

Year at a Glance  
 Science  
 Grade Eighth

	Unit One	Unit Two	Unit Three	Unit Four	Unit Five	Unit Six
Content, theme, and	Biological Evolution 23 Days	Energy and Matter <b>(Estimated)</b> 20 Days	Embryological Evolution <b>(Estimated)</b> 20 Days	Genetics and Traits <b>(Estimated)</b> 20 Days	Earth's Processes 30 Days	Natural Hazards <b>(Estimated)</b> 15 Days
Building student knowledge	<p>Students will:            Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's geologic history. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.            Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.</p>	<p>Students will:            Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.            Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.            Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.            Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.</p>	<p>Students will:            Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.            Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.</p>	<p>Students will:            Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.            Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.            Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations of species over time.</p>	<p>Students will:            Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.            Construct an explanation based on evidence for how geosciences processes have changed Earth's surface at varying time and spatial scales.            Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.</p>	<p>Students will:            Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geosciences processes.            Earth and Human Activity: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.            Develop models to describe the atomic composition of simple molecules and extended structures.</p>
Anchor text	FOSS: <u>The History of Earth</u>					

Related texts					<a href="#">Read Works: How Plates Affect Our Planet (article set)</a> <a href="#">Read Works: Our Changing Earth (article set)</a> <a href="#">Read Works: Sea Monsters</a>	
Standards	<ul style="list-style-type: none"> <li>• 8-MS-ESS-1-4</li> <li>• 8-MS-LS4-1</li> <li>• 8-MS-LS4-2</li> </ul>	<ul style="list-style-type: none"> <li>• 8-MS-PS1-3</li> <li>• 8-MS-PS1-6</li> <li>• 8-MS-PS3-3</li> <li>8-MS-PS3-5</li> </ul>	<ul style="list-style-type: none"> <li>• 8-MS-LS4-3</li> <li>• 8-MS-LS4-2</li> </ul>	<ul style="list-style-type: none"> <li>• 8-MS-LS1-4</li> <li>• 8-MS-LS1-5</li> <li>• 8-MS-LS3-1</li> <li>• 8-MS-LS4-6</li> <li>• 8-MS-ESS3-3</li> </ul>	<ul style="list-style-type: none"> <li>• 8-MS-ESS2-1</li> <li>• 8-MS-ESS2-2</li> <li>• 8-MS-ESS2-3</li> <li>• 8-MS-PS1-1</li> </ul>	<ul style="list-style-type: none"> <li>• 8-MS-ESS3-1</li> <li>• 8-MS-ESS3-2</li> <li>• 8-MS-PS1-1</li> </ul>
CCSS RH/ST						
CCSS WHST						
Performance Tasks					<p>What's your Wave?  Teacher-created short cycle assessment will assess all clear learning targets.  The Skills Lab engage activity  Plate Boundaries Map  Plates on The Move</p>	