<table>
<thead>
<tr>
<th>DCI</th>
<th>Energy</th>
<th>Waves</th>
<th>From Molecules to Organisms</th>
<th>Earth's Place in the Universe</th>
<th>Earth's Systems</th>
<th>Earth and Human Activity</th>
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<tbody>
<tr>
<td>6-8 weeks</td>
<td>3-4 weeks</td>
<td>9-12 weeks</td>
<td>2-3 weeks</td>
<td>2-3 weeks</td>
<td>6-8 weeks</td>
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**Standards**

4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.
4-PS3-2. Ask questions and predict outcomes about the changes in energy that occur when objects collide.
4-PS3-3. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.
4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

4-PS4-1. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.
4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
4-PS4-3. Generate and compare multiple solutions that use patterns.

4-ESS2-1. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
4-ESS2-2. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-ESS2-1. Make observations and measurements to provide evidence of the effects of weathering at the rate of erosion by water, ice, wind, or vegetation.
4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.

4-ESS3-1. Identify evidence from patterns in rock formations and fossils in rock layers for changes in a landscape over time to support an explanation for changes in a landscape over time.
4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
4-ESS3-3. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

**Mosa Mack Units**

- Newton's Laws
- Electricity
- Waves
- Nervous System
- Interaction of Body Systems
- Plant Structure
- Rock Cycle
- Plate Tectonics
- Earthquakes and Volcanoes
- Renewable Resources

**Extension Units**

- Scientific Method

**Engineering Design Standards**

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.