

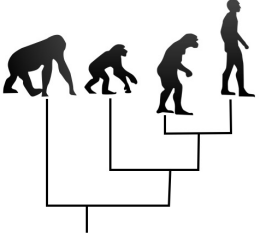



CA Grade 8 Integrated NGSS Storyline: The process that change Earth systems at different spatial scales today also caused changes in the past.

Instructional Segment Bundles	Anchoring Phenomena	Life Science	Earth & Space Sciences	Physical Science	Engineering, Technology, and Applications to Science
<i>Objects move and collide.</i>					
<p>1</p> <p>MS-LS4-1 MS-PS2-1 MS-PS2-2 MS-PS3-1 MS-ETS1-1 MS-ETS1-2 MS-ETS1-3 MS-ETS1-4</p>		<p>Living systems are affected by physical changes in the environment. Both the physical and biological changes are recorded in the fossil record.</p>	<p>The fossil record documents the existence, diversity, extinction, and change of life forms throughout Earth's history.</p>	<p>Newton's Laws explain the forces and motions of objects on Earth and in space.</p> <p>Velocity and mass determine the results of collisions between objects.</p>	<p>Design Criteria</p> <p>Evaluate Solutions</p> <p>Analyze data</p> <p>Iteratively test and modify</p>
<i>Noncontact forces influence phenomena locally and in the solar system</i>					
<p>2</p> <p>MS-ESS1-1 MS-ESS1-2 MS-ESS1-3 MS-PS2-3 MS-PS2-4 MS-PSthe2-5 MS-PS3-2</p>			<p>Models explain lunar phases and eclipses of the Sun and Moon.</p> <p>Gravity plays the major role in determining motions with the solar system and galaxies.</p>	<p>Gravitational and electromagnetic fields are the basis of noncontact forces.</p> <p>Changing the arrangement of objects in a system affects the potential energy stored in that system.</p>	

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Evolution explains life's unity and diversity.					
<p style="text-align: center; font-size: 24pt; font-weight: bold;">3</p> <p>MS-LS3-1 MS-LS4-1 MS-LS4-2 MS-LS4-3 MS-LS4-4 MS-LS4-5 MS-LS4-6 MS-ESS1-4</p>		<p>Mutations in genes affect organisms' structures and functions.</p> <p>Evidence from fossils, anatomy, and embryos support the theory of biological evolution.</p> <p>Natural selection is the main mechanism that leads to evolution of species that are adapted to their environment.</p>	<p>Rock layers record Earth's history like pages in a book.</p>	<p>Chemical reactions make new substances.</p> <p>Mass is conserved in physical changes and chemical reactions.</p>	
Sustaining Local and Global Biodiversity					
<p style="text-align: center; font-size: 24pt; font-weight: bold;">4</p> <p>MS-LS4-4 MS-LS4-6 MS-ESS1-1 MS-ESS3-4 MS-PS4-1 MS-PS4-2 MS-PS4-3 MS-ETS1-1 MS-ETS1-2</p>		<p>Changes to environments can affect probabilities of survival and reproduction of individual organisms, which can result in significant changes to populations and species.</p>	<p>Annual cycles in the amount of sunlight absorbed cause Earth's seasons.</p> <p>Increases in human population and per-capita consumption impact Earth's systems.</p>	<p>Waves are reflected, absorbed, or transmitted through various materials.</p> <p>Wave-based digital technologies provide very reliable ways to encode and transmit information.</p>	<p>Design criteria</p> <p>Evaluate solutions</p>