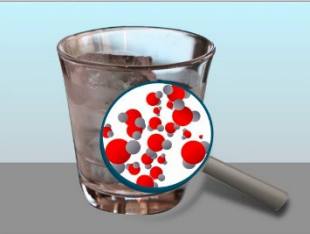

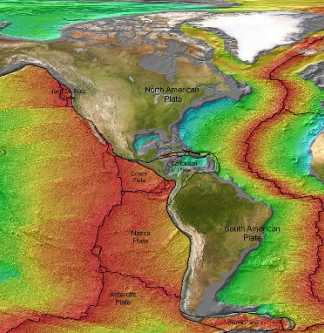



CA Grade 7 Integrated NGSS Storyline: Natural processes and human activities cause energy to flow and matter to cycle through Earth’s systems.

| Instructional Segment Bundle | Anchoring Phenomena | Life Science | Earth & Space Sciences | Physical Science | Engineering, Technology, and Applications to Science |
|---|--|--|--|--|---|
| <i>Living and nonliving things are made of atoms</i> | | | | | |
| <p>1</p> <p>MS-ESS3-1 MS-LS2-3 MS-PS1-1 MS-PS1-3 MS-PS1-4</p> |  | <p>Organisms are made of molecules of mostly six different elements.</p> | <p>Earth materials are mostly made of eight different elements.</p> <p>Earth has mineral, energy, and water resources.</p> | <p>The interaction and motions of atoms explain the properties of matter.</p> <p>Thermal energy affects particle motion and physical state.</p> | |
| <i>Matter cycles and Energy Flows through Organisms and Rocks.</i> | | | | | |
| <p>2</p> <p>MS-LS1-6 MS-LS1-7 MS-ESS2-1 MS-PS1-2 MS-PS1-5 MS-PS1-6 MS-ETS1-1 MS-ETS1-2 MS-ETS1-3 MS-ETS1-4</p> |  | <p>Organisms grow and get energy by rearranging atoms in food molecules.</p> | <p>Earth’s cycles of matter are driven by solar energy, Earth’s internal thermal energy, and gravity.</p> | <p>Chemical reactions make new substances and can release or absorb thermal energy.</p> <p>Mass is conserved in physical changes and chemical reactions.</p> | <p>Design Criteria</p> <p>Evaluate Solutions</p> <p>Analyze data</p> <p>Iteratively test and modify</p> |

CA Grade 7 Integrated NGSS Storyline: Natural processes and human activities cause energy to flow and matter to cycle through Earth’s systems.

| Instructional Segment Bundle | Anchoring Phenomena | Life Science | Earth & Space Sciences | Physical Science | Engineering, Technology, and Applications to Science |
|--|---|--|---|---|--|
| <i>Natural processes and human activities shape Earth’s resources and ecosystems.</i> | | | | | |
| <p>3</p> <p>MS-LS2-1 MS-LS2-2 MS-LS2-3 MS-ESS2-3 MS-ESS3-1 MS-PS1-2 MS-PS1-3 MS-PS1-5</p> |  | <p>Matter cycles and energy flows among living and nonliving parts of ecosystems.</p> <p>Resource availability affects organisms and ecosystem populations.</p> <p>Ecosystems have common patterns of organism interactions.</p> | <p>Fossils, rocks, continental shape, and seafloor structures provide evidence of plate motion.</p> <p>Geoscience processes unevenly distribute Earth’s mineral, energy, and groundwater resources.</p> | <p>Chemical reactions make new substances.</p> <p>Mass is conserved in physical changes and chemical reactions.</p> | |
| <i>Sustaining Biodiversity and Ecosystems Service in a Changing World</i> | | | | | |
| <p>4</p> <p>MS-LS2-4 MS-LS2-5 MS-ESS2-2 MS-ESS3-2 MS-PS1-3 MS-ETS1-1 MS-ETS1-2</p> |  | <p>Biotic and abiotic changes affect ecosystem populations.</p> <p>Design solutions can help maintain biodiversity and ecosystem services.</p> | <p>Geoscience processes change Earth’s surface.</p> <p>Damage from natural hazards can be reduced.</p> | <p>Synthetic materials impact society.</p> | <p>Design criteria</p> <p>Evaluate solutions</p> <p>Analyze data</p> |