 (pp61-66) M - TG: Sec4.L12 (pp67-70) M - TG: Sec4.L13 (pp71-74) M - TG: Sec4.L14 (pp75-78) M - TG: Sec4.L15 (pp79-82) M - TG: Sec4.L16 (pp83-86)

<p>LS.2.5.4 Model and identify the parts of animal <i>cells</i> and plant <i>cells</i>:</p> <ul style="list-style-type: none"> <li>▪ <i>cell wall</i></li> <li>▪ <i>cell membrane</i></li> <li>▪ <i>nucleus</i></li> <li>▪ <i>cytoplasm</i></li> <li>▪ <i>chloroplast</i></li> </ul>	M - TG: Sec4.L11 (pp61-66)
<p>LS.2.5.5 Compare and contrast plant and animal <i>cells</i></p>	M - TG: Sec4.L11 (pp61-66)
<p>LS.2.5.6 Conduct investigations to separate plant pigments from the <i>cell</i></p>	
<p>LS.2.5.7 Identify the role of chlorophyll in the process of photosynthesis</p>	<p>EP - RB: (pp07-10) M - TG: Sec4.L12.Exts (pp69-70)</p>
<p>LS.2.5.8 Explain and illustrate photosynthesis</p>	<p>EP - RB: (pp07-10) M - TG: Sec4.L12.Exts (pp69-70)</p>
<p>LS.2.5.9 Explain <i>cellular respiration</i></p>	LW - TG: Sec4.L07.Exts (p79)
<p>LS.2.5.10 Conduct investigations demonstrating the process of <i>cellular respiration</i></p>	LW - TG: Sec4.L07.Exts (p79)
<p>LS.2.5.11 Investigate careers, scientists, and historical breakthroughs related to <i>cells</i></p>	
<i>Standard 4: Populations and Ecosystems</i>	
<p>LS.4.5.1 Distinguish among and model</p> <ul style="list-style-type: none"> <li>▪ <i>organisms</i></li> <li>▪ <i>populations</i></li> <li>▪ <i>communities</i></li> <li>▪ <i>ecosystems</i></li> <li>▪ <i>biosphere</i></li> </ul>	<p>AS - RB: (pp06-08) AS - RB: (pp12-15) AS - RB: (pp40-42) AS - TG: Sec4.All lessons EP - RB: (pp24-25) E - RB: All readings E - TG: Sec4.All lessons except L03 and L16</p>
<p>LS.4.5.2 Identify the transfer of <i>energy</i> using <i>energy</i> pyramids:</p> <ul style="list-style-type: none"> <li>▪ <i>terrestrial</i></li> <li>▪ <i>aquatic</i></li> </ul>	E - TG: Sec4.L01 (pp3-12)
<p>LS.4.5.3 Design food webs in specific <i>habitats</i> to show the flow of <i>energy</i> within <i>communities</i>:</p> <ul style="list-style-type: none"> <li>▪ <i>terrestrial</i></li> <li>▪ <i>aquatic</i></li> </ul>	<p>E - RB: (pp14-16) E - TG: Sec4.L01 (pp3-12) E - TG: Sec4.L07 (pp75-82)</p>
<p>LS.4.5.4 Evaluate food webs under conditions of stress:</p> <ul style="list-style-type: none"> <li>▪ <i>overgrazing</i></li> <li>▪ <i>overpopulation</i></li> <li>▪ <i>natural disaster</i></li> <li>▪ <i>introduction of non-native species</i></li> <li>▪ <i>human impact/urban development</i></li> </ul>	<p>E - RB: (pp14-16) E - TG: Sec4.L07 (pp75-82)</p>
<p>LS.4.5.5 Examine the role of <i>limiting factors</i> on the <i>carrying capacity</i> of an <i>ecosystem</i>:</p>	

<ul style="list-style-type: none"> <li>▪ food</li> <li>▪ space</li> <li>▪ water</li> <li>▪ shelter</li> </ul>	
<p>LS.4.5.6 <i>Describe and diagram the nitrogen cycle in ecosystems</i></p>	
<p>LS.4.5.7 <i>Describe and diagram the carbon cycle in ecosystems</i></p>	
<p>LS.4.5.8 <i>Describe and diagram the carbon dioxide-oxygen cycle in ecosystems</i></p>	
<p>LS.4.5.9 <i>Conduct investigations demonstrating the role of the carbon dioxide-oxygen cycle in ecosystems</i></p>	
<p>LS.4.5.10 <i>Analyze the concept of conservation of mass as related to the amount of matter in an ecosystem</i></p>	
<p>LS.4.5.11 <i>Create ecosystems in which plants can exist without animals</i></p>	
<p>LS.4.5.12 <i>Conduct investigations in which plants are encouraged to thrive</i></p>	<p>EP - RB: (pp07-10)  EP - RB: (pp14-17)  EP - RB: (pp18-19)  EP - RB: (pp30-33)  EP - RB: (pp41-43)  EP - TG: L01 (pp9-20)  EP - TG: L02 (pp21-30)  EP - TG: L04 (pp39-50)  EP - TG: L12 (pp91-100)  EP - TG: L14 (pp105-114)  EP - TG: L15 (pp115-122)  E - TG: Sec4.L03 (pp25-38)  LW - TG: Sec4.L14.Exts (p156)  M - TG: Sec4.L12.Exts (pp69-70)</p>
<p>LS.4.5.13 <i>Construct, compare, and contrast environments in open and closed aquaria</i></p>	
<p>LS.4.5.14 <i>Categorize organisms by the function they serve in ecosystems and food webs:</i></p> <ul style="list-style-type: none"> <li>▪ <i>predator/prey</i></li> <li>▪ <i>parasitism</i></li> <li>▪ <i>producer/consumer/decomposer</i></li> <li>▪ <i>scavenger</i></li> <li>▪ <i>herbivore/carnivore/omnivore</i></li> </ul>	<p>AS - RB: (pp09-11)  AS - RB: (pp16-19)  AS - TG: Sec4.L16.Exts (p167)  E - RB: (pp17-19)  E - RB: (pp28-30)  M - RB: (pp34-36)  M - TG: Sec4.L14.Exts (p78)</p>
<p>LS.4.5.15 <i>Conduct field studies identifying and categorizing organisms in a given area of an ecosystem</i></p>	<p>AS - RB: (pp26-29)  AS - RB: (pp35-37)  EP - RB: (pp07-10)  EP - RB: (pp30-33)  EP - RB: (pp50-53)  EP - TG: L06.Exts (p62)  FS - RB: (pp51-53)  M - RB: (pp58-61)</p>

	TP - TG: L02.Exts (p35)
<p>LS.4.5.16 Evaluate positive and negative human effects on <i>ecosystems</i></p>	<p>AS - RB: (pp09-11) EP - RB: (pp20-21) EP - RB: (pp24-25) EP - TG: L02.Exts (p24) E - RB: (pp31-34) E - RB: (pp35-37) E - RB: (pp40-42) E - RB: (pp60-61) E - TG: Sec4.L08 (pp83-94) E - TG: Sec4.L09 (pp95-98) E - TG: Sec4.L10 (pp99-110) E - TG: Sec4.L11 (pp111-116) FS - RB: (pp48-50) LW - TG: Sec4.L14 (pp153-162) TP - RB: (pp41-43) TP - RB: (pp44-46)</p>
<p>LS.4.5.17 Describe and illustrate various symbiotic relationships:</p> <ul style="list-style-type: none"> <li>▪ <i>parasitism</i></li> <li>▪ <i>mutualism</i></li> <li>▪ <i>commensalism</i></li> </ul>	<p>EP - RB: (pp30-33) EP - TG: L06 (pp57-64) EP - TG: L07 (pp65-70) M - RB: (pp34-36) M - TG: Sec4.L12.Exts (pp69-70) M - TG: Sec4.L14.Exts (p78)</p>
<p>LS.4.5.18 Investigate careers, scientists, and historical breakthroughs related to <i>populations</i> and <i>ecosystems</i></p>	<p>E - RB: (pp40-42) E - RB: (pp60-61) E - TG: Sec4.L08 (pp83-94) E - TG: Sec4.L09 (pp95-98) E - TG: Sec4.L10 (pp99-110) E - TG: Sec4.L11 (pp111-116) E - TG: Sec4.L12 (pp117-124) E - TG: Sec4.L13 (pp125-132) E - TG: Sec4.L14 (pp133-144) E - TG: Sec4.L15 (pp145-164) E - TG: Sec4.L16 (pp165-168)</p>
<b>Strand 3: Physical Science</b>	
<i>Standard 5: Matter: Properties and Changes</i>	
<p>PS.5.5.1 Identify the relationship of <i>atoms</i> to all <i>matter</i></p>	
<p>PS.5.5.2 Conduct <i>scientific investigations</i> on <i>physical properties</i> of objects</p>	
<p>PS.5.5.3 Identify common examples of <i>physical properties</i>:</p> <ul style="list-style-type: none"> <li>▪ length</li> <li>▪ <i>mass</i></li> <li>▪ area</li> <li>▪ perimeter</li> <li>▪ texture</li> <li>▪ taste</li> <li>▪ odor</li> <li>▪ color</li> <li>▪ elasticity</li> </ul>	
<p>PS.5.5.4 State characteristics of physical changes</p>	<p>E - TG: Sec4.L13.Exts (p127) FS - TG: Sec4.L06 (pp49-54) M - TG: Sec4.L09.Exts (p53)</p>

PS.5.5.5 Identify characteristics and common examples of physical changes	E - TG: Sec4.L13.Exts (p127) FS - TG: Sec4.L06 (pp49-54) M - TG: Sec4.L09.Exts (p53)
PS.5.5.6 Explain how heat influences the states of matter of a substance: <ul style="list-style-type: none"> <li>▪ solid</li> <li>▪ liquid</li> <li>▪ gas</li> <li>▪ plasma</li> </ul>	LW - TG: Sec4.L02.Exts (p19)
PS.5.5.7 Demonstrate the effect of changes in the <i>physical properties</i> of <i>matter</i>	E - TG: Sec4.L13.Exts (p127) FS - TG: Sec4.L06 (pp49-54) M - TG: Sec4.L09.Exts (p53)
PS.5.5.8 Model the motion and position of <i>molecules</i> in solids, liquids, and gases in terms of <i>kinetic energy</i>	
PS.5.5.9 Conduct investigations demonstrating expansion and contraction	FS - RB: (pp36-40)
PS.5.5.10 Investigate scientists, careers, and historical breakthroughs related to <i>physical properties</i> , physical changes, and states of <i>matter</i>	EC - RB: (pp42-44) EC - TG: Sec4.L16.Exts (p83) MD - TG: Sec4.L14 (pp125-138)
<i>Standard 6: Motion and Forces</i>	
PS.6.5.1 Classify <i>simple machines</i>	MD - RB: (pp32-36)
PS.6.5.2 Conduct investigations using <ul style="list-style-type: none"> <li>▪ levers (e.g., toothbrush)</li> <li>▪ pulleys</li> <li>▪ inclined planes-ramps, wedges, and screws</li> <li>▪ wheels and axles</li> </ul>	MD - RB: (pp32-36) MT - TG: L13 (pp123-134)
PS.6.5.3 Relate <i>simple machines</i> to inventions and discoveries	TP - RB: (pp16-19)
PS.6.5.4 Compare and contrast <i>potential energy</i> and <i>kinetic energy</i> as applied to motion	MD - TG: Sec4.L06 (pp57-64) MD - TG: Sec4.L07 (pp65-72) MD - TG: Sec4.L11 (pp101-108)
PS.6.5.5 Classify real world examples as <i>potential energy</i> or <i>kinetic energy</i> as applied to motion	MD - TG: Sec4.L06 (pp57-64) MD - TG: Sec4.L07 (pp65-72) MD - TG: Sec4.L11 (pp101-108)
PS.6.5.6 Conduct investigations using <i>potential energy</i> and <i>kinetic energy</i>	MD - TG: Sec4.L06 (pp57-64) MD - TG: Sec4.L07 (pp65-72) MD - TG: Sec4.L11 (pp101-108)
PS.6.5.7 Investigate careers, scientists, and historical breakthroughs related to <i>simple machines</i> and <i>potential</i> and <i>kinetic energy</i>	TP - RB: (pp16-19)
<i>Standard 7: Energy and Transfer of Energy</i>	
PS.7.5.1 Summarize how light can interact with <i>matter</i> through <i>absorption</i> , <i>refraction</i> , and <i>reflection</i>	
PS.7.5.2 Investigate how light travels and interacts with an object or material	

PS.7.5.3 Conduct investigations demonstrating how an object can be seen	M - TG: Sec4.L04 (pp21-24)
PS.7.5.4 Design and conduct investigations of transparent, <i>translucent</i> , and <i>opaque</i> as applied to light	
PS.7.5.5 Investigate physical interactions of light and <i>matter</i> and the effect on color perception: <ul style="list-style-type: none"> <li>▪ <i>refraction</i></li> <li>▪ <i>absorption</i></li> <li>▪ transmission</li> <li>▪ scattering</li> </ul>	
PS.7.5.6 Investigate careers, scientists, and historical breakthroughs related to light <i>energy</i>	EC - RB: (pp42-44) EC - TG: Sec4.L16.Exts (p83) MD - TG: Sec4.L14 (pp125-138)
<i>Standard 8: Earth Systems</i>	
ESS.8.5.1 Identify some basic <i>elements</i> composing minerals: <ul style="list-style-type: none"> <li>▪ silicon</li> <li>▪ oxygen</li> <li>▪ iron</li> <li>▪ sodium</li> <li>▪ chlorine</li> <li>▪ calcium</li> <li>▪ carbon</li> <li>▪ hydrogen</li> <li>▪ aluminum</li> </ul>	
ESS.8.5.2 Investigate the growth of crystals	
ESS.8.5.3 Identify characteristics of minerals	
ESS.8.5.4 Conduct investigations on mineral properties: <ul style="list-style-type: none"> <li>▪ luster</li> <li>▪ hardness</li> <li>▪ streak</li> <li>▪ acid test for calcite</li> <li>▪ fluorescence</li> </ul>	
ESS.8.5.5 Identify the following minerals: <ul style="list-style-type: none"> <li>▪ halite (salt)</li> <li>▪ feldspar</li> <li>▪ sulfur</li> <li>▪ quartz</li> <li>▪ diamonds</li> <li>▪ gypsum</li> <li>▪ calcite</li> <li>▪ talc</li> <li>▪ hematite (iron)</li> <li>▪ precious <i>metals</i> (gold, silver)</li> </ul>	

ESS.8.5.6 Identify minerals found in Arkansas: <ul style="list-style-type: none"> <li>▪ bauxite</li> <li>▪ diamonds</li> <li>▪ quartz</li> <li>▪ galena</li> </ul>	
ESS.8.5.7 Identify characteristics of <i>sedimentary, igneous, and metamorphic</i> rocks	LW - RB: (pp15-18) LW - TG: Sec4.L06.Exts (pp67-68)
ESS.8.5.8 Compare and contrast by investigation characteristics of the three basic types of rocks: <ul style="list-style-type: none"> <li>▪ <i>sedimentary</i></li> <li>▪ <i>igneous</i></li> <li>▪ <i>metamorphic</i></li> </ul>	LW - RB: (pp15-18) LW - TG: Sec4.L06.Exts (pp67-68)
ESS.8.5.9 Classify the three basic types of rocks	LW - RB: (pp15-18) LW - TG: Sec4.L06.Exts (pp67-68)
ESS.8.5.10 Investigate careers, scientists, and historical breakthroughs related to minerals and rocks	FS - RB: (pp41-42) LW - RB: (pp26-29) LW - RB: (pp32-35) LW - RB: (pp59-61)
ESS.8.5.11 Investigate the formation of soil	LW - RB: (pp36-38) LW - TG: Sec4.L05 (pp51-62) LW - TG: Sec4.L10.Exts (p113)
ESS.8.5.12 Conduct investigations on sedimentation	LW - TG: Sec4.L03.Exts (p35) LW - TG: Sec4.L04 (pp37-50) LW - TG: Sec4.L05 (pp51-62) LW - TG: Sec4.L06.Exts (pp67-68) LW - TG: Sec4.L07 (pp75-84) LW - TG: Sec4.L09.Exts (p103) LW - TG: Sec4.L10 (pp109-118) LW - TG: Sec4.L11 (pp119-128) LW - TG: Sec4.L12 (pp129-142) LW - TG: Sec4.L13 (pp143-152)
ESS.8.5.13 Describe and illustrate the rock cycle	
<i>Standard 9: Earth's History</i>	
ESS.9.5.1 Explain and give examples of how physical <i>evidence</i> from <i>fossils</i> supports the <i>theory</i> that Earth has changed over time	MT - RB: (pp18-21)
ESS.9.5.2 Analyze <i>fossil</i> record <i>evidence</i> about plants and animals that lived long ago	
ESS.9.5.3 Infer the nature of ancient <i>environments</i> based on <i>fossil</i> record <i>evidence</i>	MT - RB: (pp18-21)
<i>Standard 10: Objects in the Universe</i>	
ESS.10.5.1 Compare the physical characteristics of the sun to other stars: <ul style="list-style-type: none"> <li>▪ size</li> <li>▪ color</li> <li>▪ brightness</li> </ul>	

ESS.10.5.2 Demonstrate the order of planets and other space objects in our <i>solar system</i>	
ESS.10.5.3 Compare the properties of planets in our <i>solar system</i> : <ul style="list-style-type: none"> <li>▪ size</li> <li>▪ shape</li> <li>▪ <i>density</i></li> <li>▪ <i>atmosphere</i></li> <li>▪ distance from the sun</li> <li>▪ orbital path</li> <li>▪ moons</li> <li>▪ surface</li> <li>▪ composition</li> </ul>	
ESS 10.5.4 Distinguish between <i>mass</i> and <i>weight</i>	
ESS.10.5.5 Compare the human body’s <i>mass</i> to <i>weight</i> on Earth, the moon, and other planets in our <i>solar system</i>	
ESS.10.5.6 Investigate careers, scientists, and historical breakthroughs related to planets	
<b>GRADE 6</b>	
<b>Strand 1: Nature of Science</b>	<b>Curriculum Location</b>
<i>Standard 1: Characteristics and Processes of Science</i>	
NS.1.6.1 Verify accuracy of observations	FC - TG: Sec4.L03 (pp23-38) FC - TG: Sec4.L08 (pp79-84) L - SG: L26 (pp294-297) PM - SG: L04 (pp30-37) PM - SG: L13 (pp112-115) PM - SG: L26 (pp230-235) PM - TG: L04 (pp39-48) PM - TG: L13 (pp143-152) PM - TG: L26 (pp313-332)
NS.1.6.2 Apply components of <i>experimental design</i> used to produce <i>empirical evidence</i> : <ul style="list-style-type: none"> <li>▪ <i>hypothesis</i></li> <li>▪ replication</li> <li>▪ sample size</li> <li>▪ appropriate use of <i>control</i></li> <li>▪ use of standardized <i>variables</i></li> </ul>	EMM - SG: L07 (pp62-71) EMM - TG: L07 (pp75-84) EP - TG: L12 (pp91-100) PM - SG: L13 (pp112-115) PM - SG: L15 (pp122-129) PM - SG: L16 (pp130-139) PM - SG: L23 (pp208-217) PM - SG: L24 (pp218-223) PM - TG: L13 (pp143-152) PM - TG: L15 (pp161-168) PM - TG: L16 (pp169-178) PM - TG: L23 (pp275-294) PM - TG: L24 (pp295-302) TP - TG: L04 (pp61-74) TP - TG: L10 (pp137-148) TP - TG: L12 (pp157-164) TP - TG: L15 (pp185-196)

<p>NS.1.6.3 Compare scientific data using mean, median, mode, and range using <i>SI units</i></p>	
<p>NS.1.6.4 Construct and interpret scientific data using</p> <ul style="list-style-type: none"> <li>▪ data tables/charts</li> <li>▪ bar and double bar graphs</li> <li>▪ line graphs</li> <li>▪ <i>stem and leaf plots</i></li> <li>▪ line graphs</li> </ul>	<p>CE - SG: L12 (pp134-153)  CE - SG: L13 (pp154-163)  CE - SG: L15 (pp170-189)  CE - SG: L17 (pp194-197)  CE - SG: L19 (pp210-223)  CE - SG: L20 (pp224-231)  CE - SG: L21 (pp232-239)  CE - SG: L23 (pp252-263)  CE - SG: L24 (pp264-273)  CE - SG: L25 (pp274-282)  CE - TG: L04.Exts (p54)  CE - TG: L06.Exts (pp77-78)  CE - TG: L12 (pp163-176)  CE - TG: L13 (pp177-186)  CE - TG: L15 (pp197-218)  CE - TG: L16.Exts (p225)  CE - TG: L17 (pp233-256)  CE - TG: L19 (pp265-278)  CE - TG: L20 (pp279-292)  CE - TG: L21 (pp293-302)  CE - TG: L22.Exts (p312)  CE - TG: L23 (pp217-328)  CE - TG: L24 (pp329-346)  CE - TG: L25 (pp347-372)  EECD - SG: L08 (pp84-93)  EECD - SG: L11 (pp118-121)  EECD - SG: L13 (pp134-141)  EECD - SG: L15 (pp156-167)  EECD - SG: L16 (pp168-173)  EECD - SG: L17 (pp174-185)  EECD - SG: L18 (pp186-195)  EECD - TG: L08 (pp111-122)  EECD - TG: L09.Exts (pp134-135)  EECD - TG: L10.Exts (pp152-153)  EECD - TG: L11 (pp157-168)  EECD - TG: L13 (pp181-204)  EECD - TG: L15 (pp213-226)  EECD - TG: L16 (pp227-240)  EECD - TG: L17 (pp240-248)  EECD - TG: L18 (pp249-262)  EMM - SG: L04 (pp26-35)  EMM - SG: L05 (pp36-47)  EMM - SG: L07 (pp62-71)  EMM - SG: L08 (pp72-81)  EMM - SG: L09 (pp82-91)  EMM - SG: L10 (pp92-97)  EMM - SG: L11 (pp100-107)  EMM - SG: L12 (pp108-119)  EMM - SG: L13 (pp120-129)  EMM - SG: L15 (pp140-147)  EMM - SG: L18 (pp174-187)  EMM - TG: L04 (pp37-46)</p>

	EMM - TG: L05 (pp47-58)
	EMM - TG: L06 (pp59-74)
	EMM - TG: L07 (pp75-84)
	EMM - TG: L08 (pp85-98)
	EMM - TG: L09 (pp99-106)
	EMM - TG: L10 (pp107-130)
	EMM - TG: L11 (pp131-146)
	EMM - TG: L12 (pp147-156)
	EMM - TG: L13 (pp157-166)
	EMM - TG: L15 (pp177-184)
	EMM - TG: L16 (pp185-202)
	EMM - TG: L18 (pp217-228)
	EMM - TG: L19 (pp229-234)
	EP - RB: (pp57-59)
	EP - RB: (pp62)
	EP - TG: L02 (pp21-30)
	EP - TG: L05 (pp51-56)
	EP - TG: L08 (pp71-74)
	EP - TG: L09 (pp75-80)
	EP - TG: L10 (pp81-84)
	EP - TG: L11 (pp85-90)
	EP - TG: L13 (pp101-104)
	EP - TG: L14 (pp105-114)
	EP - TG: L15 (pp115-122)
	ES - SG: L03 (pp22-41)
	ES - SG: L04 (pp42-61)
	ES - SG: L22 (pp340-343)
	ES - TG: L03 (pp21-36)
	ES - TG: L04 (pp37-52)
	ES - TG: L22 (pp311-326)
	E - TG: Sec4.L02 (pp13-24)
	E - TG: Sec4.L03 (pp25-38)
	E - TG: Sec4.L04 (pp39-52)
	E - TG: Sec4.L05 (pp53-60)
	E - TG: Sec4.L06 (pp61-74)
	E - TG: Sec4.L07 (pp75-82)
	E - TG: Sec4.L08 (pp83-94)
	E - TG: Sec4.L09 (pp95-98)
	E - TG: Sec4.L10 (pp99-110)
	E - TG: Sec4.L11 (pp111-116)
	E - TG: Sec4.L12 (pp117-124)
	E - TG: Sec4.L13 (pp125-132)
	E - TG: Sec4.L14 (pp133-144)
	FC - TG: Sec4.L03 (pp23-38)
	FC - TG: Sec4.L05 (pp49-56)
	FC - TG: Sec4.L06 (pp57-68)
	FC - TG: Sec4.L07 (pp69-78)
	FC - TG: Sec4.L08 (pp79-84)
	FC - TG: Sec4.L09 (pp85-94)
	FC - TG: Sec4.L10 (pp95-100)
	FC - TG: Sec4.L11 (pp101-106)
	FC - TG: Sec4.L12 (pp107-116)
	FC - TG: Sec4.L13 (pp117-124)
	FC - TG: Sec4.L14 (pp125-130)
	FC - TG: Sec4.L15 (pp131-148)
	FC - TG: Sec4.L16 (pp149-154)

	<p>         FS - TG: Sec4.L01 (pp3-12)          FS - TG: Sec4.L02 (pp13-20)          FS - TG: Sec4.L03 (pp21-30)          FS - TG: Sec4.L05 (pp39-48)          FS - TG: Sec4.L07 (pp55-60)          FS - TG: Sec4.L09 (pp69-78)          FS - TG: Sec4.L10 (pp79-86)          FS - TG: Sec4.L11 (pp87-94)          FS - TG: Sec4.L12 (pp95-102)          FS - TG: Sec4.L13 (pp103-112)          FS - TG: Sec4.L14 (pp113-118)          FS - TG: Sec4.L16 (pp129-134)          HBS - SG: L21 (pp174-181)          HBS - TG: L09 (pp103-112)          HBS - TG: L15.Exts (p178)          HBS - TG: L20.Exts (p239)          HBS - TG: L21 (pp245-252)          L - SG: L01 (pp2-19)          L - SG: L04 (pp40-47)          L - SG: L05 (pp48-57)          L - SG: L07 (pp68-81)          L - SG: L09 (pp92-107)          L - SG: L10 (pp108-115)          L - SG: L11 (pp116-131)          L - SG: L12 (pp132-137)          L - SG: L13 (pp138-141)          L - SG: L17 (pp186-199)          L - SG: L18 (pp200-213)          L - SG: L19 (pp214-223)          L - SG: L20 (pp224-227)          L - SG: L21 (pp230-243)          L - SG: L24 (pp266-283)          L - SG: L25 (pp284-293)          L - SG: L26 (pp294-297)          L - TG: L01 (pp3-20)          L - TG: L04 (pp49-58)          L - TG: L05 (pp59-72)          L - TG: L07 (pp83-98)          L - TG: L09.Exts (p115)          L - TG: L10 (pp119-126)          L - TG: L11 (pp127-136)          L - TG: L12 (pp137-152)          L - TG: L13 (pp153-168)          L - TG: L18 (pp225-246)          L - TG: L19 (pp247-274)          L - TG: L20 (pp275-294)          L - TG: L21 (pp295-304)          L - TG: L24 (pp319-334)          L - TG: L25 (pp335-348)          L - TG: L26 (pp349-367)          MM - TG: L17 (pp103-108)          MT - TG: L03 (pp31-42)          MT - TG: L08 (pp75-86)          MT - TG: L09 (pp87-94)          MT - TG: L11 (pp109-114)          MT - TG: L12 (pp115-122)       </p>
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	<p>MT - TG: L16 (pp145-148)  PM - SG: L03 (pp24-29)  PM - SG: L04 (pp30-37)  PM - SG: L06 (pp56-63)  PM - SG: L07 (pp64-73)  PM - SG: L08 (pp74-77)  PM - SG: L09 (pp78-83)  PM - SG: L10 (pp86-97)  PM - SG: L13 (pp112-115)  PM - SG: L14 (pp116-121)  PM - SG: L17 (pp140-149)  PM - SG: L19 (pp162-167)  PM - SG: L21 (pp186-197)  PM - SG: L23 (pp208-217)  PM - SG: L24 (pp218-223)  PM - SG: L26 (pp230-235)  PM - TG: L02.Exts (p21)  PM - TG: L03 (pp27-38)  PM - TG: L04 (pp39-48)  PM - TG: L06 (pp65-78)  PM - TG: L07 (pp79-90)  PM - TG: L08 (pp91-100)  PM - TG: L09 (pp101-112)  PM - TG: L10 (pp113-124)  PM - TG: L13 (pp143-152)  PM - TG: L14 (pp153-160)  PM - TG: L17 (pp179-192)  PM - TG: L19 (pp209-226)  PM - TG: L21 (pp241-260)  PM - TG: L22.Exts (p270)  PM - TG: L23 (pp275-294)  PM - TG: L24 (pp295-302)  PM - TG: L26 (pp313-332)  TP - RB: (pp33-35)  TP - TG: L01 (pp19-28)  TP - TG: L02 (pp29-48)  TP - TG: L03 (pp49-60)  TP - TG: L04 (pp61-74)  TP - TG: L05 (pp75-90)  TP - TG: L06 (pp91-106)  TP - TG: L07 (pp107-116)  TP - TG: L09 (pp127-136)  TP - TG: L10 (pp137-148)  TP - TG: L11 (pp149-156)  TP - TG: L12 (pp157-164)  TP - TG: L13 (pp165-170)  TP - TG: L16 (pp197-206)  TP - TG: L18 (pp215-218)</p>
<p>NS.1.6.5  Communicate results and conclusions from scientific inquiry</p>	<p>CE - SG: All lessons  CE - TG: All lessons  EECD - SG: L03 (pp26-35)  EECD - SG: L24 (pp244-251)  EECD - TG: L03 (pp37-48)  EECD - TG: L24 (pp313-326)  EP - TG: L09 (pp75-80)  EP - TG: L10 (pp81-84)</p>

	<p>EP - TG: L11 (pp85-90)  EP - TG: L15.Exts (p117)  EP - TG: L16 (pp123-128)  E - RB: All readings  ES - SG: L01 (pp2-11)  ES - SG: L05 (pp62-73)  ES - SG: L09 (pp122-127)  ES - SG: L10 (pp130-145)  ES - SG: L11 (pp146-159)  ES - SG: L14 (pp200-215)  ES - SG: L18 (pp290-311)  ES - SG: L19 (pp312-323)  ES - SG: L22 (pp340-343)  ES - TG: L01 (pp3-10)  ES - TG: L05 (pp53-72)  ES - TG: L09 (pp121-146)  ES - TG: L10 (pp147-158)  ES - TG: L11 (pp159-180)  ES - TG: L13 (pp197-208)  ES - TG: L14 (pp209-220)  ES - TG: L18 (pp277-286)  ES - TG: L19 (pp287-292)  ES - TG: L20.Exts (p297)  ES - TG: L21.Exts (p310)  ES - TG: L22 (pp311-326)  E - TG: Sec4.All lessons except L01 and L11  FC - TG: Sec4.L07 (pp69-78)  FC - TG: Sec4.L08 (pp79-84)  FC - TG: Sec4.L13 (pp117-124)  FS - TG: Sec4.All lessons  HBS - SG: L09 (pp68-75)  HBS - TG: L09 (pp103-112)  M - TG: Sec4.L01 (pp3-8)  M - TG: Sec4.L02 (pp9-14)  MT - TG: L04 (pp43-48)  MT - TG: L06 (pp59-66)  MT - TG: L09 (pp87-94)  MT - TG: L11 (pp109-114)  MT - TG: L14 (pp135-138)  MT - TG: L17 (pp149-150)  OMM - TG: L02 (pp15-32)</p>
<p>NS.1.6.6  Develop and implement strategies for long-term, accurate data collection</p>	<p>CE - SG: All lessons  CE - TG: All lessons  EECD - SG: L03 (pp26-35)  EECD - SG: L08 (pp84-93)  EECD - SG: L13 (pp134-141)  EECD - TG: L03 (pp37-48)  EECD - TG: L08 (pp111-122)  EECD - TG: L13 (pp181-204)  EMM - SG: L10 (pp92-97)  EMM - SG: L13 (pp120-129)  EMM - SG: L15 (pp140-147)  EMM - TG: L04 (pp37-46)  EMM - TG: L07 (pp75-84)  EMM - TG: L10 (pp107-130)</p>

	<p>EMM - TG: L13 (pp157-166)  EMM - TG: L15 (pp177-184)  EP - TG: L03 (pp31-38)  EP - TG: L06 (pp57-64)  EP - TG: L08 (pp71-74)  EP - TG: L12 (pp91-100)  ES - SG: L01 (pp2-11)  ES - SG: L05 (pp62-73)  ES - SG: L09 (pp122-127)  ES - SG: L11 (pp146-159)  ES - SG: L14 (pp200-215)  ES - SG: L18 (pp290-311)  ES - TG: L01 (pp3-10)  ES - TG: L05 (pp53-72)  ES - TG: L09 (pp121-146)  ES - TG: L11 (pp159-180)  ES - TG: L14 (pp209-220)  ES - TG: L18 (pp277-286)  E - TG: Sec4.L03 (pp25-38)  E - TG: Sec4.L04 (pp39-52)  E - TG: Sec4.L06 (pp61-74)  E - TG: Sec4.L11 (pp111-116)  E - TG: Sec4.L16.Exts (p167)  FC - TG: Sec4.L01 (pp3-10)  FC - TG: Sec4.L06 (pp57-68)  FC - TG: Sec4.L09 (pp85-94)  FC - TG: Sec4.L10 (pp95-100)  FC - TG: Sec4.L12 (pp107-116)  FC - TG: Sec4.L16 (pp149-154)  FC - TG: Sec4.L17 (pp155-156)  FS - TG: Sec4.All lessons  HBS - SG: L20 (pp168-173)  HBS - SG: L21 (pp174-181)  HBS - TG: L09 (pp103-112)  HBS - TG: L20 (p 235-244)  HBS - TG: L21 (pp245-252)  MM - TG: L17 (pp103-108)  M - TG: Sec4.All lessons  MT - TG: L02 (pp21-30)  MT - TG: L08 (pp75-86)  MT - TG: L11 (pp109-114)  MT - TG: L16.Exts (p148)  PM - SG: L11 (pp98-105)  PM - TG: L08.Exts (p96)  PM - TG: L11 (pp125-134)  TP - TG: L05 (pp75-90)  TP - TG: L08 (pp117-126)  TP - TG: L15 (pp185-196)</p>
<p>NS.1.6.7  Distinguish between scientific fact and opinion</p>	<p>CE - TG: L23.Exts (pp325-326)  EECD - SG: L02 (pp12-25)  EECD - SG: L20 (pp210-213)  EECD - TG: L02 (pp23-36)  EECD - TG: L20 (pp277-290)  EMM - SG: L07 (pp62-71)  EMM - TG: L07 (pp75-84)  EMM - TG: L11 (pp131-146)</p>

	<p>EP - RB: (pp57-59)  EP - RB: (pp62)  EP - TG: L09 (pp75-80)  EP - TG: L10 (pp81-84)  EP - TG: L15 (pp115-122)  EP - TG: L16 (pp123-128)  ES - SG: L21 (pp334-339)  ES - TG: L20.Exts (p297)  ES - TG: L21 (pp309-310)  FC - TG: Sec4.L03 (pp23-38)  FC - TG: Sec4.L05 (pp49-56)  FC - TG: Sec4.L11 (pp101-106)  FS - TG: Sec4.L09 (pp69-78)  FS - TG: Sec4.L10.Exts (p82)  FS - TG: Sec4.L12 (pp95-102)  FS - TG: Sec4.L13 (pp103-112)  FS - TG: Sec4.L14 (pp113-118)  FS - TG: Sec4.L16 (pp129-134)  HBS - SG: L10 (pp76-89)  HBS - TG: L10 (pp113-130)  L - SG: L07 (pp68-81)  L - SG: L19 (pp214-223)  L - SG: L26 (pp294-297)  L - TG: L07 (pp83-98)  L - TG: L19 (pp247-274)  L - TG: L26 (pp349-367)  MT - TG: L06 (pp59-66)  MT - TG: L11 (pp109-114)  MT - TG: L14 (pp135-138)  OMM - SG: L15 (pp180-187)  OMM - TG: L15 (pp253-266)  PM - SG: L03 (pp24-29)  PM - TG: L03 (pp27-38)  TP - TG: L03 (pp49-60)  TP - TG: L07 (pp107-116)  TP - TG: L08 (pp117-126)  TP - TG: L12 (pp157-164)  TP - TG: L13 (pp165-170)  TP - TG: L14 (pp171-184)  TP - TG: L15 (pp185-196)  TP - TG: L16 (pp197-206)  TP - TG: L17 (pp207-214)  TP - TG: L18 (pp215-218)</p>
<p>NS.1.6.8  Explain the role of prediction in the development of a theory</p>	<p>CE - SG: L14 (pp164-169)  CE - SG: L18 (pp200-209)  CE - SG: L22 (pp240-251)  CE - TG: L14 (pp187-196)  CE - TG: L18 (pp257-264)  CE - TG: L22 (pp303-316)  EECD - SG: L02 (pp12-25)  EECD - SG: L04 (pp36-45)  EECD - SG: L08 (pp84-93)  EECD - SG: L09 (pp94-103)  EECD - TG: L02 (pp23-36)  EECD - TG: L04 (pp49-60)  EECD - TG: L08 (pp111-122)</p>

	<p>EECD - TG: L09 (pp123-142)  EMM - SG: All lessons  EMM - TG: All lessons  EP - TG: L01.Exts (pp13-14)  ES - SG: L10 (pp130-145)  ES - TG: L10 (pp147-158)  E - TG: Sec4.L02 (pp13-24)  E - TG: Sec4.L03 (pp25-38)  E - TG: Sec4.L04 (pp39-52)  E - TG: Sec4.L05 (pp53-60)  E - TG: Sec4.L06 (pp61-74)  E - TG: Sec4.L07 (pp75-82)  E - TG: Sec4.L08 (pp83-94)  E - TG: Sec4.L09 (pp95-98)  E - TG: Sec4.L10 (pp99-110)  E - TG: Sec4.L11 (pp111-116)  E - TG: Sec4.L12 (pp117-124)  E - TG: Sec4.L13 (pp125-132)  E - TG: Sec4.L14 (pp133-144)  E - TG: Sec4.L15 (pp145-164)  FC - TG: Sec4.L03 (pp23-38)  FC - TG: Sec4.L04 (pp39-48)  FC - TG: Sec4.L06 (pp57-68)  FC - TG: Sec4.L07 (pp69-78)  FC - TG: Sec4.L09 (pp85-94)  FC - TG: Sec4.L10 (pp95-100)  FC - TG: Sec4.L12 (pp107-116)  FC - TG: Sec4.L13 (pp117-124)  FC - TG: Sec4.L16 (pp149-154)  FS - TG: Sec4.L02 (pp13-20)  FS - TG: Sec4.L03 (pp21-30)  FS - TG: Sec4.L04.Exts (p35)  FS - TG: Sec4.L07.Exts (pp57-58)  FS - TG: Sec4.L08 (pp61-68)  FS - TG: Sec4.L09 (pp69-78)  FS - TG: Sec4.L11 (pp87-94)  FS - TG: Sec4.L12.Exts (p100)  FS - TG: Sec4.L13 (pp103-112)  FS - TG: Sec4.L14 (pp113-118)  FS - TG: Sec4.L15 (pp119-128)  FS - TG: Sec4.L16 (pp129-134)  L - SG: L06 (pp58-67)  L - SG: L11 (pp116-131)  L - SG: L13 (pp138-141)  L - SG: L14 (pp144-153)  L - SG: L15 (pp154-165)  L - SG: L18 (pp200-213)  L - SG: L24 (pp266-283)  L - TG: L11 (pp127-136)  L - TG: L13 (pp153-168)  L - TG: L14 (pp169-180)  L - TG: L15 (pp181-194)  L - TG: L18.Exts (p235)  MM - TG: L04.Exts (p24)  MM - TG: L07.Exts (p45)  M - TG: Sec4.All lessons</p>
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	<p>MT - TG: L01 (pp13-20)  MT - TG: L02 (pp21-30)  MT - TG: L05 (pp49-58)  MT - TG: L17 (pp149-150)  OMM - SG: L18 (pp204-215)  OMM - TG: L18 (pp293-302)  PM - SG: L03 (pp24-29)  PM - SG: L14 (pp116-121)  PM - SG: L15 (pp122-129)  PM - TG: L03 (pp27-38)  PM - TG: L14 (pp153-160)  PM - TG: L15 (pp161-168)  TP - TG: L03 (pp49-60)  TP - TG: L04 (pp61-74)  TP - TG: L08 (pp117-126)  TP - TG: L10 (pp137-148)  TP - TG: L12 (pp157-164)</p>
<p>NS.1.6.9  Define and give examples of <i>laws</i> and <i>theories</i></p>	<p>PM - TG: L01.Exts (p9)</p>
<p><b>Strand 2: Life Science</b></p>	
<p><i>Standard 2: Living Systems: Characteristics, Structure, and Function</i></p>	
<p>LS.2.6.1  Observe, describe, and illustrate plant and animal <i>tissues</i>:</p> <ul style="list-style-type: none"> <li>▪ muscle</li> <li>▪ blood</li> <li>▪ skin</li> <li>▪ <i>xylem</i></li> <li>▪ <i>phloem</i></li> </ul>	<p>EP - RB: (pp07-10)  EP - RB: (pp11-13)  EP - RB: (pp30-33)  EP - TG: L01 (pp9-20)  EP - TG: L02 (pp21-30)  EP - TG: L05 (pp51-56)  EP - TG: L06 (pp57-64)  EP - TG: L07 (pp65-70)  EP - TG: L09 (pp75-80)  EP - TG: L12 (pp91-100)  EP - TG: L13 (pp101-104)  EP - TG: L14 (pp105-114)  EP - TG: L15.Exts (p117)  EP - TG: L16 (pp123-128)  ES - TG: L07.Exts (pp92-93)  HBS - SG: L18 (pp150-159)  HBS - TG: L18 (pp209-218)  MT - RB: (pp59-61)  OMM - SG: L05 (pp46-63)  OMM - SG: L09 (pp106-119)  OMM - SG: L10 (pp120-131)  OMM - SG: L18 (pp204-215)  OMM - TG: L05 (pp57-72)  OMM - TG: L09 (pp151-166)  OMM - TG: L10 (pp167-184)  OMM - TG: L18 (pp293-302)</p>
<p>LS.2.6.2  Illustrate the hierarchical relationships of <i>cells</i>, <i>tissues</i>, and <i>organs</i></p>	<p>HBS - SG: L01 (pp2-7)  HBS - SG: L18 (pp150-159)  HBS - TG: L01 (pp3-10)  HBS - TG: L07.Exts (pp74-75)  HBS - TG: L18 (pp209-218)</p>
<p>LS.2.6.3  Investigate the functions of <i>tissues</i></p>	<p>HBS - SG: L18 (pp150-159)  HBS - TG: L18 (pp209-218)</p>

<p>LS.2.6.4 Model and explain the functions of animal <i>organs</i>:</p> <ul style="list-style-type: none"> <li>▪ heart</li> <li>▪ lung</li> <li>▪ kidneys</li> <li>▪ eyes</li> <li>▪ ears</li> <li>▪ skin</li> <li>▪ teeth</li> </ul>	<p>HBS - SG: L01 (pp2-7) HBS - TG: L01 (pp3-10) HBS - TG: L07.Exts (pp74-75)</p>
<p>LS.2.6.5 Model and explain the function of plant <i>organs</i>:</p> <ul style="list-style-type: none"> <li>▪ leaves</li> <li>▪ roots</li> <li>▪ stems</li> <li>▪ flowers</li> </ul>	<p>EP - RB: (pp07-10) EP - RB: (pp11-13) EP - RB: (pp30-33) EP - TG: L01 (pp9-20) EP - TG: L02 (pp21-30) EP - TG: L05 (pp51-56) EP - TG: L06 (pp57-64) EP - TG: L07 (pp65-70) EP - TG: L09 (pp75-80) EP - TG: L12 (pp91-100) EP - TG: L13 (pp101-104) EP - TG: L14 (pp105-114) EP - TG: L15.Exts (p117) EP - TG: L16 (pp123-128) ES - TG: L07.Exts (pp92-93) MT - RB: (pp59-61) OMM - SG: L05 (pp46-63) OMM - SG: L09 (pp106-119) OMM - SG: L10 (pp120-131) OMM - SG: L18 (pp204-215) OMM - TG: L05 (pp57-72) OMM - TG: L09 (pp151-166) OMM - TG: L10 (pp167-184) OMM - TG: L18 (pp293-302)</p>
<p>LS.2.6.6 Dissect <i>organs</i>, including but not limited to</p> <ul style="list-style-type: none"> <li>▪ heart</li> <li>▪ eye</li> <li>▪ lung</li> <li>▪ stem</li> <li>▪ root</li> </ul>	<p>HBS - SG: L18 (pp150-159) HBS - TG: L18 (pp209-218) OMM - TG: L03.Exts (p41) OMM - TG: L06.Exts (pp89-91)</p>
<p>LS.2.6.7 Describe the relationship between organ function and the following needs of cells:</p> <ul style="list-style-type: none"> <li>▪ oxygen</li> <li>▪ food</li> <li>▪ water</li> <li>▪ waste removal</li> </ul>	<p>HBS - SG: L01 (pp2-7) HBS - TG: L01 (pp3-10) HBS - TG: L07.Exts (pp74-75) M - TG: Sec4.L14 (pp75-78) OMM - SG: L07 (pp82-93) OMM - SG: L08 (pp96-105) OMM - TG: L07 (pp105-130) OMM - TG: L08 (pp131-150) OMM - TG: L15.Exts (p260)</p>
<p>LS.2.6.8 Investigate careers, scientists, and historical breakthroughs related to <i>tissues</i> and <i>organs</i></p>	
<p><i>Standard 3: Life Cycles, Reproduction, and Heredity</i></p>	

LS.3.6.1 Describe characteristics of plants and animals manipulated through <i>selective breeding</i>	
LS.3.6.2 Predict the outcome of <i>selective breeding</i> practices over several generations	
LS.3.6.3 Relate the development of Earth’s present-day complex <i>species</i> from earlier, distinctly different simpler <i>species</i>	E - RB: (pp20-23) OMM - SG: L13 (pp158-171) OMM - TG: L13 (pp219-236) OMM - TG: L19.Exts (pp317-318)
LS.3.6.4 Investigate careers, scientists, and historical breakthroughs related to <i>adaptations</i> and <i>selective breeding</i>	
LS.3.6.5 Describe behavioral <i>adaptations</i> of <i>organisms</i> to the <i>environment</i> : <ul style="list-style-type: none"> <li>▪ <i>hibernation</i></li> <li>▪ <i>estivation</i></li> <li>▪ <i>tropism</i></li> <li>▪ <i>territorial behavior</i></li> <li>▪ <i>migration</i></li> </ul>	EP - RB: (pp11-13) EP - RB: (pp30-33) EP - TG: L14 (pp105-114) EP - TG: L15 (pp115-122) E - RB: (pp11-13) FS - RB: (pp57-59) FS - RB: (pp60-61) HBS - TG: L22.Exts (p258) OMM - SG: L06 (pp64-81) OMM - SG: L13 (pp158-171) OMM - TG: L06 (pp73-104) OMM - TG: L10.Exts (pp175-176) OMM - TG: L13 (pp219-236) OMM - TG: L18.Exts (pp299-300)
LS.3.6.6 Differentiate between <i>innate behaviors</i> : <ul style="list-style-type: none"> <li>▪ <i>migration</i></li> <li>▪ web spinning</li> <li>▪ defensive posture</li> <li>▪ <i>communication</i></li> <li>▪ <i>imprinting</i></li> </ul> and learned behaviors: <ul style="list-style-type: none"> <li>▪ speaking a language</li> <li>▪ using tools</li> <li>▪ hunting skills</li> </ul>	EP - RB: (pp26-29) EP - RB: (pp30-33) MM - RB: (pp23-25) OMM - TG: L02.Exts (p25) OMM - TG: L06.Exts (pp89-91) OMM - TG: L16.Exts (p273) OMM - TG: L17.Exts (pp287-288)
LS.3.6.7 Describe the following <i>structural adaptations</i> for survival in the <i>environment</i> : <ul style="list-style-type: none"> <li>▪ coloration</li> <li>▪ <i>mimicry</i></li> <li>▪ odor glands</li> <li>▪ beaks</li> <li>▪ feet</li> <li>▪ wings</li> <li>▪ fur</li> <li>▪ ears</li> <li>▪ spines</li> <li>▪ teeth</li> <li>▪ thorns</li> </ul>	EP - RB: (pp07-10) EP - RB: (pp11-13) EP - RB: (pp30-33) EP - TG: L01 (pp9-20) EP - TG: L04 (pp39-50) EP - TG: L06 (pp57-64) EP - TG: L08 (pp71-74) EP - TG: L09 (pp75-80) EP - TG: L12 (pp91-100) EP - TG: L15 (pp115-122) E - RB: (pp11-13) E - TG: Sec4.L02.Exts (p18) E - TG: Sec4.L05 (pp53-60) FS - RB: (pp57-59) FS - RB: (pp60-61) HBS - TG: L22.Exts (p258)

<ul style="list-style-type: none"> <li>▪ characteristics of seeds</li> </ul>	OMM - SG: L05 (pp46-63) OMM - SG: L06 (pp64-81) OMM - SG: L13 (pp158-171) OMM - SG: L18 (pp204-215) OMM - TG: L05 (pp57-72) OMM - TG: L06 (pp73-104) OMM - TG: L10.Exts (pp175-176) OMM - TG: L13 (pp219-236) OMM - TG: L18 (pp293-302)
LS.3.6.8 Investigate careers, scientists, and historical breakthroughs related to learned and <i>innate behaviors</i>	EP - RB: (pp26-29) EP - RB: (pp30-33) MM - RB: (pp23-25) OMM - TG: L02.Exts (p25) OMM - TG: L06.Exts (pp89-91) OMM - TG: L16.Exts (p273) OMM - TG: L17.Exts (pp287-288)
<i>Standard 4: Populations and Ecosystems</i>	
LS.4.6.1 Identify <i>environmental</i> conditions that can affect the survival of individual <i>organisms</i> and entire <i>species</i>	EP - RB: (pp11-13) E - RB: (pp11-13) ES - TG: L10.Exts (p152) FS - RB: (pp60-61) OMM - SG: L08 (pp96-105) OMM - SG: L13 (pp158-171) OMM - TG: L13 (pp219-236)
LS.4.6.2 Conduct simulations demonstrating competition for resources within an <i>ecosystem</i>	EP - TG: L01 (pp9-20)
LS.4.6.3 Conduct simulations demonstrating <i>natural selection</i>	OMM - SG: L13 (pp158-171) OMM - TG: L13 (pp219-236)
LS.4.6.4 Analyze <i>natural selection</i>	OMM - SG: L13 (pp158-171) OMM - TG: L13 (pp219-236)
<b>Strand 3: Physical Science</b>	
<i>Standard 5: Matter: Properties and Changes</i>	
PS.5.6.1 Identify common examples of <i>chemical properties</i> : <ul style="list-style-type: none"> <li>▪ ability to burn</li> <li>▪ ability to produce light</li> <li>▪ ability to react with other substances</li> </ul>	FC - TG: Sec4.L03.Exts (p32) FC - TG: Sec4.L09.Exts (p89) FC - TG: Sec4.L10.Exts (p97) FC - TG: Sec4.L11.Exts (pp102-103) FC - TG: Sec4.L12.Exts (pp112-113) HBS - TG: L03.Exts (p24) PM - SG: L18 (pp150-161) PM - SG: L20 (pp170-185) PM - SG: L21 (pp186-197) PM - SG: L22 (pp198-207) PM - SG: L23 (pp208-217) PM - TG: L18 (pp193-208) PM - TG: L20 (pp227-240) PM - TG: L21 (pp241-260) PM - TG: L22 (pp263-274) PM - TG: L23 (pp275-294)
PS.5.6.2 Compare and contrast characteristics of physical and <i>chemical properties</i>	EMM - SG: L02 (pp12-19) EMM - SG: L03 (pp20-25) EMM - TG: L02 (pp23-30) EMM - TG: L03 (pp31-36) FC - TG: Sec4.L03.Exts (p32)

	FC - TG: Sec4.L09.Exts (p89) FC - TG: Sec4.L10.Exts (p97) FC - TG: Sec4.L11.Exts (pp102-103) FC - TG: Sec4.L12.Exts (pp112-113) HBS - TG: L03.Exts (p24) HBS - TG: L07.Exts (pp74-75) PM - SG: L18 (pp150-161) PM - SG: L19 (pp162-167) PM - SG: L20 (pp170-185) PM - SG: L21 (pp186-197) PM - SG: L22 (pp198-207) PM - SG: L23 (pp208-217) PM - TG: L18 (pp193-208) PM - TG: L19 (pp209-226) PM - TG: L20 (pp227-240) PM - TG: L21 (pp241-260) PM - TG: L22 (pp263-274) PM - TG: L23 (pp275-294)
PS.5.6.3 Conduct investigations using acid/base indicators	OMM - TG: L10.Exts (pp175-176)
PS.5.6.4 Apply skills of scientific investigation to determine <i>density</i> using <i>SI units</i>	CE - SG: L04 (pp42-53) CE - TG: L04 (pp45-56) FS - RB: (pp07-10) FS - RB: (pp15-17) FS - RB: (pp36-40) FS - RB: (pp41-42) FS - RB: (pp48-50) FS - RB: (pp60-61) FS - TG: Sec4.L02 (pp13-20) FS - TG: Sec4.L10 (pp79-86) FS - TG: Sec4.L13 (pp103-112) FS - TG: Sec4.L14 (pp113-118) FS - TG: Sec4.L15 (pp119-128) PM - SG: L01 (pp2-13) PM - SG: L02 (pp14-23) PM - SG: L03 (pp24-29) PM - SG: L05 (pp38-55) PM - SG: L09 (pp78-83) PM - SG: L19 (pp162-167) PM - SG: L26 (pp230-235) PM - TG: L01 (pp3-14) PM - TG: L02 (pp15-26) PM - TG: L03 (pp27-38) PM - TG: L04.Exts (p45) PM - TG: L05 (pp49-64) PM - TG: L09 (pp101-112) PM - TG: L19 (pp209-226) PM - TG: L26 (pp313-332)
PS.5.6.5 Construct a <i>density</i> column using a minimum of four different liquids (e.g., alcohol, colored water, syrup, oil)	CE - SG: L04 (pp42-53) CE - TG: L04 (pp45-56) FS - RB: (pp07-10) FS - RB: (pp15-17) FS - RB: (pp36-40) FS - RB: (pp41-42) FS - RB: (pp48-50)

	<p>FS - RB: (pp60-61)  FS - TG: Sec4.L02 (pp13-20)  FS - TG: Sec4.L10 (pp79-86)  FS - TG: Sec4.L13 (pp103-112)  FS - TG: Sec4.L14 (pp113-118)  FS - TG: Sec4.L15 (pp119-128)  PM - SG: L01 (pp2-13)  PM - SG: L02 (pp14-23)  PM - SG: L03 (pp24-29)  PM - SG: L05 (pp38-55)  PM - SG: L09 (pp78-83)  PM - SG: L19 (pp162-167)  PM - SG: L26 (pp230-235)  PM - TG: L01 (pp3-14)  PM - TG: L02 (pp15-26)  PM - TG: L03 (pp27-38)  PM - TG: L04.Exts (p45)  PM - TG: L05 (pp49-64)  PM - TG: L09 (pp101-112)  PM - TG: L19 (pp209-226)  PM - TG: L26 (pp313-332)</p>
<p>PS.5.6.6  Use a <i>density</i> column to test the <i>density</i> of various solid objects (e.g., piece of candy, cork, candle, paper clip, egg)</p>	<p>CE - SG: L04 (pp42-53)  CE - TG: L04 (pp45-56)  FS - RB: (pp07-10)  FS - RB: (pp15-17)  FS - RB: (pp36-40)  FS - RB: (pp41-42)  FS - RB: (pp48-50)  FS - RB: (pp60-61)  FS - TG: Sec4.L02 (pp13-20)  FS - TG: Sec4.L10 (pp79-86)  FS - TG: Sec4.L13 (pp103-112)  FS - TG: Sec4.L14 (pp113-118)  FS - TG: Sec4.L15 (pp119-128)  PM - SG: L01 (pp2-13)  PM - SG: L02 (pp14-23)  PM - SG: L03 (pp24-29)  PM - SG: L05 (pp38-55)  PM - SG: L09 (pp78-83)  PM - SG: L19 (pp162-167)  PM - SG: L26 (pp230-235)  PM - TG: L01 (pp3-14)  PM - TG: L02 (pp15-26)  PM - TG: L03 (pp27-38)  PM - TG: L04.Exts (p45)  PM - TG: L05 (pp49-64)  PM - TG: L09 (pp101-112)  PM - TG: L19 (pp209-226)  PM - TG: L26 (pp313-332)</p>
<p>PS.5.6.7  Identify characteristics of <i>chemical changes</i>:</p> <ul style="list-style-type: none"> <li>▪ burning</li> <li>▪ production of a new substance</li> <li>▪ production of light</li> <li>▪ color change</li> </ul>	<p>PM - SG: L06 (pp56-63)  PM - SG: L18 (pp150-161)  PM - SG: L20 (pp170-185)  PM - SG: L24 (pp218-223)  PM - TG: L06 (pp65-78)  PM - TG: L18 (pp193-208)  PM - TG: L20 (pp227-240)</p>

<ul style="list-style-type: none"> <li>▪ <i>endothermic</i> and <i>exothermic</i> reactions</li> <li>▪ <i>reactivity</i></li> </ul>	PM - TG: L22.Exts (p270) PM - TG: L24 (pp295-302)
PS.5.6.8 Conduct investigations comparing and contrasting physical and <i>chemical changes</i>	E - TG: Sec4.L13.Exts (p127) FS - TG: Sec4.L06 (pp49-54) M - TG: Sec4.L09.Exts (p53) PM - SG: L06 (pp56-63) PM - SG: L18 (pp150-161) PM - SG: L20 (pp170-185) PM - SG: L24 (pp218-223) PM - TG: L06 (pp65-78) PM - TG: L17.Exts (p185) PM - TG: L18 (pp193-208) PM - TG: L20 (pp227-240) PM - TG: L22.Exts (p270) PM - TG: L24 (pp295-302)
PS.5.6.9 Demonstrate the <i>law of the conservation of matter</i>	PM - SG: L25 (pp224-229) PM - TG: L25 (pp303-312)
PS.5.6.10 Investigate scientists, careers, and historical breakthroughs related to <i>chemical properties</i> and <i>chemical changes</i>	
<i>Standard 6: Motion and Forces</i>	
PS.6.6.1 Compare and contrast <i>simple machines</i> and <i>compound machines</i>	EMM - SG: L01 (pp2-11) EMM - SG: L08 (pp72-81) EMM - SG: L11 (pp100-107) EMM - SG: L12 (pp108-119) EMM - SG: L13 (pp120-129) EMM - SG: L14 (pp130-139) EMM - SG: L15 (pp140-147) EMM - SG: L16 (pp148-161) EMM - SG: L22 (pp226-236) EMM - TG: L01 (pp3-22) EMM - TG: L07.Exts (p83) EMM - TG: L08 (pp85-98) EMM - TG: L11 (pp131-146) EMM - TG: L12 (pp147-156) EMM - TG: L13 (pp157-166) EMM - TG: L14 (pp167-176) EMM - TG: L15 (pp177-184) EMM - TG: L16 (pp185-202) EMM - TG: L17 (pp203-216) EMM - TG: L21.Exts (p245) EMM - TG: L22 (pp247-254) HBS - TG: L05.Exts (p52) MT - TG: L13 (pp123-134) PM - TG: L10.Exts (p119)
PS.6.6.2 Identify and analyze the simple machines that make up a compound machine	EMM - SG: L01 (pp2-11) EMM - SG: L08 (pp72-81) EMM - SG: L11 (pp100-107) EMM - SG: L12 (pp108-119) EMM - SG: L13 (pp120-129) EMM - SG: L14 (pp130-139) EMM - SG: L15 (pp140-147) EMM - SG: L16 (pp148-161) EMM - SG: L22 (pp226-236) EMM - TG: L01 (pp3-22)

	<p>EMM - TG: L07.Exts (p83)  EMM - TG: L08 (pp85-98)  EMM - TG: L11 (pp131-146)  EMM - TG: L12 (pp147-156)  EMM - TG: L13 (pp157-166)  EMM - TG: L14 (pp167-176)  EMM - TG: L15 (pp177-184)  EMM - TG: L16 (pp185-202)  EMM - TG: L17 (pp203-216)  EMM - TG: L21.Exts (p245)  EMM - TG: L22 (pp247-254)  HBS - TG: L05.Exts (p52)  MT - TG: L13 (pp123-134)  PM - TG: L10.Exts (p119)</p>
<p>PS.6.6.3  Conduct investigations of various forces using SI units (newton)</p>	<p>CE - SG: L11 (pp120-133)  CE - SG: L12 (pp134-153)  CE - SG: L15 (pp170-189)  CE - TG: L11 (pp149-162)  CE - TG: L12 (pp163-176)  CE - TG: L15 (pp197-218)  EMM - SG: L01 (pp2-11)  EMM - SG: L05 (pp36-47)  EMM - SG: L06 (pp48-61)  EMM - SG: L07 (pp62-71)  EMM - SG: L08 (pp72-81)  EMM - SG: L09 (pp82-91)  EMM - SG: L10 (pp92-97)  EMM - SG: L11 (pp100-107)  EMM - SG: L12 (pp108-119)  EMM - SG: L13 (pp120-129)  EMM - SG: L15 (pp140-147)  EMM - SG: L16 (pp148-161)  EMM - SG: L17 (pp164-173)  EMM - SG: L18 (pp174-187)  EMM - SG: L19 (pp188-199)  EMM - SG: L20 (pp200-213)  EMM - SG: L21 (pp214-225)  EMM - SG: L22 (pp226-236)  EMM - TG: L01 (pp3-22)  EMM - TG: L05 (pp47-58)  EMM - TG: L06 (pp59-74)  EMM - TG: L07 (pp75-84)  EMM - TG: L08 (pp85-98)  EMM - TG: L09 (pp99-106)  EMM - TG: L10 (pp107-130)  EMM - TG: L11 (pp131-146)  EMM - TG: L12 (pp147-156)  EMM - TG: L13 (pp157-166)  EMM - TG: L15 (pp177-184)  EMM - TG: L16 (pp185-202)  EMM - TG: L17 (pp203-216)  EMM - TG: L18 (pp217-228)  EMM - TG: L19 (pp229-234)  EMM - TG: L20 (pp235-238)  EMM - TG: L21 (pp239-246)  EMM - TG: L22 (pp247-254)</p>

	ES - SG: L15 (pp216-243) ES - TG: L15 (pp221-244) FS - TG: Sec4.L09 (pp69-78)
PS.6.6.4 Recognize and give examples of different types of <i>forces</i> : <ul style="list-style-type: none"> <li>▪ <i>gravitational forces</i></li> <li>▪ <i>magnetic forces</i></li> <li>▪ <i>friction</i></li> </ul>	CE - SG: L11 (pp120-133) CE - SG: L12 (pp134-153) CE - SG: L15 (pp170-189) CE - TG: L11 (pp149-162) CE - TG: L12 (pp163-176) CE - TG: L15 (pp197-218) EMM - SG: L01 (pp2-11) EMM - SG: L05 (pp36-47) EMM - SG: L06 (pp48-61) EMM - SG: L07 (pp62-71) EMM - SG: L08 (pp72-81) EMM - SG: L09 (pp82-91) EMM - SG: L10 (pp92-97) EMM - SG: L11 (pp100-107) EMM - SG: L12 (pp108-119) EMM - SG: L13 (pp120-129) EMM - SG: L15 (pp140-147) EMM - SG: L16 (pp148-161) EMM - SG: L17 (pp164-173) EMM - SG: L18 (pp174-187) EMM - SG: L19 (pp188-199) EMM - SG: L20 (pp200-213) EMM - SG: L21 (pp214-225) EMM - SG: L22 (pp226-236) EMM - TG: L01 (pp3-22) EMM - TG: L05 (pp47-58) EMM - TG: L06 (pp59-74) EMM - TG: L07 (pp75-84) EMM - TG: L08 (pp85-98) EMM - TG: L09 (pp99-106) EMM - TG: L10 (pp107-130) EMM - TG: L11 (pp131-146) EMM - TG: L12 (pp147-156) EMM - TG: L13 (pp157-166) EMM - TG: L15 (pp177-184) EMM - TG: L16 (pp185-202) EMM - TG: L17 (pp203-216) EMM - TG: L18 (pp217-228) EMM - TG: L19 (pp229-234) EMM - TG: L20 (pp235-238) EMM - TG: L21 (pp239-246) EMM - TG: L22 (pp247-254) ES - SG: L15 (pp216-243) ES - TG: L15 (pp221-244) FS - TG: Sec4.L09 (pp69-78) MM - RB: (pp07-08) MM - RB: (pp09-11) MM - RB: (pp12-13) MM - RB: (pp14-16) MM - RB: (pp17-20) MM - RB: (pp23-25) MM - TG: L01 (pp7-10) MM - TG: L02 (pp11-14)

	MM - TG: L03 (pp15-20) MM - TG: L04 (pp21-26) MM - TG: L06.Exts (p39) MM - TG: L07 (pp43-48) MM - TG: L10.Exts (p69) MM - TG: L12 (pp77-82) MM - TG: L14 (pp89-94) MM - TG: L15 (pp95-98) MM - TG: L16 (pp99-102) MM - TG: L17 (pp103-108)
PS.6.6.5 Understand why objects have <i>weight</i>	EMM - SG: L05 (pp36-47) EMM - SG: L06 (pp48-61) EMM - TG: L05 (pp47-58) EMM - TG: L06 (pp59-74) ES - TG: L14.Exts (p217) ES - TG: L15.Exts (p234) FS - TG: Sec4.L03 (pp21-30) FS - TG: Sec4.L04 (pp31-38) FS - TG: Sec4.L05 (pp39-48) FS - TG: Sec4.L06 (pp49-54) FS - TG: Sec4.L09 (pp69-78) FS - TG: Sec4.L10 (pp79-86) FS - TG: Sec4.L11 (pp87-94) FS - TG: Sec4.L12 (pp95-102) FS - TG: Sec4.L13 (pp103-112) FS - TG: Sec4.L14 (pp113-118) FS - TG: Sec4.L16 (pp129-134) PM - SG: L02 (pp14-23) PM - SG: L08 (pp74-77) PM - SG: L09 (pp78-83) PM - TG: L02.Exts (p21) PM - TG: L04 (pp39-48) PM - TG: L08 (pp91-100) PM - TG: L09 (pp101-112)
PS.6.6.6 Compare and contrast <i>weight</i> and <i>mass</i>	EMM - SG: L05 (pp36-47) EMM - TG: L05 (pp47-58) ES - SG: L14 (pp200-215) ES - TG: L14 (pp209-220) FS - RB: (pp07-10) PM - SG: L02 (pp14-23) PM - TG: L02 (pp15-26)
PS.6.6.7 Describe the effects of <i>force</i> : <ul style="list-style-type: none"> <li>▪ move a stationary object</li> <li>▪ <i>speed</i> up, slow down or change the direction of motion</li> <li>▪ change the shape of objects</li> </ul>	
PS.6.6.8 Conduct investigations to demonstrate change in direction caused by <i>force</i>	CE - SG: L11 (pp120-133) CE - SG: L12 (pp134-153) CE - SG: L15 (pp170-189) CE - TG: L11 (pp149-162) CE - TG: L12 (pp163-176) CE - TG: L15 (pp197-218) EMM - SG: L01 (pp2-11) EMM - SG: L05 (pp36-47) EMM - SG: L06 (pp48-61)

	<p>EMM - SG: L07 (pp62-71)  EMM - SG: L08 (pp72-81)  EMM - SG: L09 (pp82-91)  EMM - SG: L10 (pp92-97)  EMM - SG: L11 (pp100-107)  EMM - SG: L12 (pp108-119)  EMM - SG: L13 (pp120-129)  EMM - SG: L15 (pp140-147)  EMM - SG: L16 (pp148-161)  EMM - SG: L17 (pp164-173)  EMM - SG: L18 (pp174-187)  EMM - SG: L19 (pp188-199)  EMM - SG: L20 (pp200-213)  EMM - SG: L21 (pp214-225)  EMM - SG: L22 (pp226-236)  EMM - TG: L01 (pp3-22)  EMM - TG: L05 (pp47-58)  EMM - TG: L06 (pp59-74)  EMM - TG: L07 (pp75-84)  EMM - TG: L08 (pp85-98)  EMM - TG: L09 (pp99-106)  EMM - TG: L10 (pp107-130)  EMM - TG: L11 (pp131-146)  EMM - TG: L12 (pp147-156)  EMM - TG: L13 (pp157-166)  EMM - TG: L15 (pp177-184)  EMM - TG: L16 (pp185-202)  EMM - TG: L17 (pp203-216)  EMM - TG: L18 (pp217-228)  EMM - TG: L19 (pp229-234)  EMM - TG: L20 (pp235-238)  EMM - TG: L21 (pp239-246)  EMM - TG: L22 (pp247-254)  ES - SG: L15 (pp216-243)  ES - TG: L15 (pp221-244)  FS - TG: Sec4.L09 (pp69-78)</p>
<p>PS.6.6.9  Conduct investigations to calculate the change in <i>speed</i> caused by applying <i>forces</i> to an object</p>	<p>EMM - SG: L06 (pp48-61)  EMM - SG: L18 (pp174-187)  EMM - SG: L19 (pp188-199)  EMM - SG: L21 (pp214-225)  EMM - TG: L01.Exts (p14)  EMM - TG: L06.Exts (pp68-69)  EMM - TG: L18 (pp217-228)  EMM - TG: L19 (pp229-234)  EMM - TG: L21 (pp239-246)</p>
<p>PS.6.6.10  Investigate careers, scientists, and historical breakthroughs related to <i>compound machines</i> and <i>forces</i></p>	<p>EMM - TG: L07.Exts (p83)  EMM - TG: L14.Exts (p171)  EMM - TG: L16.Exts (p191)  EMM - TG: L21.Exts (p245)  HBS - TG: L05.Exts (p52)  MT - TG: L13 (pp123-134)  PM - TG: L10.Exts (p119)</p>
<p><i>Standard 7: Energy and Transfer of Energy</i></p>	

<p>PS.7.6.1</p> <p>Classify examples of <i>energy</i> forms:</p> <ul style="list-style-type: none"> <li>▪ chemical</li> <li>▪ <i>electromagnetic</i></li> <li>▪ mechanical</li> <li>▪ thermal</li> <li>▪ <i>nuclear</i></li> </ul>	<p>EECD - SG: L01 (pp2-11)</p> <p>EECD - SG: L07 (pp70-83)</p> <p>EECD - SG: L10 (pp104-117)</p> <p>EECD - TG: L01 (pp3-22)</p> <p>EECD - TG: L07 (pp93-110)</p> <p>EECD - TG: L10 (pp143-156)</p> <p>EMM - SG: L01 (pp2-11)</p> <p>EMM - SG: L02 (pp12-19)</p> <p>EMM - SG: L03 (pp20-25)</p> <p>EMM - SG: L10 (pp92-97)</p> <p>EMM - SG: L20 (pp200-213)</p> <p>EMM - SG: L22 (pp226-236)</p> <p>EMM - TG: L01 (pp3-22)</p> <p>EMM - TG: L02 (pp23-30)</p> <p>EMM - TG: L03 (pp31-36)</p> <p>EMM - TG: L09 (pp99-106)</p> <p>EMM - TG: L10 (pp107-130)</p> <p>EMM - TG: L20 (pp235-238)</p> <p>EMM - TG: L22 (pp247-254)</p>
<p>PS.7.6.2</p> <p>Summarize the application of the law of conservation of energy in real world situations:</p> <ul style="list-style-type: none"> <li>▪ electrical <i>energy</i> into mechanical <i>energy</i></li> <li>▪ electrical <i>energy</i> into <i>heat</i></li> <li>▪ chemical <i>energy</i> into mechanical <i>energy</i></li> <li>▪ chemical <i>energy</i> into light</li> </ul>	<p>EECD - SG: L01 (pp2-11)</p> <p>EECD - SG: L12 (pp122-133)</p> <p>EECD - TG: L01 (pp3-22)</p> <p>EECD - TG: L12 (pp169-180)</p> <p>EMM - SG: L19 (pp188-199)</p> <p>EMM - TG: L19 (pp229-234)</p>
<p>PS.7.6.3</p> <p>Conduct investigations demonstrating how <i>energy</i> can be converted from one form to another</p>	<p>EECD - SG: L01 (pp2-11)</p> <p>EECD - SG: L02 (pp12-25)</p> <p>EECD - SG: L08 (pp84-93)</p> <p>EECD - SG: L09 (pp94-103)</p> <p>EECD - SG: L10 (pp104-117)</p> <p>EECD - SG: L12 (pp122-133)</p> <p>EECD - SG: L15 (pp156-167)</p> <p>EECD - SG: L16 (pp168-173)</p> <p>EECD - SG: L17 (pp174-185)</p> <p>EECD - SG: L18 (pp186-195)</p> <p>EECD - SG: L19 (pp196-209)</p> <p>EECD - TG: L01 (pp3-22)</p> <p>EECD - TG: L02 (pp23-36)</p> <p>EECD - TG: L08 (pp111-122)</p> <p>EECD - TG: L09 (pp123-142)</p> <p>EECD - TG: L10 (pp143-156)</p> <p>EECD - TG: L12 (pp169-180)</p> <p>EECD - TG: L15 (pp213-226)</p> <p>EECD - TG: L16 (pp227-240)</p> <p>EECD - TG: L17 (pp240-248)</p> <p>EECD - TG: L18 (pp249-262)</p> <p>EECD - TG: L19 (pp263-276)</p> <p>EMM - SG: L02 (pp12-19)</p> <p>EMM - SG: L03 (pp20-25)</p> <p>EMM - SG: L04 (pp26-35)</p> <p>EMM - SG: L10 (pp92-97)</p> <p>EMM - SG: L17 (pp164-173)</p> <p>EMM - SG: L19 (pp188-199)</p> <p>EMM - SG: L20 (pp200-213)</p>

	<p>EMM - SG: L22 (pp226-236)  EMM - TG: L02 (pp23-30)  EMM - TG: L03 (pp31-36)  EMM - TG: L04 (pp37-46)  EMM - TG: L09 (pp99-106)  EMM - TG: L10 (pp107-130)  EMM - TG: L17 (pp203-216)  EMM - TG: L19 (pp229-234)  EMM - TG: L20 (pp235-238)  EMM - TG: L21 (pp239-246)  EMM - TG: L22 (pp247-254)  L - SG: L02 (pp20-31)  L - SG: L07 (pp68-81)  L - SG: L26 (pp294-297)  L - TG: L02 (pp21-36)  L - TG: L26 (pp349-367)  MM - RB: (pp45-46)  MM - TG: L16 (pp99-102)</p>
<p>PS.7.6.4  Investigate the transfer of <i>energy</i> in real world situations:</p> <ul style="list-style-type: none"> <li>▪ <i>conduction</i></li> <li>▪ <i>convection</i></li> <li>▪ <i>radiation</i></li> </ul>	<p>EECD - SG: L01 (pp2-11)  EECD - SG: L02 (pp12-25)  EECD - SG: L05 (pp46-57)  EECD - SG: L08 (pp84-93)  EECD - SG: L09 (pp94-103)  EECD - SG: L10 (pp104-117)  EECD - SG: L12 (pp122-133)  EECD - SG: L15 (pp156-167)  EECD - SG: L16 (pp168-173)  EECD - SG: L17 (pp174-185)  EECD - SG: L18 (pp186-195)  EECD - TG: L01 (pp3-22)  EECD - TG: L02 (pp23-36)  EECD - TG: L05 (pp61-76)  EECD - TG: L08 (pp111-122)  EECD - TG: L09 (pp123-142)  EECD - TG: L10 (pp143-156)  EECD - TG: L12 (pp169-180)  EECD - TG: L15 (pp213-226)  EECD - TG: L16 (pp227-240)  EECD - TG: L17 (pp240-248)  EECD - TG: L18 (pp249-262)  L - SG: L02 (pp20-31)  L - SG: L07 (pp68-81)  L - TG: L02 (pp21-36)  MM - TG: L16.Exts (p102)</p>
<p>PS.7.6.5  Investigate careers, scientists, and historical breakthroughs related to <i>energy</i> forms and conversions</p>	<p>EECD - SG: L01 (pp2-11)  EECD - SG: L10 (pp104-117)  EECD - SG: L13 (pp134-141)  EECD - SG: L19 (pp196-209)  EECD - TG: L01 (pp3-22)  EECD - TG: L10 (pp143-156)  EECD - TG: L12.Exts (pp177-178)  EECD - TG: L13 (pp181-204)  EECD - TG: L18.Exts (pp259-260)  EECD - TG: L19 (pp263-276)  EMM - TG: L04.Exts (pp41-42)  L - SG: L01 (pp2-19)</p>

	L - SG: L02 (pp20-31) L - TG: L01.Exts (p12) L - TG: L02.Exts (p32) L - TG: L04.Exts (p54) L - TG: L10.Exts (p124) L - TG: L12.Exts (p140) L - TG: L18.Exts (p235) MM - RB: (pp41-44) MM - RB: (pp45-46) MM - RB: (pp47-50) MM - RB: (pp53-54) MM - TG: L16 (pp99-102)
<b>Strand 4: Earth and Space Science</b>	
<i>Standard 8: Earth Systems</i>	
ESS.8.6.1 Identify and diagram the layers of the Earth: <ul style="list-style-type: none"> <li>▪ crust</li> <li>▪ mantle</li> <li>▪ inner and outer core</li> </ul>	CE - SG: L10 (pp114-119) CE - SG: L14 (pp164-169) CE - SG: L15 (pp170-189) CE - SG: L16 (pp190-193) CE - SG: L17 (pp194-197) CE - SG: L18 (pp200-209) CE - TG: L10 (pp143-148) CE - TG: L14 (pp187-196) CE - TG: L15 (pp197-218) CE - TG: L16 (pp219-232) CE - TG: L17 (pp233-256) CE - TG: L18 (pp257-264) PM - SG: L05 (pp38-55)
ESS.8.6.2 Model the layers of the Earth	CE - SG: L10 (pp114-119) CE - SG: L14 (pp164-169) CE - SG: L15 (pp170-189) CE - SG: L16 (pp190-193) CE - SG: L17 (pp194-197) CE - SG: L18 (pp200-209) CE - TG: L10 (pp143-148) CE - TG: L14 (pp187-196) CE - TG: L15 (pp197-218) CE - TG: L16 (pp219-232) CE - TG: L17 (pp233-256) CE - TG: L18 (pp257-264) PM - SG: L05 (pp38-55)
ESS.8.6.3 Model how <i>convection</i> currents in the mantle affect lithosphere movement	CE - SG: L16 (pp190-193) CE - TG: L16 (pp219-232) PM - TG: L05.Exts (p56)
ESS.8.6.4 Conduct investigations to identify the <i>variables</i> within volcanoes that cause different types of eruptions	CE - SG: L19 (pp210-223) CE - SG: L20 (pp224-231) CE - SG: L23 (pp252-263) CE - TG: L18.Exts (pp262-263) CE - TG: L19 (pp265-278) CE - TG: L20 (pp279-292) CE - TG: L23 (pp217-328) CE - TG: L24.Exts (pp337-338) PM - TG: L11.Exts (p132)
ESS.8.6.5 Diagram and explain how volcanoes work	CE - SG: L18 (pp200-209) CE - SG: L19 (pp210-223) CE - SG: L20 (pp224-231)

	<p>CE - SG: L23 (pp252-263)  CE - SG: L24 (pp264-273)  CE - SG: L25 (pp274-282)  CE - TG: L18 (pp257-264)  CE - TG: L19 (pp265-278)  CE - TG: L20 (pp279-292)  CE - TG: L23 (pp217-328)  CE - TG: L24 (pp329-346)  CE - TG: L25 (pp347-372)  ES - SG: L13 (pp174-199)  ES - TG: L13 (pp197-208)  PM - TG: L11.Exts (p132)</p>
<p>ESS.8.6.6  Explain how volcanic activity relates to mountain formation</p>	<p>CE - SG: L18 (pp200-209)  CE - SG: L19 (pp210-223)  CE - SG: L20 (pp224-231)  CE - SG: L23 (pp252-263)  CE - SG: L24 (pp264-273)  CE - SG: L25 (pp274-282)  CE - TG: L18 (pp257-264)  CE - TG: L19 (pp265-278)  CE - TG: L20 (pp279-292)  CE - TG: L23 (pp217-328)  CE - TG: L24 (pp329-346)  CE - TG: L25 (pp347-372)  ES - SG: L13 (pp174-199)  ES - TG: L13 (pp197-208)  PM - TG: L11.Exts (p132)</p>
<p>ESS.8.6.7  Connect short-term changes in <i>climate</i> with volcanic activity</p>	<p>CE - SG: L19 (pp210-223)  CE - SG: L23 (pp252-263)  CE - SG: L24 (pp264-273)  CE - SG: L25 (pp274-282)  CE - TG: L18.Exts (pp262-263)  CE - TG: L19 (pp265-278)  CE - TG: L23 (pp217-328)  CE - TG: L24 (pp329-346)  CE - TG: L25 (pp347-372)  M - RB: (pp13-15)</p>
<p>ESS.8.6.8  Compare and contrast the different land forms caused by Earth’s internal <i>forces</i>:</p> <ul style="list-style-type: none"> <li>▪ mountains</li> <li>▪ plateaus</li> <li>▪ trenches</li> <li>▪ islands</li> </ul>	<p>CE - SG: L01 (pp2-11)  CE - SG: L19 (pp210-223)  CE - TG: L01 (pp3-16)  CE - TG: L19 (pp265-278)  ES - SG: L13 (pp174-199)  ES - SG: L19 (pp312-323)  ES - TG: L12 (pp181-196)  ES - TG: L13 (pp197-208)  ES - TG: L19 (pp287-292)</p>
<p>ESS.8.6.9  Research local, regional, and state landforms created by internal <i>forces</i> in the earth:</p> <ul style="list-style-type: none"> <li>▪ Ozark Plateau</li> <li>▪ Crater of Diamonds</li> <li>▪ Ouachita Mountains</li> <li>▪ New Madrid Fault</li> </ul>	<p>CE - SG: L01 (pp2-11)  CE - SG: L19 (pp210-223)  CE - TG: L01 (pp3-16)  CE - TG: L19 (pp265-278)  ES - TG: L12 (pp181-196)</p>

<p>ESS.8.6.10</p> <p>Identify the effects of <i>earthquakes</i> on Earth’s surface:</p> <ul style="list-style-type: none"> <li>▪ tsunamis</li> <li>▪ floods</li> <li>▪ changes in natural and man-made structures</li> </ul>	<p>CE - SG: L10 (pp114-119)</p> <p>CE - SG: L11 (pp120-133)</p> <p>CE - SG: L12 (pp134-153)</p> <p>CE - SG: L13 (pp154-163)</p> <p>CE - TG: L10 (pp143-148)</p> <p>CE - TG: L11 (pp149-162)</p> <p>CE - TG: L12 (pp163-176)</p> <p>CE - TG: L13 (pp177-186)</p>
<p>ESS.8.6.11</p> <p>Investigate and map patterns of <i>earthquake</i> and volcanic activity</p>	<p>CE - SG: L08 (pp96-101)</p> <p>CE - SG: L10 (pp114-119)</p> <p>CE - SG: L11 (pp120-133)</p> <p>CE - SG: L12 (pp134-153)</p> <p>CE - SG: L13 (pp154-163)</p> <p>CE - SG: L15 (pp170-189)</p> <p>CE - SG: L16 (pp190-193)</p> <p>CE - SG: L17 (pp194-197)</p> <p>CE - TG: L08 (pp103-126)</p> <p>CE - TG: L10 (pp143-148)</p> <p>CE - TG: L11 (pp149-162)</p> <p>CE - TG: L12 (pp163-176)</p> <p>CE - TG: L13 (pp177-186)</p> <p>CE - TG: L15 (pp197-218)</p> <p>CE - TG: L16 (pp219-232)</p> <p>CE - TG: L17 (pp233-256)</p>
<p>ESS.8.6.12</p> <p>Locate <i>earthquake</i> belts on Earth:</p> <ul style="list-style-type: none"> <li>▪ Mediterranean-Trans-Asiatic</li> <li>▪ Circum-Pacific (Ring of Fire)</li> </ul>	<p>CE - SG: L08 (pp96-101)</p> <p>CE - SG: L10 (pp114-119)</p> <p>CE - SG: L11 (pp120-133)</p> <p>CE - SG: L12 (pp134-153)</p> <p>CE - SG: L13 (pp154-163)</p> <p>CE - SG: L15 (pp170-189)</p> <p>CE - SG: L16 (pp190-193)</p> <p>CE - SG: L17 (pp194-197)</p> <p>CE - TG: L08 (pp103-126)</p> <p>CE - TG: L10 (pp143-148)</p> <p>CE - TG: L11 (pp149-162)</p> <p>CE - TG: L12 (pp163-176)</p> <p>CE - TG: L13 (pp177-186)</p> <p>CE - TG: L15 (pp197-218)</p> <p>CE - TG: L16 (pp219-232)</p> <p>CE - TG: L17 (pp233-256)</p>
<p>ESS.8.6.13</p> <p>Analyze how <i>earthquake</i> occurrences are recorded (<i>seismograph</i>) and measured (<i>Richter scale</i>)</p>	<p>CE - SG: L11 (pp120-133)</p> <p>CE - SG: L12 (pp134-153)</p> <p>CE - SG: L13 (pp154-163)</p> <p>CE - TG: L11 (pp149-162)</p> <p>CE - TG: L12 (pp163-176)</p> <p>CE - TG: L13 (pp177-186)</p> <p>ES - TG: L05 (pp53-72)</p> <p>ES - TG: L12 (pp181-196)</p>
<p>ESS.8.6.14</p> <p>Model the effect of major geological events on land and ocean features:</p> <ul style="list-style-type: none"> <li>▪ mountain building</li> <li>▪ ocean trenches</li> <li>▪ island formation</li> <li>▪ mid-ocean ridges</li> </ul>	<p>CE - SG: L09 (pp102-112)</p> <p>CE - SG: L24 (pp264-273)</p> <p>CE - TG: L09 (pp127-142)</p> <p>CE - TG: L19.Exts (pp274-275)</p> <p>CE - TG: L24 (pp329-346)</p> <p>ES - SG: L13 (pp174-199)</p> <p>ES - SG: L19 (pp312-323)</p> <p>ES - TG: L12 (pp181-196)</p>

	ES - TG: L13 (pp197-208) ES - TG: L19 (pp287-292)
ESS.8.6.15 Investigate careers, scientists, and historical breakthroughs related to internal <i>forces</i> that change the Earth	CE - SG: L01 (pp2-11) CE - SG: L04 (pp42-53) CE - SG: L12 (pp134-153) CE - SG: L19 (pp210-223) CE - TG: L01 (pp3-16) CE - TG: L04 (pp45-56) CE - TG: L12 (pp163-176) CE - TG: L14.Exts (pp193-194) CE - TG: L19 (pp265-278) FS - RB: (pp41-42)
<i>Standard 9: Earth's History</i>	
ESS.9.6.1 Research methods of determining geologic time: <ul style="list-style-type: none"> <li>▪ <i>fossil</i> records</li> <li>▪ mountain building</li> <li>▪ rock sequencing</li> </ul>	ES - SG: L18 (pp290-311) ES - TG: L18 (pp277-286) MT - RB: (pp18-21)
ESS.9.6.2 Model rock layer sequencing based on characteristics of <i>fossils</i>	ES - SG: L18 (pp290-311) ES - TG: L18 (pp277-286) MT - RB: (pp18-21)
ESS.9.6.3 Analyze evidence that supports the theory of plate tectonics: <ul style="list-style-type: none"> <li>▪ matching coastlines</li> <li>▪ similar rock types</li> <li>▪ fossil record</li> </ul>	CE - SG: L10 (pp114-119) CE - SG: L13 (pp154-163) CE - SG: L14 (pp164-169) CE - SG: L15 (pp170-189) CE - SG: L16 (pp190-193) CE - SG: L17 (pp194-197) CE - TG: L10 (pp143-148) CE - TG: L13 (pp177-186) CE - TG: L14 (pp187-196) CE - TG: L15 (pp197-218) CE - TG: L16 (pp219-232) CE - TG: L17 (pp233-256) ES - SG: L13 (pp174-199) ES - TG: L13 (pp197-208) PM - SG: L05 (pp38-55)
<i>Standard 10: Objects in the Universe</i>	
ESS.10.6.1 Explain how planets seem to wander against the background of the stars	
ESS.10.6.2 Compare the distance of the following: <ul style="list-style-type: none"> <li>▪ from the sun to Earth (<i>light minutes</i>)</li> <li>▪ from the next nearest star to Earth (<i>light years</i>)</li> </ul>	ES - SG: L02 (pp12-21) ES - SG: L07 (pp88-101) ES - SG: L11 (pp146-159) ES - SG: L22 (pp340-343) ES - TG: L02 (pp11-20) ES - TG: L04.Exts (pp45-46) ES - TG: L07 (pp83-96) ES - TG: L11 (pp159-180) ES - TG: L22 (pp311-326) L - SG: L03 (pp32-39)
ESS.10.6.3 Describe how astronomers measure distance to stars	ES - SG: L02 (pp12-21) ES - SG: L07 (pp88-101) ES - SG: L11 (pp146-159) ES - SG: L22 (pp340-343)

	<p>ES - TG: L02 (pp11-20)  ES - TG: L04.Exts (pp45-46)  ES - TG: L07 (pp83-96)  ES - TG: L11 (pp159-180)  ES - TG: L22 (pp311-326)  L - SG: L03 (pp32-39)</p>
<p>ESS.10.6.4  Calculate the rate at which we would have to travel to other stars and planets in our <i>solar system</i> using current technology</p>	<p>ES - SG: L02 (pp12-21)  ES - SG: L07 (pp88-101)  ES - SG: L11 (pp146-159)  ES - SG: L22 (pp340-343)  ES - TG: L02 (pp11-20)  ES - TG: L04.Exts (pp45-46)  ES - TG: L07 (pp83-96)  ES - TG: L11 (pp159-180)  ES - TG: L22 (pp311-326)  L - SG: L03 (pp32-39)</p>
<p>ESS.10.6.5  Explain the effect of the sun on <i>comets</i></p>	<p>ES - SG: L17 (pp268-289)  ES - TG: L11 (pp159-180)  ES - TG: L12 (pp181-196)  ES - TG: L13 (pp197-208)  ES - TG: L17 (pp269-276)</p>
<p>ESS.10.6.6  Compare and contrast <i>comets, meteors,</i> and asteroids by</p> <ul style="list-style-type: none"> <li>▪ size</li> <li>▪ <i>orbits</i></li> <li>▪ <i>nucleus</i></li> <li>▪ <i>mass</i></li> </ul>	<p>ES - SG: L12 (pp160-173)  ES - SG: L17 (pp268-289)  ES - TG: L11 (pp159-180)  ES - TG: L12 (pp181-196)  ES - TG: L13 (pp197-208)  ES - TG: L17.Exts (pp275-276)  ES - TG: L17 (pp269-276)</p>
<p>ESS.10.6.7  Model moon phases demonstrating the position of Earth, moon, and sun</p>	<p>ES - SG: L02 (pp12-21)  ES - SG: L05 (pp62-73)  ES - SG: L06 (pp74-87)  ES - SG: L16 (pp244-265)  ES - TG: L02 (pp11-20)  ES - TG: L05 (pp53-72)  ES - TG: L06 (pp73-82)  ES - TG: L16 (pp245-268)  MT - RB: (pp15-17)  MT - TG: L05 (pp49-58)  MT - TG: L06 (pp59-66)</p>
<p>ESS.10.6.8  Compare and contrast <i>solar eclipse</i> and <i>lunar eclipse</i></p>	<p>ES - SG: L06 (pp74-87)  ES - SG: L07 (pp88-101)  ES - TG: L06 (pp73-82)  ES - TG: L07 (pp83-96)  L - SG: L05 (pp48-57)  L - TG: L05 (pp59-72)</p>
<p>ESS.10.6.9  Investigate careers, scientists, and historical breakthroughs related to the sun and space travel</p>	
<b>GRADE 7</b>	
<b>Strand 1: Nature of Science</b>	<b>Curriculum Location</b>
<i>Standard 1: Characteristics and Processes of Science</i>	
<p>NS.1.7.1  Interpret <i>evidence</i> based on observations</p>	<p>CE - SG: L12 (pp134-153)  CE - SG: L13 (pp154-163)  CE - SG: L15 (pp170-189)</p>

	<p>CE - SG: L17 (pp194-197)  CE - SG: L25 (pp274-282)  CE - TG: L06.Exts (pp77-78)  CE - TG: L12 (pp163-176)  CE - TG: L13 (pp177-186)  CE - TG: L15 (pp197-218)  CE - TG: L17 (pp233-256)  CE - TG: L25 (pp347-372)  EECD - SG: L08 (pp84-93)  EECD - SG: L11 (pp118-121)  EECD - TG: L08 (pp111-122)  EECD - TG: L11 (pp157-168)  EMM - SG: L07 (pp62-71)  EMM - SG: L10 (pp92-97)  EMM - SG: L13 (pp120-129)  EMM - SG: L15 (pp140-147)  EMM - TG: L04 (pp37-46)  EMM - TG: L07 (pp75-84)  EMM - TG: L10 (pp107-130)  EMM - TG: L13 (pp157-166)  EMM - TG: L15 (pp177-184)  EMM - TG: L16 (pp185-202)  EP - RB: (pp57-59)  EP - RB: (pp62)  EP - TG: L09 (pp75-80)  EP - TG: L10 (pp81-84)  EP - TG: L13 (pp101-104)  EP - TG: L15 (pp115-122)  ES - SG: L03 (pp22-41)  ES - SG: L22 (pp340-343)  ES - TG: L03 (pp21-36)  ES - TG: L22 (pp311-326)  HBS - SG: L21 (pp174-181)  HBS - TG: L09 (pp103-112)  HBS - TG: L21 (pp245-252)  L - SG: L12 (pp132-137)  L - SG: L13 (pp138-141)  L - SG: L20 (pp224-227)  L - SG: L25 (pp284-293)  L - TG: L12 (pp137-152)  L - TG: L13 (pp153-168)  L - TG: L25 (pp335-348)  MT - TG: L09 (pp87-94)  MT - TG: L11 (pp109-114)  MT - TG: L16 (pp145-148)  PM - SG: L03 (pp24-29)  PM - SG: L04 (pp30-37)  PM - SG: L08 (pp74-77)  PM - SG: L09 (pp78-83)  PM - SG: L13 (pp112-115)  PM - SG: L14 (pp116-121)  PM - SG: L17 (pp140-149)  PM - SG: L19 (pp162-167)  PM - SG: L23 (pp208-217)  PM - SG: L24 (pp218-223)  PM - SG: L26 (pp230-235)</p>
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	PM - TG: L03 (pp27-38) PM - TG: L04 (pp39-48) PM - TG: L08 (pp91-100) PM - TG: L09 (pp101-112) PM - TG: L13 (pp143-152) PM - TG: L14 (pp153-160) PM - TG: L17 (pp179-192) PM - TG: L19 (pp209-226) PM - TG: L23 (pp275-294) PM - TG: L24 (pp295-302) PM - TG: L26 (pp313-332) TP - TG: L03 (pp49-60) TP - TG: L05 (pp75-90) TP - TG: L07 (pp107-116) TP - TG: L09 (pp127-136) TP - TG: L10 (pp137-148) TP - TG: L11 (pp149-156) TP - TG: L12 (pp157-164) TP - TG: L13 (pp165-170) TP - TG: L18 (pp215-218)
NS.1.7.2 Analyze components of <i>experimental design</i> used to produce <i>empirical evidence</i> : <ul style="list-style-type: none"> <li>▪ <i>hypothesis</i></li> <li>▪ replication</li> <li>▪ sample size</li> <li>▪ appropriate use of <i>control</i></li> <li>▪ use of standardized <i>variables</i></li> </ul>	EMM - SG: L07 (pp62-71) EMM - TG: L07 (pp75-84) EP - TG: L12 (pp91-100) PM - SG: L13 (pp112-115) PM - SG: L15 (pp122-129) PM - SG: L16 (pp130-139) PM - SG: L23 (pp208-217) PM - SG: L24 (pp218-223) PM - TG: L13 (pp143-152) PM - TG: L15 (pp161-168) PM - TG: L16 (pp169-178) PM - TG: L23 (pp275-294) PM - TG: L24 (pp295-302) TP - TG: L04 (pp61-74) TP - TG: L10 (pp137-148) TP - TG: L12 (pp157-164) TP - TG: L15 (pp185-196)
NS.1.7.3 Interpret scientific data using mean, median, mode, and range using <i>SI units</i>	
NS.1.7.4 Construct and interpret scientific data using <ul style="list-style-type: none"> <li>▪ histograms</li> <li>▪ circle graphs</li> <li>▪ <i>scatter plots</i></li> <li>▪ double line graphs</li> <li>▪ line graphs by approximating line of best fit</li> </ul>	CE - SG: L12 (pp134-153) CE - SG: L13 (pp154-163) CE - SG: L15 (pp170-189) CE - SG: L17 (pp194-197) CE - SG: L19 (pp210-223) CE - SG: L20 (pp224-231) CE - SG: L21 (pp232-239) CE - SG: L23 (pp252-263) CE - SG: L24 (pp264-273) CE - SG: L25 (pp274-282) CE - TG: L04.Exts (p54) CE - TG: L06.Exts (pp77-78) CE - TG: L12 (pp163-176) CE - TG: L13 (pp177-186) CE - TG: L15 (pp197-218)

	<p>CE - TG: L16.Exts (p225)  CE - TG: L17 (pp233-256)  CE - TG: L19 (pp265-278)  CE - TG: L20 (pp279-292)  CE - TG: L21 (pp293-302)  CE - TG: L22.Exts (p312)  CE - TG: L23 (pp217-328)  CE - TG: L24 (pp329-346)  CE - TG: L25 (pp347-372)  EECD - SG: L08 (pp84-93)  EECD - SG: L11 (pp118-121)  EECD - SG: L13 (pp134-141)  EECD - SG: L15 (pp156-167)  EECD - SG: L16 (pp168-173)  EECD - SG: L17 (pp174-185)  EECD - SG: L18 (pp186-195)  EECD - TG: L08 (pp111-122)  EECD - TG: L09.Exts (pp134-135)  EECD - TG: L10.Exts (pp152-153)  EECD - TG: L11 (pp157-168)  EECD - TG: L13 (pp181-204)  EECD - TG: L15 (pp213-226)  EECD - TG: L16 (pp227-240)  EECD - TG: L17 (pp240-248)  EECD - TG: L18 (pp249-262)  EMM - SG: L04 (pp26-35)  EMM - SG: L05 (pp36-47)  EMM - SG: L07 (pp62-71)  EMM - SG: L08 (pp72-81)  EMM - SG: L09 (pp82-91)  EMM - SG: L10 (pp92-97)  EMM - SG: L11 (pp100-107)  EMM - SG: L12 (pp108-119)  EMM - SG: L13 (pp120-129)  EMM - SG: L15 (pp140-147)  EMM - SG: L18 (pp174-187)  EMM - TG: L04 (pp37-46)  EMM - TG: L05 (pp47-58)  EMM - TG: L06 (pp59-74)  EMM - TG: L07 (pp75-84)  EMM - TG: L08 (pp85-98)  EMM - TG: L09 (pp99-106)  EMM - TG: L10 (pp107-130)  EMM - TG: L11 (pp131-146)  EMM - TG: L12 (pp147-156)  EMM - TG: L13 (pp157-166)  EMM - TG: L15 (pp177-184)  EMM - TG: L16 (pp185-202)  EMM - TG: L18 (pp217-228)  EMM - TG: L19 (pp229-234)  EP - RB: (pp57-59)  EP - RB: (pp62)  EP - TG: L02 (pp21-30)  EP - TG: L05 (pp51-56)  EP - TG: L08 (pp71-74)  EP - TG: L09 (pp75-80)</p>
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	<p> EP - TG: L10 (pp81-84)  EP - TG: L11 (pp85-90)  EP - TG: L13 (pp101-104)  EP - TG: L14 (pp105-114)  EP - TG: L15 (pp115-122)  ES - SG: L03 (pp22-41)  ES - SG: L04 (pp42-61)  ES - SG: L22 (pp340-343)  ES - TG: L03 (pp21-36)  ES - TG: L04 (pp37-52)  ES - TG: L22 (pp311-326)  HBS - SG: L21 (pp174-181)  HBS - TG: L09 (pp103-112)  HBS - TG: L15.Exts (p178)  HBS - TG: L20.Exts (p239)  HBS - TG: L21 (pp245-252)  L - SG: L01 (pp2-19)  L - SG: L04 (pp40-47)  L - SG: L05 (pp48-57)  L - SG: L07 (pp68-81)  L - SG: L09 (pp92-107)  L - SG: L10 (pp108-115)  L - SG: L11 (pp116-131)  L - SG: L12 (pp132-137)  L - SG: L13 (pp138-141)  L - SG: L17 (pp186-199)  L - SG: L18 (pp200-213)  L - SG: L19 (pp214-223)  L - SG: L20 (pp224-227)  L - SG: L21 (pp230-243)  L - SG: L24 (pp266-283)  L - SG: L25 (pp284-293)  L - SG: L26 (pp294-297)  L - TG: L01 (pp3-20)  L - TG: L04 (pp49-58)  L - TG: L05 (pp59-72)  L - TG: L07 (pp83-98)  L - TG: L09.Exts (p115)  L - TG: L10 (pp119-126)  L - TG: L11 (pp127-136)  L - TG: L12 (pp137-152)  L - TG: L13 (pp153-168)  L - TG: L18 (pp225-246)  L - TG: L19 (pp247-274)  L - TG: L20 (pp275-294)  L - TG: L21 (pp295-304)  L - TG: L24 (pp319-334)  L - TG: L25 (pp335-348)  L - TG: L26 (pp349-367)  MM - TG: L17 (pp103-108)  MT - TG: L03 (pp31-42)  MT - TG: L08 (pp75-86)  MT - TG: L09 (pp87-94)  MT - TG: L11 (pp109-114)  MT - TG: L12 (pp115-122)  MT - TG: L16 (pp145-148) </p>
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	<p>PM - SG: L03 (pp24-29)  PM - SG: L04 (pp30-37)  PM - SG: L06 (pp56-63)  PM - SG: L07 (pp64-73)  PM - SG: L08 (pp74-77)  PM - SG: L09 (pp78-83)  PM - SG: L10 (pp86-97)  PM - SG: L13 (pp112-115)  PM - SG: L14 (pp116-121)  PM - SG: L17 (pp140-149)  PM - SG: L19 (pp162-167)  PM - SG: L21 (pp186-197)  PM - SG: L23 (pp208-217)  PM - SG: L24 (pp218-223)  PM - SG: L26 (pp230-235)  PM - TG: L02.Exts (p21)  PM - TG: L03 (pp27-38)  PM - TG: L04 (pp39-48)  PM - TG: L06 (pp65-78)  PM - TG: L07 (pp79-90)  PM - TG: L08 (pp91-100)  PM - TG: L09 (pp101-112)  PM - TG: L10 (pp113-124)  PM - TG: L13 (pp143-152)  PM - TG: L14 (pp153-160)  PM - TG: L17 (pp179-192)  PM - TG: L19 (pp209-226)  PM - TG: L21 (pp241-260)  PM - TG: L22.Exts (p270)  PM - TG: L23 (pp275-294)  PM - TG: L24 (pp295-302)  PM - TG: L26 (pp313-332)  TP - RB: (pp33-35)  TP - TG: L01 (pp19-28)  TP - TG: L02 (pp29-48)  TP - TG: L03 (pp49-60)  TP - TG: L04 (pp61-74)  TP - TG: L05 (pp75-90)  TP - TG: L06 (pp91-106)  TP - TG: L07 (pp107-116)  TP - TG: L09 (pp127-136)  TP - TG: L10 (pp137-148)  TP - TG: L11 (pp149-156)  TP - TG: L12 (pp157-164)  TP - TG: L13 (pp165-170)  TP - TG: L16 (pp197-206)  TP - TG: L18 (pp215-218)</p>
<p>NS.1.7.5  Communicate results and conclusions from scientific inquiry</p>	<p>CE - SG: All lessons  CE - TG: All lessons  EECD - SG: L03 (pp26-35)  EECD - SG: L24 (pp244-251)  EECD - TG: L03 (pp37-48)  EECD - TG: L24 (pp313-326)  EP - TG: L09 (pp75-80)  EP - TG: L10 (pp81-84)  EP - TG: L11 (pp85-90)</p>

	<p>EP - TG: L15.Exts (p117)  EP - TG: L16 (pp123-128)  ES - SG: L01 (pp2-11)  ES - SG: L05 (pp62-73)  ES - SG: L09 (pp122-127)  ES - SG: L10 (pp130-145)  ES - SG: L11 (pp146-159)  ES - SG: L14 (pp200-215)  ES - SG: L18 (pp290-311)  ES - SG: L19 (pp312-323)  ES - SG: L22 (pp340-343)  ES - TG: L01 (pp3-10)  ES - TG: L05 (pp53-72)  ES - TG: L09 (pp121-146)  ES - TG: L10 (pp147-158)  ES - TG: L11 (pp159-180)  ES - TG: L13 (pp197-208)  ES - TG: L14 (pp209-220)  ES - TG: L18 (pp277-286)  ES - TG: L19 (pp287-292)  ES - TG: L20.Exts (p297)  ES - TG: L21.Exts (p310)  ES - TG: L22 (pp311-326)  HBS - SG: L09 (pp68-75)  HBS - TG: L09 (pp103-112)  MT - TG: L04 (pp43-48)  MT - TG: L06 (pp59-66)  MT - TG: L09 (pp87-94)  MT - TG: L11 (pp109-114)  MT - TG: L14 (pp135-138)  MT - TG: L17 (pp149-150)  OMM - TG: L02 (pp15-32)</p>
<p>NS.1.7.6  Develop and implement strategies for long-term, accurate data collection</p>	<p>CE - SG: All lessons  CE - TG: All lessons  EECD - SG: L03 (pp26-35)  EECD - SG: L08 (pp84-93)  EECD - SG: L13 (pp134-141)  EECD - TG: L03 (pp37-48)  EECD - TG: L08 (pp111-122)  EECD - TG: L13 (pp181-204)  EMM - SG: L10 (pp92-97)  EMM - SG: L13 (pp120-129)  EMM - SG: L15 (pp140-147)  EMM - TG: L04 (pp37-46)  EMM - TG: L07 (pp75-84)  EMM - TG: L10 (pp107-130)  EMM - TG: L13 (pp157-166)  EMM - TG: L15 (pp177-184)  EP - TG: L03 (pp31-38)  EP - TG: L06 (pp57-64)  EP - TG: L08 (pp71-74)  EP - TG: L12 (pp91-100)  ES - SG: L01 (pp2-11)  ES - SG: L05 (pp62-73)  ES - SG: L09 (pp122-127)  ES - SG: L11 (pp146-159)</p>

	<p>ES - SG: L14 (pp200-215)  ES - SG: L18 (pp290-311)  ES - TG: L01 (pp3-10)  ES - TG: L05 (pp53-72)  ES - TG: L09 (pp121-146)  ES - TG: L11 (pp159-180)  ES - TG: L14 (pp209-220)  ES - TG: L18 (pp277-286)  HBS - SG: L20 (pp168-173)  HBS - SG: L21 (pp174-181)  HBS - TG: L09 (pp103-112)  HBS - TG: L20 (p 235-244)  HBS - TG: L21 (pp245-252)  MM - TG: L17 (pp103-108)  MT - TG: L02 (pp21-30)  MT - TG: L08 (pp75-86)  MT - TG: L11 (pp109-114)  MT - TG: L16.Exts (p148)  PM - SG: L11 (pp98-105)  PM - TG: L08.Exts (p96)  PM - TG: L11 (pp125-134)  TP - TG: L05 (pp75-90)  TP - TG: L08 (pp117-126)  TP - TG: L15 (pp185-196)</p>
<p>NS.1.7.7  Distinguish between questions that can and cannot be answered by science</p>	
<p>NS.1.7.8  Explain the role of testability and modification in the development of a theory</p>	<p>EP - TG: L14.Exts (pp109-110)</p>
<p>NS.1.7.9  Compare and contrast hypotheses, <i>laws</i>, and <i>theories</i></p>	<p>CE - SG: L13 (pp154-163)  CE - SG: L14 (pp164-169)  CE - SG: L20 (pp224-231)  CE - SG: L22 (pp240-251)  CE - SG: L23 (pp252-263)  CE - TG: L13 (pp177-186)  CE - TG: L14 (pp187-196)  CE - TG: L20 (pp279-292)  CE - TG: L22 (pp303-316)  CE - TG: L23 (pp217-328)  EP - TG: L12 (pp91-100)  PM - TG: L01.Exts (p9)</p>
<p><b>Strand 2: Life Science</b></p>	
<p><i>Standard 2: Living Systems: Characteristics, Structure, and Function</i></p>	
<p>LS.2.7.1  Illustrate the hierarchical relationships of <i>cells</i>, <i>tissues</i>, <i>organs</i>, and <i>organ systems</i></p>	<p>HBS - SG: L01 (pp2-7)  HBS - SG: L18 (pp150-159)  HBS - TG: L01 (pp3-10)  HBS - TG: L07.Exts (pp74-75)  HBS - TG: L18 (pp209-218)</p>
<p>LS.2.7.2  Analyze how two or more <i>organs</i> work together to perform a function (e.g., mouth and stomach to digest food)</p>	

<p>LS.2.7.3 Identify <i>organ systems</i> in <i>vertebrates</i> and plants</p>	<p>EP - RB: (pp07-10) EP - RB: (pp11-13) EP - RB: (pp30-33) EP - TG: L01 (pp9-20) EP - TG: L02 (pp21-30) EP - TG: L05 (pp51-56) EP - TG: L06 (pp57-64) EP - TG: L07 (pp65-70) EP - TG: L09 (pp75-80) EP - TG: L12 (pp91-100) EP - TG: L13 (pp101-104) EP - TG: L14 (pp105-114) EP - TG: L15.Exts (p117) EP - TG: L16 (pp123-128) ES - TG: L07.Exts (pp92-93) HBS - SG: L01 (pp2-7) HBS - TG: L01 (pp3-10) HBS - TG: L07.Exts (pp74-75) MT - RB: (pp59-61) OMM - SG: L05 (pp46-63) OMM - SG: L09 (pp106-119) OMM - SG: L10 (pp120-131) OMM - SG: L18 (pp204-215) OMM - TG: L05 (pp57-72) OMM - TG: L09 (pp151-166) OMM - TG: L10 (pp167-184) OMM - TG: L18 (pp293-302)</p>
<p>LS.2.7.4 Analyze the structure and function of <i>tissues</i>, <i>organs</i>, and <i>organ systems</i> of a <i>vertebrate</i> and an <i>angiosperm</i> using various models or methods of dissection</p>	<p>EP - RB: (pp07-10) EP - RB: (pp11-13) EP - RB: (pp30-33) EP - TG: L01 (pp9-20) EP - TG: L02 (pp21-30) EP - TG: L05 (pp51-56) EP - TG: L06 (pp57-64) EP - TG: L07 (pp65-70) EP - TG: L09 (pp75-80) EP - TG: L12 (pp91-100) EP - TG: L13 (pp101-104) EP - TG: L14 (pp105-114) EP - TG: L15.Exts (p117) EP - TG: L16 (pp123-128) ES - TG: L07.Exts (pp92-93) HBS - SG: L01 (pp2-7) HBS - SG: L18 (pp150-159) HBS - TG: L01 (pp3-10) HBS - TG: L07.Exts (pp74-75) HBS - TG: L18 (pp209-218) MT - RB: (pp59-61) OMM - SG: L05 (pp46-63) OMM - SG: L09 (pp106-119) OMM - SG: L10 (pp120-131) OMM - SG: L18 (pp204-215) OMM - TG: L05 (pp57-72) OMM - TG: L09 (pp151-166) OMM - TG: L10 (pp167-184) OMM - TG: L18 (pp293-302)</p>

<p>LS.2.7.5 Compare and contrast <i>vertebrate</i> systems and plant <i>organ systems</i></p>	<p>EP - RB: (pp07-10) EP - RB: (pp11-13) EP - RB: (pp30-33) EP - TG: L01 (pp9-20) EP - TG: L02 (pp21-30) EP - TG: L05 (pp51-56) EP - TG: L06 (pp57-64) EP - TG: L07 (pp65-70) EP - TG: L09 (pp75-80) EP - TG: L12 (pp91-100) EP - TG: L13 (pp101-104) EP - TG: L14 (pp105-114) EP - TG: L15.Exts (p117) EP - TG: L16 (pp123-128) ES - TG: L07.Exts (pp92-93) HBS - TG: L18.Exts (pp215-216) MT - RB: (pp59-61) OMM - SG: L01 (pp2-11) OMM - SG: L05 (pp46-63) OMM - SG: L09 (pp106-119) OMM - SG: L10 (pp120-131) OMM - SG: L13 (pp158-171) OMM - SG: L18 (pp204-215) OMM - TG: L01 (pp3-14) OMM - TG: L05 (pp57-72) OMM - TG: L09 (pp151-166) OMM - TG: L10 (pp167-184) OMM - TG: L13 (pp219-236) OMM - TG: L18 (pp293-302)</p>
<p>LS.2.7.6 Identify human body systems:</p> <ul style="list-style-type: none"> <li>▪ nervous</li> <li>▪ digestive</li> <li>▪ circulatory</li> <li>▪ respiratory</li> <li>▪ excretory</li> <li>▪ integumentary</li> <li>▪ skeletal/muscular</li> <li>▪ endocrine</li> <li>▪ reproductive</li> </ul>	<p>[HBS does not include nervous, excretory, integumentary, endocrine, and reproductive systems] HBS - SG: L02 (pp8-13) HBS - SG: L04 (pp24-31) HBS - SG: L05 (pp32-39) HBS - SG: L06 (pp40-49) HBS - SG: L07 (pp50-59) HBS - SG: L08 (pp60-65) HBS - SG: L10 (pp76-89) HBS - SG: L11 (pp90-97) HBS - SG: L14 (pp120-129) HBS - SG: L15 (pp130-137) HBS - SG: L16 (pp138-143) HBS - SG: L17 (pp144-147) HBS - SG: L18 (pp150-159) HBS - SG: L19 (pp160-167) HBS - SG: L20 (pp168-173) HBS - SG: L21 (pp174-181) HBS - SG: L22 (pp182-189) HBS - TG: L01 (pp3-10) HBS - TG: L02 (pp11-18) HBS - TG: L05.Exts (p52) HBS - TG: L07 (pp69-80) HBS - TG: L10 (pp113-130) HBS - TG: L11 (pp131-136) HBS - TG: L12.Exts (pp147-148)</p>

	<p>HBS - TG: L14 (pp159-172)  HBS - TG: L15 (pp173-182)  HBS - TG: L16 (pp183-190)  HBS - TG: L17 (pp191-208)  HBS - TG: L18 (pp209-218)  HBS - TG: L19 (pp219-234)  HBS - TG: L20 (p 235-244)  HBS - TG: L21 (pp245-252)  HBS - TG: L22 (pp253-276)  OMM - TG: L02.Exts (p25)  OMM - TG: L07.Exts (pp118-119)  TP - RB: (pp27-29)</p>
<p>LS.2.7.7  Relate the structure of <i>vertebrate</i> and plant body systems to their functions</p>	<p>EP - RB: (pp07-10)  EP - RB: (pp11-13)  EP - RB: (pp30-33)  EP - TG: L01 (pp9-20)  EP - TG: L02 (pp21-30)  EP - TG: L05 (pp51-56)  EP - TG: L06 (pp57-64)  EP - TG: L07 (pp65-70)  EP - TG: L09 (pp75-80)  EP - TG: L12 (pp91-100)  EP - TG: L13 (pp101-104)  EP - TG: L14 (pp105-114)  EP - TG: L15.Exts (p117)  EP - TG: L16 (pp123-128)  ES - TG: L07.Exts (pp92-93)  HBS - TG: L18.Exts (pp215-216)  MT - RB: (pp59-61)  OMM - SG: L01 (pp2-11)  OMM - SG: L05 (pp46-63)  OMM - SG: L09 (pp106-119)  OMM - SG: L10 (pp120-131)  OMM - SG: L13 (pp158-171)  OMM - SG: L18 (pp204-215)  OMM - TG: L01 (pp3-14)  OMM - TG: L05 (pp57-72)  OMM - TG: L09 (pp151-166)  OMM - TG: L10 (pp167-184)  OMM - TG: L13 (pp219-236)  OMM - TG: L18 (pp293-302)</p>
<p>LS.2.7.8  Investigate functions of human body systems</p>	<p>HBS - SG: L01 (pp2-7)  HBS - SG: L04 (pp24-31)  HBS - SG: L05 (pp32-39)  HBS - SG: L06 (pp40-49)  HBS - SG: L07 (pp50-59)  HBS - SG: L08 (pp60-65)  HBS - SG: L10 (pp76-89)  HBS - SG: L11 (pp90-97)  HBS - SG: L14 (pp120-129)  HBS - SG: L16 (pp138-143)  HBS - SG: L17 (pp144-147)  HBS - SG: L18 (pp150-159)  HBS - SG: L19 (pp160-167)  HBS - SG: L20 (pp168-173)  HBS - SG: L21 (pp174-181)</p>

	HBS - SG: L22 (pp182-189) HBS - SG: L23 (pp190-195) HBS - TG: All lessons
LS.2.7.9 Describe interactions between major <i>organ systems</i>	
LS.2.7.10 Investigate careers, scientists, and historical breakthroughs related to life systems	HBS - SG: L09 (pp68-75) HBS - TG: L09 (pp103-112) OMM - SG: L02 (pp12-27) OMM - SG: L11 (pp132-145) OMM - TG: L09.Exts (p160) OMM - TG: L19.Exts (pp317-318)
<i>Standard 3: Life Cycles, Reproduction, and Heredity</i>	
LS.3.7.1 Explain that the fertilized <i>egg cell</i> carries <i>genetic</i> information from each parent and multiplies to form a complete <i>organism</i>	OMM - SG: L09 (pp106-119) OMM - SG: L14 (pp172-179) OMM - TG: L09 (pp151-166) OMM - TG: L14 (pp237-252)
LS.3.7.2 Distinguish between <i>sperm cells</i> and <i>egg cells</i>	OMM - SG: L09 (pp106-119) OMM - SG: L14 (pp172-179) OMM - TG: L09 (pp151-166) OMM - TG: L14 (pp237-252)
LS.3.7.3 Compare and contrast the structure and function of the <i>sperm cell</i> and the <i>egg cell</i> in <i>vertebrates</i> and plants and their role in <i>sexual reproduction</i>	OMM - SG: L03 (pp28-37) OMM - SG: L09 (pp106-119) OMM - SG: L12 (pp146-155) OMM - SG: L14 (pp172-179) OMM - SG: L17 (pp194-203) OMM - SG: L18 (pp204-215) OMM - TG: L03 (pp33-48) OMM - TG: L09 (pp151-166) OMM - TG: L12 (pp201-218) OMM - TG: L14 (pp237-252) OMM - TG: L17 (pp281-292)
LS.3.7.4 Investigate and analyze the development of <i>embryos</i>	
LS.3.7.5 Dissect a poultry <i>egg</i> to analyze its structure (e.g., paper, plastic, or <i>clay</i> models, virtual dissection, or specimen dissection)	
LS.3.7.6 Dissect a flower to analyze the reproductive system of <i>angiosperms</i> (e.g., paper, plastic, or <i>clay</i> models; virtual dissection; or specimen dissection)	EP - RB: (pp07-10) EP - RB: (pp11-13) EP - RB: (pp30-33) EP - TG: L01 (pp9-20) EP - TG: L02 (pp21-30) EP - TG: L05 (pp51-56) EP - TG: L06 (pp57-64) EP - TG: L07 (pp65-70) EP - TG: L09 (pp75-80) EP - TG: L12 (pp91-100) EP - TG: L13 (pp101-104) EP - TG: L14 (pp105-114) EP - TG: L15.Exts (p117) EP - TG: L16 (pp123-128) ES - TG: L07.Exts (pp92-93) MT - RB: (pp59-61) OMM - SG: L05 (pp46-63) OMM - SG: L09 (pp106-119) OMM - SG: L10 (pp120-131)

	<p>OMM - SG: L18 (pp204-215)  OMM - TG: L05 (pp57-72)  OMM - TG: L09 (pp151-166)  OMM - TG: L10 (pp167-184)  OMM - TG: L18 (pp293-302)</p>
<p>LS.3.7.7  Differentiate between sexual and <i>asexual reproduction</i> in</p> <ul style="list-style-type: none"> <li>▪ <i>vertebrates</i></li> <li>▪ <i>plants</i></li> </ul>	<p>OMM - SG: L03 (pp28-37)  OMM - SG: L09 (pp106-119)  OMM - SG: L12 (pp146-155)  OMM - SG: L14 (pp172-179)  OMM - SG: L17 (pp194-203)  OMM - SG: L18 (pp204-215)  OMM - TG: L03 (pp33-48)  OMM - TG: L09 (pp151-166)  OMM - TG: L12 (pp201-218)  OMM - TG: L14 (pp237-252)  OMM - TG: L17 (pp281-292)</p>
<p>LS.3.7.8  Identify the number and source of chromosomes in human body <i>cells</i></p>	<p>OMM - SG: L08 (pp96-105)  OMM - SG: L19 (pp216-235)  OMM - TG: L08 (pp131-150)  OMM - TG: L19 (pp303-330)</p>
<p>LS.3.7.9  Identify the number and source of chromosomes in human sex <i>cells</i></p>	
<p>LS.3.7.10  Explain the role of <i>cell</i> division</p>	<p>OMM - SG: L08 (pp96-105)  OMM - SG: L09 (pp106-119)  OMM - SG: L19 (pp216-235)  OMM - TG: L03.Exts (p41)  OMM - TG: L08 (pp131-150)  OMM - TG: L09 (pp151-166)  OMM - TG: L19 (pp303-330)</p>
<p>LS.3.7.11  Investigate careers, scientists, and historical breakthroughs related to <i>reproduction</i></p>	
<p>LS.3.7.12  Summarize the interactions between <i>organ systems</i> in the maintenance of <i>homeostasis</i></p>	<p>HBS - SG: L22 (pp182-189)  HBS - TG: L22 (pp253-276)</p>
<i>Standard 4: Populations and Ecosystems</i>	
<p>LS.4.7.1  Explain the role of <i>reproduction</i> in the continuation of a <i>species</i></p>	<p>ES - SG: L16 (pp244-265)  ES - TG: L16 (pp245-268)  OMM - SG: L14 (pp172-179)  OMM - SG: L18 (pp204-215)  OMM - TG: L06 (pp73-104)  OMM - TG: L14 (pp237-252)  OMM - TG: L18 (pp293-302)</p>
<b>Strand 3: Physical Science</b>	
<i>Standard 5: Matter: Properties and Changes</i>	
<p>PS.5.7.1  Explain how a small number of naturally-occurring <i>elements</i> can result in the large variety of substances found in the world</p>	
<p>PS.5.7.2  Create models of common <i>compounds</i>:</p> <ul style="list-style-type: none"> <li>▪ <i>water</i></li> <li>▪ <i>carbon dioxide</i></li> </ul>	

<ul style="list-style-type: none"> <li>▪ salt</li> <li>▪ iron oxide</li> <li>▪ ammonia</li> </ul>	
<p>PS.5.7.3 Identify <i>compounds</i> as substances consisting of two or more <i>elements</i> chemically combined</p>	<p>L - TG: L10.Exts (p124) PM - SG: L20 (pp170-185) PM - SG: L21 (pp186-197) PM - SG: L22 (pp198-207) PM - TG: L20 (pp227-240) PM - TG: L21 (pp241-260) PM - TG: L22 (pp263-274) PM - TG: L23.Exts (p284)</p>
<p>PS.5.7.4 Compare and contrast properties of <i>compounds</i> to those of the <i>elements</i> that compose them:</p> <ul style="list-style-type: none"> <li>▪ salt: sodium, chlorine</li> <li>▪ water: hydrogen, oxygen</li> <li>▪ carbon dioxide: carbon, oxygen</li> </ul>	<p>L - TG: L10.Exts (p124) PM - SG: L20 (pp170-185) PM - SG: L21 (pp186-197) PM - SG: L22 (pp198-207) PM - TG: L20 (pp227-240) PM - TG: L21 (pp241-260) PM - TG: L22 (pp263-274) PM - TG: L23.Exts (p284)</p>
<p>PS.5.7.5 Demonstrate techniques for forming and separating <i>mixtures</i>:</p> <ul style="list-style-type: none"> <li>▪ mixing</li> <li>▪ magnetic attraction</li> <li>▪ evaporation</li> <li>▪ filtration</li> <li>▪ chromatography</li> <li>▪ settling</li> </ul>	<p>PM - SG: L01 (pp2-13) PM - SG: L11 (pp98-105) PM - SG: L12 (pp106-111) PM - SG: L14 (pp116-121) PM - SG: L15 (pp122-129) PM - SG: L17 (pp140-149) PM - SG: L18 (pp150-161) PM - SG: L19 (pp162-167) PM - TG: L01 (pp3-14) PM - TG: L11 (pp125-134) PM - TG: L12 (pp135-142) PM - TG: L14 (pp153-160) PM - TG: L15 (pp161-168) PM - TG: L16.Exts (p178) PM - TG: L17 (pp179-192) PM - TG: L18 (pp193-208) PM - TG: L19 (pp209-226) PM - TG: L22.Exts (p270) TP - TG: L11 (pp149-156)</p>
<p>PS.5.7.6 Classify substances as</p> <ul style="list-style-type: none"> <li>▪ <i>elements</i></li> <li>▪ <i>compounds</i></li> <li>▪ <i>mixtures</i></li> </ul>	<p>L - TG: L10.Exts (p124) PM - SG: L01 (pp2-13) PM - SG: L11 (pp98-105) PM - SG: L12 (pp106-111) PM - SG: L14 (pp116-121) PM - SG: L15 (pp122-129) PM - SG: L17 (pp140-149) PM - SG: L18 (pp150-161) PM - SG: L19 (pp162-167) PM - SG: L20 (pp170-185) PM - SG: L21 (pp186-197) PM - SG: L22 (pp198-207) PM - TG: L01 (pp3-14) PM - TG: L11 (pp125-134) PM - TG: L12 (pp135-142) PM - TG: L14 (pp153-160) PM - TG: L15 (pp161-168)</p>

	PM - TG: L16.Exts (p178) PM - TG: L17 (pp179-192) PM - TG: L18 (pp193-208) PM - TG: L19 (pp209-226) PM - TG: L20 (pp227-240) PM - TG: L21 (pp241-260) PM - TG: L22 (pp263-274) PM - TG: L23.Exts (p284) TP - TG: L11 (pp149-156)
PS.5.7.7 Distinguish among <i>solvent</i> , <i>solute</i> , and <i>solution</i>	CE - SG: L22 (pp240-251) CE - TG: L22 (pp303-316) PM - SG: L11 (pp98-105) PM - SG: L12 (pp106-111) PM - SG: L13 (pp112-115) PM - SG: L14 (pp116-121) PM - SG: L15 (pp122-129) PM - SG: L16 (pp130-139) PM - SG: L17 (pp140-149) PM - SG: L18 (pp150-161) PM - TG: L11 (pp125-134) PM - TG: L12 (pp135-142) PM - TG: L13 (pp143-152) PM - TG: L14 (pp153-160) PM - TG: L15 (pp161-168) PM - TG: L16 (pp169-178) PM - TG: L17 (pp179-192) PM - TG: L18 (pp193-208) TP - TG: L04.Exts (pp65-66)
PS.5.7.8 Investigate the effect of <i>variables</i> on <i>solubility rates</i>	
PS.5.7.9 Interpret solubility graphs	PM - SG: L01 (pp2-13) PM - SG: L12 (pp106-111) PM - SG: L13 (pp112-115) PM - SG: L15 (pp122-129) PM - SG: L16 (pp130-139) PM - SG: L17 (pp140-149) PM - SG: L19 (pp162-167) PM - TG: L01 (pp3-14) PM - TG: L12 (pp135-142) PM - TG: L13 (pp143-152) PM - TG: L15 (pp161-168) PM - TG: L16 (pp169-178) PM - TG: L17 (pp179-192) PM - TG: L19 (pp209-226)
PS.5.7.10 Investigate scientists, careers, and historical breakthroughs related to <i>elements</i> , <i>mixtures</i> , and <i>compounds</i>	
<i>Standard 6: Motion and Forces</i>	
PS.6.7.1 Compare and contrast Newton's three laws of motion	ES - TG: L16 (pp245-268)
PS.6.7.2 Conduct investigations demonstrating Newton's first law of motion	CE - SG: L12 (pp134-153) CE - TG: L12 (pp163-176) EMM - SG: L21 (pp214-225) EMM - TG: L18.Exts (p224) ES - SG: L15 (pp216-243)

	ES - TG: L15 (pp221-244)
PS.6.7.3 Demonstrate Newton's second law of motion	EMM - SG: L21 (pp214-225) EMM - TG: L18.Exts (p224) ES - TG: L15 (pp221-244)
PS.6.7.4 Conduct investigations of Newton's third law of motion	EMM - SG: L19 (pp188-199) EMM - SG: L21 (pp214-225) L - TG: L02 (pp21-36)
PS.6.7.5 Explain how Newton's three laws of motion apply to real world situations (e.g., sports, transportation)	ES - TG: L16 (pp245-268)
PS.6.7.6 Investigate careers, scientists, and historical breakthroughs related to laws of motion	EECD - TG: L14.Exts (p210)
<i>Standard 7: Energy and Transfer of Energy</i>	
PS.7.7.1 Identify <i>natural resources</i> used to supply energy needs	EECD - TG: L01.Exts (p16) EMM - SG: L09 (pp82-91)
PS.7.7.2 Describe alternatives to the use of <i>fossil fuels</i> : <ul style="list-style-type: none"> <li>▪ <i>solar energy</i></li> <li>▪ <i>geothermal energy</i></li> <li>▪ <i>wind</i></li> <li>▪ <i>hydroelectric power</i></li> <li>▪ <i>nuclear energy</i></li> <li>▪ <i>biomass</i></li> </ul>	EECD - SG: L19 (pp196-209) EECD - TG: L19 (pp263-276) EMM - TG: L04.Exts (pp41-42)
PS.7.7.3 Conduct investigations to identify types of <i>potential energy</i> and <i>kinetic energy</i>	EECD - SG: L09 (pp94-103) EECD - TG: L09 (pp123-142) EMM - SG: L10 (pp92-97) EMM - SG: L20 (pp200-213) EMM - SG: L21 (pp214-225) EMM - TG: L20 (pp235-238) EMM - TG: L21 (pp239-246) L - TG: L02 (pp21-36)
PS.7.7.4 Investigate alternative <i>energy</i> sources	EECD - SG: L19 (pp196-209) EECD - TG: L19 (pp263-276) EMM - TG: L04.Exts (pp41-42)
PS.7.7.5 Investigate careers, scientists, and historical breakthroughs related to <i>natural resources</i> , alternative resources, <i>electricity</i> , and <i>magnetism</i>	CE - SG: L01 (pp2-11) CE - SG: L04 (pp42-53) CE - SG: L12 (pp134-153) CE - SG: L19 (pp210-223) CE - TG: L01 (pp3-16) CE - TG: L04 (pp45-56) CE - TG: L12 (pp163-176) CE - TG: L14.Exts (pp193-194) CE - TG: L19 (pp265-278)
<b>Strand 4: Earth and Space Science</b>	
<i>Standard 8: Earth Systems</i>	
ESS.8.7.1 Describe the composition and physical characteristics of the <i>atmosphere</i>	CE - SG: L01 (pp2-11) CE - SG: L02 (pp12-25) CE - SG: L03 (pp26-41) CE - SG: L04 (pp42-53) CE - SG: L05 (pp54-67) CE - TG: L01 (pp3-16) CE - TG: L02 (pp17-26)

	CE - TG: L03 (pp27-44) CE - TG: L04 (pp45-56) CE - TG: L05 (pp57-68) CE - TG: L06.Exts (pp77-78) ES - SG: L17 (pp268-289) ES - TG: L17 (pp269-276) PM - TG: L05.Exts (p56)
ESS.8.7.2 Investigate the influence of global patterns on local weather: <ul style="list-style-type: none"> <li>▪ movement of air masses</li> <li>▪ <i>Coriolis effect</i></li> <li>▪ <i>jet stream</i></li> <li>▪ global wind belts</li> </ul>	CE - SG: L02 (pp12-25) CE - SG: L03 (pp26-41) CE - SG: L05 (pp54-67) CE - SG: L06 (pp68-79) CE - SG: L07 (pp80-95) CE - TG: L02 (pp17-26) CE - TG: L03 (pp27-44) CE - TG: L05 (pp57-68) CE - TG: L06 (pp69-82) CE - TG: L07 (pp83-102)
ESS.8.7.3 Conduct investigations demonstrating the effects of <i>solar energy</i> on the <i>atmosphere</i>	CE - SG: L02 (pp12-25) CE - SG: L03 (pp26-41) CE - SG: L04 (pp42-53) CE - SG: L06 (pp68-79) CE - SG: L07 (pp80-95) CE - TG: L02 (pp17-26) CE - TG: L03 (pp27-44) CE - TG: L04 (pp45-56) CE - TG: L06 (pp69-82) CE - TG: L07 (pp83-102) EECD - SG: L19 (pp196-209) EECD - TG: L19 (pp263-276) EMM - TG: L04.Exts (pp41-42) ES - SG: L07 (pp88-101) ES - SG: L08 (pp102-121) ES - SG: L09 (pp122-127) ES - TG: L07 (pp83-96) ES - TG: L08 (pp97-120) ES - TG: L09 (pp121-146) ES - TG: L16.Exts (p256) L - SG: L02 (pp20-31) PM - SG: L05 (pp38-55) PM - TG: L05 (pp49-64)
ESS.8.7.4 Investigate the effect that oceans have on <i>climate</i>	CE - SG: L07 (pp80-95) CE - TG: L07 (pp83-102)
ESS.8.7.5 Identify <i>elements</i> of weather: <ul style="list-style-type: none"> <li>▪ <i>temperature</i></li> <li>▪ air pressure</li> <li>▪ wind <i>speed</i></li> <li>▪ wind direction</li> <li>▪ <i>humidity</i></li> </ul>	CE - SG: L02 (pp12-25) CE - SG: L03 (pp26-41) CE - SG: L04 (pp42-53) CE - SG: L05 (pp54-67) CE - SG: L07 (pp80-95) CE - TG: L02 (pp17-26) CE - TG: L03 (pp27-44) CE - TG: L04 (pp45-56) CE - TG: L05 (pp57-68) CE - TG: L06.Exts (pp77-78) CE - TG: L07 (pp83-102) L - TG: L03.Exts (p43)

<p>ESS.8.7.6 Conduct investigations using weather measurement devices:</p> <ul style="list-style-type: none"> <li>▪ <i>anemometers</i></li> <li>▪ <i>barometers</i></li> <li>▪ <i>sliding psychrometers</i></li> <li>▪ <i>thermometers</i></li> <li>▪ <i>weather charts</i></li> </ul>	<p>CE - SG: L01 (pp2-11) CE - SG: L02 (pp12-25) CE - SG: L06 (pp68-79) CE - TG: L01 (pp3-16) CE - TG: L02 (pp17-26) CE - TG: L06 (pp69-82) CE - TG: L08.Exts (p108) CE - TG: L24.Exts (pp337-338)</p>
<p>ESS.8.7.7 Predict weather conditions using data on the following:</p> <ul style="list-style-type: none"> <li>▪ <i>temperature</i></li> <li>▪ air pressure: highs, lows, fronts</li> <li>▪ clouds</li> <li>▪ wind <i>speed</i></li> <li>▪ wind direction</li> <li>▪ <i>humidity</i></li> </ul>	
<p>ESS.8.7.8 Identify the causes and effects of weather-related phenomena:</p> <ul style="list-style-type: none"> <li>▪ thunderstorms</li> <li>▪ tornadoes/hurricanes/cyclones/typhoons</li> <li>▪ drought</li> <li>▪ <i>acid precipitation</i></li> </ul>	<p>CE - SG: L02 (pp12-25) CE - SG: L03 (pp26-41) CE - SG: L04 (pp42-53) CE - SG: L05 (pp54-67) CE - SG: L06 (pp68-79) CE - SG: L07 (pp80-95) CE - SG: L24 (pp264-273) CE - TG: L02 (pp17-26) CE - TG: L03 (pp27-44) CE - TG: L04 (pp45-56) CE - TG: L05 (pp57-68) CE - TG: L06 (pp69-82) CE - TG: L07 (pp83-102) CE - TG: L24 (pp329-346) L - TG: L03.Exts (p43)</p>
<p>ESS.8.7.9 Explain tornado belt weather patterns using a map of the United States</p>	
<p>ESS.8.7.10 Describe ways human beings protect themselves, others, and their property from adverse weather conditions</p>	
<p>ESS.8.7.11 Describe and map <i>climates</i> of major Earth regions</p>	<p>CE - SG: L07 (pp80-95) CE - TG: L07 (pp83-102) ES - SG: L19 (pp312-323) ES - TG: L19 (pp287-292) HBS - TG: L22.Exts (p258)</p>
<p>ESS.8.7.12 Analyze the effect of the shape of Earth and the tilt of Earth's <i>axis</i> on <i>climate</i></p>	<p>CE - SG: L03 (pp26-41) CE - SG: L07 (pp80-95) CE - TG: L01.Exts (pp10-11) CE - TG: L03 (pp27-44) CE - TG: L07 (pp83-102) ES - SG: L02 (pp12-21) ES - SG: L03 (pp22-41) ES - SG: L04 (pp42-61) ES - SG: L06 (pp74-87) ES - SG: L08 (pp102-121) ES - TG: L02 (pp11-20) ES - TG: L03 (pp21-36)</p>

	<p>ES - TG: L04 (pp37-52)  ES - TG: L06 (pp73-82)  ES - TG: L08 (pp97-120)  MT - RB: (pp24-27)  MT - RB: (pp30-34)  MT - TG: L02 (pp21-30)</p>
<p>ESS.8.7.13  Identify and explain the effects that human activities have on weather and <i>atmosphere</i></p>	<p>ES - SG: L17 (pp268-289)  ES - SG: L19 (pp312-323)  ES - TG: L17 (pp269-276)  ES - TG: L19 (pp287-292)  OMM - TG: L17.Exts (pp287-288)</p>
<p>ESS.8.7.14  Describe causes and effects of <i>acid precipitation</i></p>	<p>EP - TG: L02.Exts (p24)  PM - SG: L12 (pp106-111)  PM - TG: L12.Exts (p140)</p>
<p>ESS.8.7.15  Investigate careers, scientists, and historical breakthroughs related to <i>atmosphere</i> and weather</p>	<p>CE - SG: L01 (pp2-11)  CE - SG: L04 (pp42-53)  CE - SG: L12 (pp134-153)  CE - SG: L19 (pp210-223)  CE - TG: L01 (pp3-16)  CE - TG: L04 (pp45-56)  CE - TG: L12 (pp163-176)  CE - TG: L14.Exts (pp193-194)  CE - TG: L19 (pp265-278)</p>
<p>ESS.8.7.16  Conduct investigations demonstrating the <i>water cycle</i></p>	<p>CE - SG: L06 (pp68-79)  CE - TG: L06 (pp69-82)  PM - SG: L01 (pp2-13)</p>
<p>ESS.8.7.17  Explain the relationship between the <i>water cycle</i> and ground water</p>	<p>CE - SG: L06 (pp68-79)  CE - TG: L06 (pp69-82)  PM - SG: L01 (pp2-13)</p>
<p>ESS.8.7.18  Investigate cloud formation</p>	<p>CE - SG: L02 (pp12-25)  CE - SG: L06 (pp68-79)  CE - TG: L02 (pp17-26)  CE - TG: L06 (pp69-82)</p>
<p>ESS.8.7.19  Conduct investigations demonstrating the <i>greenhouse effect</i></p>	<p>CE - SG: L03 (pp26-41)  CE - TG: L03 (pp27-44)  CE - TG: L08.Exts (p108)  ES - SG: L17 (pp268-289)  ES - SG: L19 (pp312-323)  ES - TG: L17 (pp269-276)  ES - TG: L19 (pp287-292)</p>
<p>ESS.8.7.20  Research how human activities may contribute to <i>global warming</i></p>	<p>ES - SG: L17 (pp268-289)  ES - SG: L19 (pp312-323)  ES - TG: L17 (pp269-276)  ES - TG: L19 (pp287-292)  OMM - TG: L17.Exts (pp287-288)</p>
<p>ESS.8.7.21  Explain examples of actual events that cause temporary <i>climate</i> changes:</p> <ul style="list-style-type: none"> <li>▪ volcanic dust</li> <li>▪ drought</li> <li>▪ <i>meteor</i> impact</li> </ul>	<p>CE - SG: L03 (pp26-41)  CE - TG: L03 (pp27-44)  CE - TG: L08.Exts (p108)  ES - SG: L17 (pp268-289)  ES - SG: L19 (pp312-323)  ES - TG: L17 (pp269-276)  ES - TG: L19 (pp287-292)  OMM - TG: L17.Exts (pp287-288)</p>
<p><i>Standard 9: Earth's History</i></p>	

ESS.9.7.1 Analyze charts to infer past atmospheric conditions based on the <i>organisms</i> found in the <i>fossil</i> record	
ESS.9.7.2 Demonstrate that Earth has a magnetic field that is detectable at the surface with a compass	ES - TG: L08.Exts (pp108-109) MM - RB: (pp09-11)
ESS.9.7.3 Compare and contrast Earth’s magnetic field to those of natural or human-made magnets with <ul style="list-style-type: none"> <li>▪ North and South poles</li> <li>▪ lines of force</li> </ul>	ES - TG: L08.Exts (pp108-109) MM - RB: (pp07-08) MM - RB: (pp09-11) MM - RB: (pp12-13) MM - RB: (pp14-16) MM - RB: (pp17-20) MM - RB: (pp23-25) MM - TG: L01 (pp7-10) MM - TG: L02 (pp11-14) MM - TG: L03 (pp15-20) MM - TG: L04 (pp21-26) MM - TG: L06.Exts (p39) MM - TG: L07 (pp43-48) MM - TG: L10.Exts (p69) MM - TG: L12 (pp77-82) MM - TG: L14 (pp89-94) MM - TG: L15 (pp95-98) MM - TG: L16 (pp99-102) MM - TG: L17 (pp103-108)
ESS.9.7.4 Analyze evidence of sea floor spreading: <ul style="list-style-type: none"> <li>▪ magnetic reversal</li> <li>▪ molten material</li> <li>▪ drilling samples</li> </ul>	CE - SG: L13 (pp154-163) CE - SG: L15 (pp170-189) CE - SG: L16 (pp190-193) CE - SG: L18 (pp200-209) CE - TG: L13 (pp177-186) CE - TG: L15 (pp197-218) CE - TG: L16 (pp219-232) CE - TG: L18 (pp257-264) MM - RB: (pp09-11)
ESS.9.7.5 Research ways in which people have used compasses	MM - RB: (pp12-13) MM - RB: (pp17-20) MM - RB: (pp21-22) MM - TG: L05 (pp27-36) MM - TG: L06 (pp37-42) MM - TG: L07 (pp43-48) MM - TG: L12 (pp77-82)
<i>Standard 10: Objects in the Universe</i>	
ESS.10.7.1 Identify and model the causes of night and day	CE - SG: L03 (pp26-41) CE - SG: L07 (pp80-95) CE - TG: L01.Exts (pp10-11) CE - TG: L03 (pp27-44) CE - TG: L07 (pp83-102) ES - SG: L02 (pp12-21) ES - SG: L03 (pp22-41) ES - SG: L04 (pp42-61) ES - SG: L06 (pp74-87) ES - SG: L08 (pp102-121) ES - TG: L02 (pp11-20) ES - TG: L03 (pp21-36) ES - TG: L04 (pp37-52)

	<p>ES - TG: L06 (pp73-82)  ES - TG: L08 (pp97-120)  MT - RB: (pp24-27)  MT - RB: (pp30-34)  MT - TG: L02 (pp21-30)</p>
<p>ESS.10.7.2  Compare and contrast Earth’s day to those of other planets in our <i>solar system</i></p>	<p>ES - SG: L10 (pp130-145)  ES - SG: L11 (pp146-159)  ES - SG: L13 (pp174-199)  ES - SG: L14 (pp200-215)  ES - SG: L15 (pp216-243)  ES - SG: L16 (pp244-265)  ES - TG: L10 (pp147-158)  EP - TG: L11 (pp85-90)  EP - TG: L13 (pp101-104)  ES - TG: L14 (pp209-220)  ES - TG: L15 (pp221-244)  ES - TG: L16 (pp245-268)</p>
<p>ESS.10.7.3  Identify and model the cause of <i>planetary years</i></p>	<p>ES - SG: L02 (pp12-21)  ES - SG: L05 (pp62-73)  ES - SG: L06 (pp74-87)  ES - SG: L14 (pp200-215)  ES - SG: L15 (pp216-243)  ES - SG: L22 (pp340-343)  ES - TG: L02 (pp11-20)  ES - TG: L05 (pp53-72)  ES - TG: L06 (pp73-82)  ES - TG: L14 (pp209-220)  ES - TG: L15 (pp221-244)  ES - TG: L16.Exts (p256)  ES - TG: L22 (pp311-326)</p>
<p>ESS.10.7.4  Compare and contrast Earth’s year to those of other planets in our <i>solar system</i></p>	<p>ES - SG: L02 (pp12-21)  ES - SG: L05 (pp62-73)  ES - SG: L06 (pp74-87)  ES - SG: L14 (pp200-215)  ES - SG: L15 (pp216-243)  ES - SG: L22 (pp340-343)  ES - TG: L02 (pp11-20)  ES - TG: L05 (pp53-72)  ES - TG: L06 (pp73-82)  ES - TG: L14 (pp209-220)  ES - TG: L15 (pp221-244)  ES - TG: L16.Exts (p256)  ES - TG: L22 (pp311-326)</p>
<p>ESS.10.7.5  Identify and model the causes of seasons</p>	<p>CE - TG: L01.Exts (pp10-11)  CE - TG: L07.Exts (p95)  ES - SG: L03 (pp22-41)  ES - SG: L04 (pp42-61)  ES - TG: L03 (pp21-36)  ES - TG: L04 (pp37-52)  MT - RB: (pp10-14)</p>
<p>ESS.10.7.6  Investigate careers, scientists, and historical breakthroughs related to rotations and revolutions of bodies in space</p>	

## GRADE 8

Strand 1: Nature of Science	Curriculum Location
<i>Standard 1: Characteristics and Processes of Science</i>	
NS.1.8.1 Justify conclusions based on appropriate and unbiased observations	CE - SG: L12 (pp134-153) CE - SG: L22 (pp240-251) CE - SG: L23 (pp252-263) CE - SG: L24 (pp264-273) CE - SG: L25 (pp274-282) CE - TG: L12 (pp163-176) CE - TG: L22 (pp303-316) CE - TG: L23 (pp217-328) CE - TG: L24 (pp329-346) CE - TG: L25 (pp347-372) EECD - SG: L20 (pp210-213) EECD - TG: L20 (pp277-290) EMM - SG: L07 (pp62-71) EMM - TG: L04 (pp37-46) EMM - TG: L07 (pp75-84) EMM - TG: L13 (pp157-166) EMM - TG: L18 (pp217-228) EMM - TG: L19 (pp229-234) ES - SG: L04 (pp42-61) ES - SG: L22 (pp340-343) ES - TG: L04 (pp37-52) ES - TG: L22 (pp311-326) PM - SG: L16 (pp130-139) PM - TG: L16 (pp169-178)
NS.1.8.2 Evaluate the merits of <i>empirical evidence</i> based on <i>experimental design</i> : <ul style="list-style-type: none"> <li>▪ <i>hypothesis</i></li> <li>▪ replication</li> <li>▪ sample size</li> <li>▪ appropriate use of <i>control</i></li> <li>▪ use of standardized <i>independent</i> and <i>dependent variables</i></li> </ul>	EMM - SG: L07 (pp62-71) EMM - TG: L07 (pp75-84) PM - SG: L13 (pp112-115) PM - SG: L15 (pp122-129) PM - SG: L16 (pp130-139) PM - SG: L23 (pp208-217) PM - SG: L24 (pp218-223) PM - TG: L13 (pp143-152) PM - TG: L15 (pp161-168) PM - TG: L16 (pp169-178) PM - TG: L23 (pp275-294) PM - TG: L24 (pp295-302)
NS.1.8.3 Formulate a testable problem using <i>experimental design</i>	EMM - SG: L07 (pp62-71) EMM - TG: L07 (pp75-84) PM - SG: L13 (pp112-115) PM - SG: L15 (pp122-129) PM - SG: L16 (pp130-139) PM - SG: L23 (pp208-217) PM - SG: L24 (pp218-223) PM - TG: L13 (pp143-152) PM - TG: L15 (pp161-168) PM - TG: L16 (pp169-178) PM - TG: L23 (pp275-294) PM - TG: L24 (pp295-302)
NS.1.8.4 Analyze a set of scientific data using mean, median, mode, and range using <i>SI units</i>	

NS.1.8.5

Suggest *solutions* to real world problems by analyzing scientific data in

- data tables/charts
- histograms
- circle graphs
- *scatter plots*
- *stem and leaf plots*
- line and double line
- graphs by approximating line of best fit

CE - SG: L12 (pp134-153)  
CE - SG: L13 (pp154-163)  
CE - SG: L15 (pp170-189)  
CE - SG: L17 (pp194-197)  
CE - SG: L19 (pp210-223)  
CE - SG: L20 (pp224-231)  
CE - SG: L21 (pp232-239)  
CE - SG: L23 (pp252-263)  
CE - SG: L24 (pp264-273)  
CE - SG: L25 (pp274-282)  
CE - TG: L04.Exts (p54)  
CE - TG: L06.Exts (pp77-78)  
CE - TG: L12 (pp163-176)  
CE - TG: L13 (pp177-186)  
CE - TG: L15 (pp197-218)  
CE - TG: L16.Exts (p225)  
CE - TG: L17 (pp233-256)  
CE - TG: L19 (pp265-278)  
CE - TG: L20 (pp279-292)  
CE - TG: L21 (pp293-302)  
CE - TG: L22.Exts (p312)  
CE - TG: L23 (pp217-328)  
CE - TG: L24 (pp329-346)  
CE - TG: L25 (pp347-372)  
EECD - SG: L08 (pp84-93)  
EECD - SG: L11 (pp118-121)  
EECD - SG: L13 (pp134-141)  
EECD - SG: L15 (pp156-167)  
EECD - SG: L16 (pp168-173)  
EECD - SG: L17 (pp174-185)  
EECD - SG: L18 (pp186-195)  
EECD - TG: L08 (pp111-122)  
EECD - TG: L09.Exts (pp134-135)  
EECD - TG: L10.Exts (pp152-153)  
EECD - TG: L11 (pp157-168)  
EECD - TG: L13 (pp181-204)  
EECD - TG: L15 (pp213-226)  
EECD - TG: L16 (pp227-240)  
EECD - TG: L17 (pp240-248)  
EECD - TG: L18 (pp249-262)  
EMM - SG: L04 (pp26-35)  
EMM - SG: L05 (pp36-47)  
EMM - SG: L07 (pp62-71)  
EMM - SG: L08 (pp72-81)  
EMM - SG: L09 (pp82-91)  
EMM - SG: L10 (pp92-97)  
EMM - SG: L11 (pp100-107)  
EMM - SG: L12 (pp108-119)  
EMM - SG: L13 (pp120-129)  
EMM - SG: L15 (pp140-147)  
EMM - SG: L18 (pp174-187)  
EMM - TG: L04 (pp37-46)  
EMM - TG: L05 (pp47-58)  
EMM - TG: L06 (pp59-74)  
EMM - TG: L07 (pp75-84)  
EMM - TG: L08 (pp85-98)

	<p>EMM - TG: L09 (pp99-106)</p> <p>EMM - TG: L10 (pp107-130)</p> <p>EMM - TG: L11 (pp131-146)</p> <p>EMM - TG: L12 (pp147-156)</p> <p>EMM - TG: L13 (pp157-166)</p> <p>EMM - TG: L15 (pp177-184)</p> <p>EMM - TG: L16 (pp185-202)</p> <p>EMM - TG: L18 (pp217-228)</p> <p>EMM - TG: L19 (pp229-234)</p> <p>ES - SG: L03 (pp22-41)</p> <p>ES - SG: L04 (pp42-61)</p> <p>ES - SG: L22 (pp340-343)</p> <p>ES - TG: L03 (pp21-36)</p> <p>ES - TG: L04 (pp37-52)</p> <p>ES - TG: L22 (pp311-326)</p> <p>HBS - SG: L21 (pp174-181)</p> <p>HBS - TG: L09 (pp103-112)</p> <p>HBS - TG: L15.Exts (p178)</p> <p>HBS - TG: L20.Exts (p239)</p> <p>HBS - TG: L21 (pp245-252)</p> <p>L - SG: L01 (pp2-19)</p> <p>L - SG: L04 (pp40-47)</p> <p>L - SG: L05 (pp48-57)</p> <p>L - SG: L07 (pp68-81)</p> <p>L - SG: L09 (pp92-107)</p> <p>L - SG: L10 (pp108-115)</p> <p>L - SG: L11 (pp116-131)</p> <p>L - SG: L12 (pp132-137)</p> <p>L - SG: L13 (pp138-141)</p> <p>L - SG: L17 (pp186-199)</p> <p>L - SG: L18 (pp200-213)</p> <p>L - SG: L19 (pp214-223)</p> <p>L - SG: L20 (pp224-227)</p> <p>L - SG: L21 (pp230-243)</p> <p>L - SG: L24 (pp266-283)</p> <p>L - SG: L25 (pp284-293)</p> <p>L - SG: L26 (pp294-297)</p> <p>L - TG: L01 (pp3-20)</p> <p>L - TG: L04 (pp49-58)</p> <p>L - TG: L05 (pp59-72)</p> <p>L - TG: L07 (pp83-98)</p> <p>L - TG: L09.Exts (p115)</p> <p>L - TG: L10 (pp119-126)</p> <p>L - TG: L11 (pp127-136)</p> <p>L - TG: L12 (pp137-152)</p> <p>L - TG: L13 (pp153-168)</p> <p>L - TG: L18 (pp225-246)</p> <p>L - TG: L19 (pp247-274)</p> <p>L - TG: L20 (pp275-294)</p> <p>L - TG: L21 (pp295-304)</p> <p>L - TG: L24 (pp319-334)</p> <p>L - TG: L25 (pp335-348)</p> <p>L - TG: L26 (pp349-367)</p> <p>PM - SG: L03 (pp24-29)</p> <p>PM - SG: L04 (pp30-37)</p> <p>PM - SG: L06 (pp56-63)</p>
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	<p>PM - SG: L07 (pp64-73)  PM - SG: L08 (pp74-77)  PM - SG: L09 (pp78-83)  PM - SG: L10 (pp86-97)  PM - SG: L13 (pp112-115)  PM - SG: L14 (pp116-121)  PM - SG: L17 (pp140-149)  PM - SG: L19 (pp162-167)  PM - SG: L21 (pp186-197)  PM - SG: L23 (pp208-217)  PM - SG: L24 (pp218-223)  PM - SG: L26 (pp230-235)  PM - TG: L02.Exts (p21)  PM - TG: L03 (pp27-38)  PM - TG: L04 (pp39-48)  PM - TG: L06 (pp65-78)  PM - TG: L07 (pp79-90)  PM - TG: L08 (pp91-100)  PM - TG: L09 (pp101-112)  PM - TG: L10 (pp113-124)  PM - TG: L13 (pp143-152)  PM - TG: L14 (pp153-160)  PM - TG: L17 (pp179-192)  PM - TG: L19 (pp209-226)  PM - TG: L21 (pp241-260)  PM - TG: L22.Exts (p270)  PM - TG: L23 (pp275-294)  PM - TG: L24 (pp295-302)  PM - TG: L26 (pp313-332)</p>
<p>NS.1.8.6  Formulate inferences based on scientific data</p>	<p>EECD - SG: L04 (pp36-45)  EECD - SG: L06 (pp58-69)  EECD - SG: L09 (pp94-103)  EECD - TG: L04 (pp49-60)  EECD - TG: L06 (pp77-92)  EECD - TG: L09 (pp123-142)  HBS - SG: L07 (pp50-59)  HBS - TG: L07 (pp69-80)</p>
<p>NS.1.8.7  Communicate results and conclusions from scientific inquiry following peer review</p>	<p>CE - SG: All lessons  CE - TG: All lessons  EECD - SG: L03 (pp26-35)  EECD - SG: L24 (pp244-251)  EECD - TG: L03 (pp37-48)  EECD - TG: L24 (pp313-326)  ES - SG: L01 (pp2-11)  ES - SG: L05 (pp62-73)  ES - SG: L09 (pp122-127)  ES - SG: L10 (pp130-145)  ES - SG: L11 (pp146-159)  ES - SG: L14 (pp200-215)  ES - SG: L18 (pp290-311)  ES - SG: L19 (pp312-323)  ES - SG: L22 (pp340-343)  ES - TG: L01 (pp3-10)  ES - TG: L05 (pp53-72)  ES - TG: L09 (pp121-146)  ES - TG: L10 (pp147-158)</p>

	<p>ES - TG: L11 (pp159-180)  ES - TG: L13 (pp197-208)  ES - TG: L14 (pp209-220)  ES - TG: L18 (pp277-286)  ES - TG: L19 (pp287-292)  ES - TG: L20.Exts (p297)  ES - TG: L21.Exts (p310)  ES - TG: L22 (pp311-326)  HBS - SG: L09 (pp68-75)  HBS - TG: L09 (pp103-112)  OMM - TG: L02 (pp15-32)</p>
<p>NS.1.8.8  Develop and implement strategies for long-term, accurate data collection</p>	<p>CE - SG: All lessons  CE - TG: All lessons  EECD - SG: L03 (pp26-35)  EECD - SG: L08 (pp84-93)  EECD - SG: L13 (pp134-141)  EECD - TG: L03 (pp37-48)  EECD - TG: L08 (pp111-122)  EECD - TG: L13 (pp181-204)  EMM - SG: L10 (pp92-97)  EMM - SG: L13 (pp120-129)  EMM - SG: L15 (pp140-147)  EMM - TG: L04 (pp37-46)  EMM - TG: L07 (pp75-84)  EMM - TG: L10 (pp107-130)  EMM - TG: L13 (pp157-166)  EMM - TG: L15 (pp177-184)  ES - SG: L01 (pp2-11)  ES - SG: L05 (pp62-73)  ES - SG: L09 (pp122-127)  ES - SG: L11 (pp146-159)  ES - SG: L14 (pp200-215)  ES - SG: L18 (pp290-311)  ES - TG: L01 (pp3-10)  ES - TG: L05 (pp53-72)  ES - TG: L09 (pp121-146)  ES - TG: L11 (pp159-180)  ES - TG: L14 (pp209-220)  ES - TG: L18 (pp277-286)  HBS - SG: L20 (pp168-173)  HBS - SG: L21 (pp174-181)  HBS - TG: L09 (pp103-112)  HBS - TG: L20 (p 235-244)  HBS - TG: L21 (pp245-252)  PM - SG: L11 (pp98-105)  PM - TG: L08.Exts (p96)  PM - TG: L11 (pp125-134)</p>
<p>NS.1.8.9  Generate questions that can and cannot be answered by science</p>	<p>CE - SG: L01 (pp2-11)  CE - SG: L12 (pp134-153)  CE - SG: L14 (pp164-169)  CE - SG: L17 (pp194-197)  CE - SG: L19 (pp210-223)  CE - SG: L23 (pp252-263)  CE - SG: L24 (pp264-273)  CE - SG: L25 (pp274-282)  CE - TG: L01 (pp3-16)</p>

	<p>CE - TG: L12 (pp163-176)  CE - TG: L14 (pp187-196)  CE - TG: L17 (pp233-256)  CE - TG: L19 (pp265-278)  CE - TG: L23 (pp217-328)  CE - TG: L24 (pp329-346)  CE - TG: L25 (pp347-372)  ES - SG: L01 (pp2-11)  ES - SG: L02 (pp12-21)  ES - SG: L21 (pp334-339)  ES - SG: L22 (pp340-343)  ES - TG: L01 (pp3-10)  ES - TG: L02 (pp11-20)  ES - TG: L21 (pp309-310)  ES - TG: L22 (pp311-326)  L - SG: L01 (pp2-19)  L - TG: L01 (pp3-20)</p>
<p>NS.1.8.10  Explain the role of peer review, evidence, and modification in the development of a theory</p>	<p>CE - TG: L06.Exts (pp77-78)  CE - TG: L09.Exts (p132)  CE - TG: L13.Exts (p182)  CE - TG: L14.Exts (pp193-194)  CE - TG: L18.Exts (pp262-263)  CE - TG: L23.Exts (pp325-326)  EMM - SG: L17 (pp164-173)  EMM - TG: L17 (pp203-216)  EMM - TG: L20.Exts (p238)  ES - TG: L01.Exts (p10)  HBS - TG: L01.Exts (p7)  HBS - TG: L06.Exts (p63)  HBS - TG: L08.Exts (p85)  HBS - TG: L10.Exts (p122)  HBS - TG: L11.Exts (p135)  HBS - TG: L12.Exts (pp147-148)  HBS - TG: L16.Exts (p188)  HBS - TG: L18.Exts (pp215-216)  HBS - TG: L22.Exts (p258)  L - SG: L21 (pp230-243)  L - SG: L26 (pp294-297)  L - TG: L21 (pp295-304)  L - TG: L26 (pp349-367)  PM - SG: L10 (pp86-97)  PM - TG: L10 (pp113-124)  PM - TG: L11.Exts (p132)  PM - TG: L17.Exts (p185)  PM - TG: L21.Exts (p251)</p>
<p>NS.1.8.11  Evaluate the merit of hypotheses, <i>laws</i>, and <i>theories</i></p>	<p>CE - SG: L13 (pp154-163)  CE - SG: L14 (pp164-169)  CE - SG: L20 (pp224-231)  CE - SG: L22 (pp240-251)  CE - SG: L23 (pp252-263)  CE - TG: L13 (pp177-186)  CE - TG: L14 (pp187-196)  CE - TG: L20 (pp279-292)  CE - TG: L22 (pp303-316)  CE - TG: L23 (pp217-328)  PM - TG: L01.Exts (p9)</p>

<b>Strand 2: Life Science</b>	
<i>Standard 2: Living Systems: Characteristics, Structure, and Function</i>	
LS.2.8.1 Illustrate the hierarchical relationships of <i>cells, tissues, organs, organ systems, and organisms</i>	HBS - SG: L01 (pp2-7) HBS - SG: L18 (pp150-159) HBS - TG: L01 (pp3-10) HBS - TG: L07.Exts (pp74-75) HBS - TG: L18 (pp209-218)
LS.2.8.2 Identify different types of single-celled <i>organisms</i> : <ul style="list-style-type: none"> <li>▪ protists</li> <li>▪ bacteria</li> </ul>	OMM - SG: L11 (pp132-145) OMM - TG: L11 (pp185-200) OMM - TG: L12.Exts (p207)
LS.2.8.3 Relate the effect of bacteria on oral health	
LS.2.8.4 Describe and illustrate single-celled <i>organisms</i> found in pond water	OMM - SG: L11 (pp132-145) OMM - TG: L11 (pp185-200) OMM - TG: L12.Exts (p207)
LS.2.8.5 Use a <i>dichotomous key</i> to classify <i>organisms</i> found in pond water	OMM - SG: L11 (pp132-145) OMM - TG: L11 (pp185-200) OMM - TG: L12.Exts (p207)
LS.2.8.6 Compare and contrast characteristics of unicellular <i>organisms</i> and multi-cellular <i>organisms</i>	OMM - SG: L11 (pp132-145) OMM - TG: L11 (pp185-200) OMM - TG: L12.Exts (p207)
LS.2.8.7 Classify <i>cells</i> as <i>eukaryotic</i> or <i>prokaryotic</i>	
LS.2.8.8 Identify and describe similarities and differences among <i>organisms</i> of different, but closely related taxa (e.g., pine trees, big cats, rodents, ungulates)	OMM - SG: L01 (pp2-11) OMM - SG: L04 (pp38-45) OMM - SG: L05 (pp46-63) OMM - SG: L07 (pp82-93) OMM - SG: L16 (pp188-193) OMM - SG: L20 (pp236-243) OMM - TG: L05 (pp57-72) OMM - TG: L06.Exts (pp89-91) OMM - TG: L07 (pp105-130) OMM - TG: L10.Exts (pp175-176) OMM - TG: L16 (pp267-280) OMM - TG: L20 (pp331-350)
LS.2.8.9 Investigate careers, scientists, and historical breakthroughs related to <i>organisms</i>	HBS - SG: L09 (pp68-75) HBS - TG: L09 (pp103-112) OMM - SG: L02 (pp12-27) OMM - SG: L11 (pp132-145) OMM - TG: L09.Exts (p160) OMM - TG: L19.Exts (pp317-318)
<b>Strand 2: Life Science</b>	
<i>Standard 3: Life Cycles, Reproduction, and Heredity</i>	
LS.3.8.1 Identify and explain why inherited characteristics of <i>living things</i> depend on <i>genes</i>	HBS - TG: L04.Exts (p35) OMM - SG: L18 (pp204-215) OMM - SG: L19 (pp216-235) OMM - TG: L02.Exts (p25) OMM - TG: L18 (pp293-302) OMM - TG: L19 (pp303-330)
LS.3.8.2 Differentiate between dominant and <i>recessive</i> traits	OMM - SG: L19 (pp216-235) OMM - TG: L19 (pp303-330)

<p>LS.3.8.3 Observe and classify traits as dominant or <i>recessive</i>:</p> <ul style="list-style-type: none"> <li>▪ tongue rolling</li> <li>▪ detached earlobes</li> <li>▪ widow’s peak</li> <li>▪ hitchhiker’s thumb</li> <li>▪ dimples</li> <li>▪ unibrow</li> </ul>	<p>OMM - SG: L19 (pp216-235) OMM - TG: L19 (pp303-330)</p>
<p>LS.3.8.4 Differentiate among observed inherited traits and acquired traits of plants and animals</p>	<p>OMM - TG: L02.Exts (p25) OMM - TG: L06.Exts (pp89-91) OMM - TG: L16.Exts (p273) OMM - TG: L17.Exts (pp287-288)</p>
<p>LS.3.8.5 Interpret simple <i>genetic</i> crosses using <i>Punnett Squares</i></p>	<p>OMM - SG: L19 (pp216-235) OMM - TG: L19 (pp303-330)</p>
<p>LS.3.8.6 Predict patterns that emerge from simple <i>genetic</i> crosses</p>	<p>OMM - SG: L19 (pp216-235) OMM - TG: L19 (pp303-330)</p>
<p>LS.3.8.7 Conduct investigations demonstrating that the phenotype of a <i>genetic</i> trait is the result of <i>genotype</i></p>	<p>OMM - SG: L19 (pp216-235) OMM - TG: L19 (pp303-330)</p>
<p>LS.3.8.8 Explain how <i>genetic</i> variation within a <i>species</i> is a result of dominant traits and <i>recessive</i> traits</p>	<p>OMM - SG: L19 (pp216-235) OMM - TG: L19 (pp303-330)</p>
<p>LS.3.8.9 Compare and contrast patterns of <i>embryological</i> development for all <i>vertebrates</i>, including humans</p>	
<p>LS.3.8.10 Distinguish between characteristics of plants and animals through <i>selective breeding</i></p>	
<p>LS.3.8.11 Investigate careers, scientists, and historical breakthroughs related to <i>genetics</i></p>	<p>OMM - SG: L05 (pp46-63) OMM - TG: L07.Exts (pp118-119) OMM - TG: L09.Exts (p160) PM - TG: L17.Exts (p185)</p>
<p>LS.3.8.12 Compare the theory of evolution to the characteristics of a scientific <i>theory</i></p>	<p>OMM - SG: L13 (pp158-171) OMM - TG: L13 (pp219-236) OMM - TG: L19.Exts (pp317-318)</p>
<p>LS.3.8.13 Identify basic ideas related to biological evolution:</p> <ul style="list-style-type: none"> <li>▪ diversity of <i>species</i></li> <li>▪ variations within <i>species</i></li> <li>▪ <i>adaptations</i></li> <li>▪ <i>natural selection</i></li> <li>▪ <i>extinction</i> of a <i>species</i></li> </ul>	<p>HBS - TG: L22.Exts (p258) OMM - SG: L02 (pp12-27) OMM - SG: L04 (pp38-45) OMM - SG: L06 (pp64-81) OMM - SG: L13 (pp158-171) OMM - TG: L06 (pp73-104) OMM - TG: L10.Exts (pp175-176) OMM - TG: L13 (pp219-236) OMM - TG: L18.Exts (pp299-300) OMM - TG: L19.Exts (pp317-318)</p>
<p>LS.3.8.14 Explain that the <i>fossil</i> record provides <i>evidence</i> of life forms’ appearance, diversification, and <i>extinction</i></p>	<p>ES - SG: L18 (pp290-311) ES - TG: L18 (pp277-286) HBS - TG: L18.Exts (pp215-216)</p>
<p>LS.3.8.15 Explain the process of <i>natural selection</i></p>	<p>OMM - SG: L13 (pp158-171) OMM - TG: L13 (pp219-236)</p>

LS.3.8.16 Identify <i>genetic</i> traits that make <i>organisms</i> more likely to survive and reproduce in a particular environment	ES - TG: L10.Exts (p152) HBS - TG: L22.Exts (p258) OMM - SG: L06 (pp64-81) OMM - SG: L08 (pp96-105) OMM - SG: L13 (pp158-171) OMM - TG: L06 (pp73-104) OMM - TG: L10.Exts (pp175-176) OMM - TG: L13 (pp219-236) OMM - TG: L18.Exts (pp299-300)
LS.3.8.17 Investigate careers, scientists, and historical breakthroughs related to <i>natural selection</i> and the <i>fossil</i> record	HBS - SG: L09 (pp68-75) HBS - TG: L09 (pp103-112) OMM - SG: L02 (pp12-27) OMM - SG: L11 (pp132-145) OMM - TG: L09.Exts (p160) OMM - TG: L19.Exts (pp317-318)
<i>Standard 4: Populations and Ecosystems</i>	
LS.4.8.1 Analyze the effect of changes in environmental conditions on the survival of individual <i>organisms</i> and entire <i>species</i>	CE - SG: L24 (pp264-273) CE - TG: L24 (pp329-346) ES - TG: L10.Exts (p152) OMM - SG: L08 (pp96-105) OMM - SG: L12 (pp146-155) OMM - SG: L13 (pp158-171) OMM - TG: L12 (pp201-218) OMM - TG: L13 (pp219-236)
<b>Strand 3: Physical Science</b>	
<i>Standard 5: Matter: Properties and Changes</i>	
PS.5.8.1 Compare the atomic theory to the characteristics of a scientific <i>theory</i>	PM - TG: L21.Exts (p251)
PS.5.8.2 Explain the structure of <i>atoms</i>	
PS.5.8.3 Determine the number of <i>protons</i> , neutrons, and electrons in an <i>atom</i>	
PS.5.8.4 Create <i>atomic</i> models of common <i>elements</i>	
PS.5.8.5 Investigate scientists, careers, and historical breakthroughs related to the <i>atomic theory</i>	
<i>Standard 6: Motion and Forces</i>	
PS.6.8.1 Model how motion and <i>forces</i> change Earth's surface: <ul style="list-style-type: none"> <li>▪ <i>compression</i></li> <li>▪ <i>tension</i></li> <li>▪ <i>weathering</i></li> <li>▪ <i>erosion</i></li> </ul>	CE - SG: All lessons CE - TG: All lessons ES - SG: L13 (pp174-199) ES - TG: L13 (pp197-208)
PS.6.8.2 Conduct investigations demonstrating the field <i>force</i> (lines of <i>force</i> ) in magnetic fields	
PS.6.8.3 Design and conduct investigations applying <i>variables</i> affecting the strength of an <i>electromagnet</i>	

PS.6.8.4 Analyze and compare the relationship between <i>electricity</i> and <i>magnetism</i>	
PS.6.8.5 Investigate careers, scientists, and historical breakthroughs related to motion and <i>forces</i> that change Earth’s surface	CE - SG: L01 (pp2-11) CE - SG: L04 (pp42-53) CE - SG: L12 (pp134-153) CE - SG: L19 (pp210-223) CE - TG: L01 (pp3-16) CE - TG: L04 (pp45-56) CE - TG: L12 (pp163-176) CE - TG: L14.Exts (pp193-194) CE - TG: L19 (pp265-278)
<i>Standard 7: Energy and Transfer of Energy</i>	
PS.7.8.1 Construct <i>open</i> and <i>closed</i> electrical circuits: <ul style="list-style-type: none"> <li>▪ <i>series</i> circuits</li> <li>▪ <i>parallel</i> circuits</li> </ul>	EECD - SG: L05 (pp46-57) EECD - SG: L06 (pp58-69) EECD - SG: L07 (pp70-83) EECD - SG: L08 (pp84-93) EECD - SG: L11 (pp118-121) EECD - SG: L19 (pp196-209) EECD - SG: L20 (pp210-213) EECD - TG: L05 (pp61-76) EECD - TG: L06 (pp77-92) EECD - TG: L07 (pp93-110) EECD - TG: L08 (pp111-122) EECD - TG: L10.Exts (pp152-153) EECD - TG: L11 (pp157-168) EECD - TG: L12.Exts (pp177-178) EECD - TG: L15.Exts (pp223-224) EECD - TG: L19 (pp263-276) EECD - TG: L20 (pp277-290) EMM - TG: L07.Exts (p83) EMM - TG: L09.Exts (p105)
PS.7.8.2 Describe and diagram <i>open</i> and <i>closed</i> series and <i>parallel</i> circuits	EECD - SG: L05 (pp46-57) EECD - SG: L06 (pp58-69) EECD - SG: L07 (pp70-83) EECD - SG: L08 (pp84-93) EECD - SG: L11 (pp118-121) EECD - SG: L19 (pp196-209) EECD - SG: L20 (pp210-213) EECD - TG: L05 (pp61-76) EECD - TG: L06 (pp77-92) EECD - TG: L07 (pp93-110) EECD - TG: L08 (pp111-122) EECD - TG: L10.Exts (pp152-153) EECD - TG: L11 (pp157-168) EECD - TG: L12.Exts (pp177-178) EECD - TG: L15.Exts (pp223-224) EECD - TG: L19 (pp263-276) EECD - TG: L20 (pp277-290) EMM - TG: L07.Exts (p83) EMM - TG: L09.Exts (p105)
PS.7.8.3 Compare and contrast <i>open</i> and <i>closed series</i> circuits and <i>parallel</i> circuits	EECD - SG: L05 (pp46-57) EECD - SG: L06 (pp58-69) EECD - SG: L07 (pp70-83) EECD - SG: L08 (pp84-93)

	<p>EECD - SG: L11 (pp118-121)  EECD - SG: L19 (pp196-209)  EECD - SG: L20 (pp210-213)  EECD - TG: L05 (pp61-76)  EECD - TG: L06 (pp77-92)  EECD - TG: L07 (pp93-110)  EECD - TG: L08 (pp111-122)  EECD - TG: L10.Exts (pp152-153)  EECD - TG: L11 (pp157-168)  EECD - TG: L12.Exts (pp177-178)  EECD - TG: L15.Exts (pp223-224)  EECD - TG: L19 (pp263-276)  EECD - TG: L20 (pp277-290)  EMM - TG: L07.Exts (p83)  EMM - TG: L09.Exts (p105)</p>
<p>PS.7.8.4  Conduct investigations demonstrating the characteristics of a wave:</p> <ul style="list-style-type: none"> <li>▪ wavelength</li> <li>▪ <i>frequency</i></li> <li>▪ <i>speed</i></li> <li>▪ <i>amplitude</i></li> </ul>	<p>CE - SG: L12 (pp134-153)  CE - SG: L14 (pp164-169)  CE - TG: L11.Exts (p157)  CE - TG: L12 (pp163-176)  CE - TG: L14 (pp187-196)  L - SG: L07 (pp68-81)  L - SG: L09 (pp92-107)  L - TG: L07.Exts (p92)  L - TG: L09 (pp107-118)  L - TG: L19.Exts (p257)</p>
<p>PS.7.8.5  Conduct investigations of <i>longitudinal</i> and <i>transverse waves</i> to determine how they are different</p>	<p>CE - SG: L12 (pp134-153)  CE - SG: L14 (pp164-169)  CE - TG: L11.Exts (p157)  CE - TG: L12 (pp163-176)  CE - TG: L14 (pp187-196)  L - SG: L07 (pp68-81)  L - SG: L09 (pp92-107)  L - TG: L07.Exts (p92)  L - TG: L09 (pp107-118)  L - TG: L19.Exts (p257)</p>
<p>PS.7.8.6  Explain how <i>energy</i> is transferred through waves:</p> <ul style="list-style-type: none"> <li>▪ <i>seismic waves</i></li> <li>▪ sound waves</li> <li>▪ water waves</li> <li>▪ <i>electromagnetic waves</i></li> </ul>	<p>EECD - SG: L01 (pp2-11)  EECD - SG: L02 (pp12-25)  EECD - SG: L05 (pp46-57)  EECD - SG: L08 (pp84-93)  EECD - SG: L09 (pp94-103)  EECD - SG: L10 (pp104-117)  EECD - SG: L12 (pp122-133)  EECD - SG: L15 (pp156-167)  EECD - SG: L16 (pp168-173)  EECD - SG: L17 (pp174-185)  EECD - SG: L18 (pp186-195)  EECD - TG: L01 (pp3-22)  EECD - TG: L02 (pp23-36)  EECD - TG: L05 (pp61-76)  EECD - TG: L08 (pp111-122)  EECD - TG: L09 (pp123-142)  EECD - TG: L10 (pp143-156)  EECD - TG: L12 (pp169-180)  EECD - TG: L15 (pp213-226)  EECD - TG: L16 (pp227-240)  EECD - TG: L17 (pp240-248)</p>

	EECD - TG: L18 (pp249-262) L - SG: L02 (pp20-31) L - SG: L07 (pp68-81) L - TG: L02 (pp21-36)
PS.7.8.7 Describe how waves travel through different kinds of media	CE - SG: L12 (pp134-153) CE - TG: L12 (pp163-176) L - SG: L07 (pp68-81) L - SG: L09 (pp92-107) L - TG: L09 (pp107-118)
PS.7.8.8 Differentiate among <i>reflection</i> , <i>refraction</i> , and <i>absorption</i> of various types of waves	CE - SG: L03 (pp26-41) CE - TG: L03 (pp27-44) ES - SG: L07 (pp88-101) ES - TG: L07 (pp83-96) L - SG: L01 (pp2-19) L - SG: L05 (pp48-57) L - SG: L06 (pp58-67) L - SG: L08 (pp82-91) L - SG: L10 (pp108-115) L - SG: L11 (pp116-131) L - SG: L14 (pp144-153) L - SG: L15 (pp154-165) L - SG: L16 (pp166-185) L - SG: L17 (pp186-199) L - SG: L18 (pp200-213) L - SG: L19 (pp214-223) L - SG: L20 (pp224-227) L - SG: L24 (pp266-283) L - SG: L26 (pp294-297) L - TG: L01 (pp3-20) L - TG: L03.Exts (p43) L - TG: L05 (pp59-72) L - TG: L06 (pp73-82) L - TG: L08 (pp99-106) L - TG: L14 (pp169-180) L - TG: L15 (pp181-194) L - TG: L16 (pp195-204) L - TG: L17 (pp205-224) L - TG: L18 (pp225-246) L - TG: L19 (pp247-274) L - TG: L20 (pp275-294) L - TG: L26 (pp349-367)
PS.7.8.9 Describe and diagram the <i>electromagnetic</i> spectrum	EMM - SG: L19 (pp188-199) EMM - TG: L19 (pp229-234) ES - SG: L07 (pp88-101) ES - TG: L07 (pp83-96) L - SG: L09 (pp92-107) L - SG: L10 (pp108-115) L - SG: L11 (pp116-131) L - TG: L08.Exts (p105) L - TG: L09 (pp107-118) L - TG: L10 (pp119-126) L - TG: L17.Exts (p216)
PS.7.8.10 Analyze the <i>electromagnetic</i> spectrum	EMM - SG: L19 (pp188-199) EMM - TG: L19 (pp229-234) ES - SG: L07 (pp88-101) ES - TG: L07 (pp83-96)

	<p>L - SG: L09 (pp92-107)  L - SG: L10 (pp108-115)  L - SG: L11 (pp116-131)  L - TG: L08.Exts (p105)  L - TG: L09 (pp107-118)  L - TG: L10 (pp119-126)  L - TG: L17.Exts (p216)</p>
<p>PS.7.8.11  Investigate examples of real world uses of the <i>electromagnetic</i> spectrum</p>	<p>EMM - SG: L19 (pp188-199)  EMM - TG: L19 (pp229-234)  ES - SG: L07 (pp88-101)  ES - TG: L07 (pp83-96)  L - SG: L09 (pp92-107)  L - SG: L10 (pp108-115)  L - SG: L11 (pp116-131)  L - TG: L08.Exts (p105)  L - TG: L09 (pp107-118)  L - TG: L10 (pp119-126)  L - TG: L17.Exts (p216)</p>
<p>PS.7.8.12  Conduct investigations demonstrating the separation of <i>white light</i> into its spectrum using <i>refraction</i></p>	<p>EMM - SG: L19 (pp188-199)  EMM - TG: L19 (pp229-234)  ES - SG: L07 (pp88-101)  ES - TG: L07 (pp83-96)  L - SG: L09 (pp92-107)  L - SG: L10 (pp108-115)  L - SG: L11 (pp116-131)  L - TG: L08.Exts (p105)  L - TG: L09 (pp107-118)  L - TG: L10 (pp119-126)  L - TG: L17.Exts (p216)</p>
<p>PS.7.8.13  Compare ways to transfer information:</p> <ul style="list-style-type: none"> <li>▪ sound</li> <li>▪ light</li> <li>▪ radio</li> <li>▪ <i>microwave energy</i></li> </ul>	<p>ES - TG: L21.Exts (p310)  L - SG: L25 (pp284-293)  L - SG: L26 (pp294-297)  L - TG: L25 (pp335-348)  L - TG: L26 (pp349-367)</p>
<p>PS.7.8.14  Investigate careers, scientists, and historical breakthroughs related to waves and the <i>electromagnetic</i> spectrum</p>	<p>EECD - TG: L14.Exts (p210)</p>
<b>Strand 4: Earth and Space Science</b>	
<i>Standard 8: Earth Systems</i>	
<p>ESS.8.8.1  Analyze the causes and predict the consequences of <i>global warming</i> on the following:</p> <ul style="list-style-type: none"> <li>▪ weather</li> <li>▪ <i>temperature</i></li> <li>▪ ocean water levels</li> </ul>	<p>ES - SG: L17 (pp268-289)  ES - SG: L19 (pp312-323)  ES - TG: L17 (pp269-276)  ES - TG: L19 (pp287-292)  OMM - TG: L17.Exts (pp287-288)</p>
<p>ESS.8.8.2  Investigate how global patterns of water currents influence local weather:</p> <ul style="list-style-type: none"> <li>▪ Gulf Stream</li> <li>▪ Atlantic Currents</li> <li>▪ California Current</li> </ul>	<p>CE - SG: L07 (pp80-95)  CE - TG: L07 (pp83-102)</p>

<p>ESS.8.8.3 Conduct investigations to compare and contrast different landforms found on Earth:</p> <ul style="list-style-type: none"> <li>▪ mountains</li> <li>▪ plateaus</li> <li>▪ plains</li> </ul>	<p>CE - SG: L01 (pp2-11) CE - SG: L19 (pp210-223) CE - TG: L01 (pp3-16) CE - TG: L19 (pp265-278) ES - SG: L13 (pp174-199) ES - SG: L19 (pp312-323) ES - TG: L12 (pp181-196) ES - TG: L13 (pp197-208) ES - TG: L19 (pp287-292)</p>
<p>ESS.8.8.4 Synthesize and model the result of both constructive and destructive <i>forces</i> on land forms:</p> <ul style="list-style-type: none"> <li>▪ <i>deposition</i></li> <li>▪ <i>erosion</i></li> <li>▪ <i>weathering</i></li> <li>▪ <i>crustal deformation</i></li> </ul>	<p>CE - SG: All lessons CE - TG: All lessons ES - SG: L13 (pp174-199) ES - TG: L13 (pp197-208)</p>
<p>ESS.8.8.5 Compare and contrast the different landforms caused by Earth’s external <i>forces</i>:</p> <ul style="list-style-type: none"> <li>▪ plains</li> <li>▪ canyons</li> <li>▪ deltas</li> <li>▪ valleys</li> <li>▪ swamps</li> </ul>	<p>CE - SG: All lessons CE - TG: All lessons ES - SG: L13 (pp174-199) ES - TG: L13 (pp197-208)</p>
<p>ESS.8.8.6 Research local, regional, and state landforms created by external <i>forces</i> on Earth:</p> <ul style="list-style-type: none"> <li>▪ Gulf Coastal Plain</li> <li>▪ Arkansas River Valley</li> <li>▪ Mississippi Alluvial Plain, including the delta region</li> <li>▪ Crowley’s Ridge</li> </ul>	<p>CE - SG: L01 (pp2-11) CE - SG: L19 (pp210-223) CE - TG: L01 (pp3-16) CE - TG: L19 (pp265-278) ES - SG: L13 (pp174-199) ES - SG: L19 (pp312-323) ES - TG: L12 (pp181-196) ES - TG: L13 (pp197-208) ES - TG: L19 (pp287-292)</p>
<p>ESS.8.8.7 Use topographic maps to identify surface features of Earth</p>	
<p>ESS.8.8.8 Demonstrate an understanding of the agents of <i>erosion</i>:</p> <ul style="list-style-type: none"> <li>▪ <i>gravity</i></li> <li>▪ water</li> <li>▪ ice</li> <li>▪ wind</li> <li>▪ animals, including humans</li> </ul>	<p>ES - SG: L13 (pp174-199) ES - TG: L13 (pp197-208) HBS - TG: L13.Exts (p158)</p>
<p>ESS.8.8.9 Using models of rivers, predict changes when <i>variables</i>, such as load, slope, amount of water, or the composition of a stream bed, are changed through <i>erosion</i> or <i>deposition</i></p>	
<p>ESS.8.8.10 Explain how <i>weathering</i> and <i>erosion</i> affect the oceans’ salinity</p>	
<p>ESS.8.8.11 Investigate careers, scientists, and historical breakthroughs related to external <i>forces</i> that change the Earth</p>	<p>CE - SG: L01 (pp2-11) CE - SG: L04 (pp42-53) CE - SG: L12 (pp134-153) CE - SG: L19 (pp210-223)</p>

	CE - TG: L01 (pp3-16) CE - TG: L04 (pp45-56) CE - TG: L12 (pp163-176) CE - TG: L14.Exts (pp193-194) CE - TG: L19 (pp265-278)
ESS.8.8.12 Investigate the types of <i>weathering</i> involved in the breakdown of <i>organic</i> and <i>inorganic</i> components of Earth's surface	ES - SG: L13 (pp174-199) ES - TG: L13 (pp197-208)
ESS.8.8.13 Illustrate <i>soil profiles</i>	
ESS.8.8.14 Apply knowledge of <i>soil profiles</i> to local soil samples	
ESS.8.8.15 Investigate the formation of soil types	CE - SG: L17 (pp194-197) CE - TG: L17 (pp233-256)
ESS.8.8.16 Identify components of soil as <i>inorganic</i> or <i>organic</i> through investigations	OMM - TG: L05.Exts (pp69-70) OMM - TG: L14.Exts (p247)
ESS.8.8.17 Identify the basic <i>nutrients</i> needed by plants that are present in soils: <ul style="list-style-type: none"> <li>▪ nitrogen</li> <li>▪ phosphorous</li> <li>▪ potassium</li> </ul>	OMM - TG: L05.Exts (pp69-70) OMM - TG: L14.Exts (p247)
ESS.8.8.18 Identify ways plants use <i>organic</i> and <i>inorganic</i> components in the soil	OMM - TG: L05.Exts (pp69-70) OMM - TG: L14.Exts (p247)
ESS.8.8.19 Investigate and analyze the composition of a variety of soils	CE - SG: L17 (pp194-197) CE - TG: L17 (pp233-256) OMM - TG: L14.Exts (p247)
ESS.8.8.20 Conduct investigations on soil permeability	CE - SG: L17 (pp194-197) CE - TG: L17 (pp233-256)
<i>Standard 9: Earth's History</i>	
ESS.9.8.1 Explain processes that have changed Earth's surface that have resulted from sudden events (e.g., <i>earthquakes</i> and volcanoes) and gradual changes (e.g., <i>uplift</i> , <i>erosion</i> , and <i>weathering</i> )	CE - SG: All lessons CE - TG: All lessons ES - SG: L13 (pp174-199) ES - TG: L13 (pp197-208)
ESS.9.8.2 Analyze how rock sequences may be disturbed by the following: <ul style="list-style-type: none"> <li>▪ <i>erosion</i></li> <li>▪ <i>deposition</i></li> <li>▪ <i>igneous intrusion</i></li> <li>▪ <i>folding</i></li> <li>▪ <i>faulting</i></li> <li>▪ <i>uplifting</i></li> </ul>	
ESS.9.8.3 Explain how scientists determine the relative ages of <i>fossils</i> found in layers of <i>sedimentary rock</i> : <ul style="list-style-type: none"> <li>▪ <i>law of superposition</i></li> <li>▪ <i>law of cross-cutting</i></li> </ul>	ES - SG: L18 (pp290-311) ES - TG: L18 (pp277-286)

ESS.9.8.4 Apply geologic <i>laws</i> of superposition and cross-cutting to determine the relative age of rock in a cross section	
<i>Standard 10: Objects in the Universe</i>	
ESS.10.8.1 Summarize the effects of <i>gravity</i> on bodies in space	EMM - TG: L05.Exts (pp53-54) ES - SG: L14 (pp200-215) ES - SG: L15 (pp216-243) ES - SG: L16 (pp244-265) ES - TG: L14 (pp209-220) ES - TG: L15 (pp221-244) ES - TG: L16 (pp245-268)
ESS.10.8.2 Identify <i>variables</i> that affect the amount of gravitational <i>force</i> between two objects: <ul style="list-style-type: none"> <li>▪ <i>mass</i> of the objects</li> <li>▪ distance between the objects</li> </ul>	EMM - TG: L05.Exts (pp53-54) ES - SG: L14 (pp200-215) ES - SG: L15 (pp216-243) ES - SG: L16 (pp244-265) ES - TG: L14 (pp209-220) ES - TG: L15 (pp221-244) ES - TG: L16 (pp245-268)
ESS.10.8.3 Relate the effects of the moon's gravitational <i>force</i> on Earth's ocean tides	ES - SG: L16 (pp244-265) ES - TG: L16 (pp245-268)
ESS.10.8.4 Identify the causes of the following: <ul style="list-style-type: none"> <li>▪ high tides</li> <li>▪ low tides</li> <li>▪ <i>spring tides</i></li> <li>▪ <i>neap tides</i></li> </ul>	ES - SG: L16 (pp244-265) ES - TG: L16 (pp245-268) OMM - SG: L10 (pp120-131) OMM - TG: L10 (pp167-184)
ESS.10.8.5 Define the terms <i>galaxy</i> and universe	ES - SG: L02 (pp12-21)
ESS.10.8.6 Illustrate the appearance of galaxies as seen through a telescope: <ul style="list-style-type: none"> <li>▪ clarity</li> <li>▪ shape</li> </ul>	ES - SG: L02 (pp12-21)
ESS.10.8.7 Compare and contrast the Milky Way <i>Galaxy</i> to other galaxies	ES - SG: L02 (pp12-21)
ESS.10.8.8 Illustrate the position of our <i>solar system</i> within the Milky Way <i>Galaxy</i>	
ESS.10.8.9 Investigate careers, scientists, and historical breakthroughs related to <i>gravity</i> , <i>galaxies</i> , and the universe	