2017.18 Sixth Grade Science, Quarter 3

Big Ideas/Key Concepts:
- The earth is surrounded by an active atmosphere and an energy system that controls the distribution of life, local weather, climate, and global temperature.
- The cosmos is vast and explored well enough to know its basic structure and operational principles.

<table>
<thead>
<tr>
<th>Standards</th>
<th>Student Friendly “I Can” Statements</th>
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<tbody>
<tr>
<td><strong>Weather – continued</strong></td>
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<tr>
<td>SPI 0607.8.3 Describe how temperature differences in the ocean account for currents.</td>
<td>I can identify the sun as the major source of energy for ocean currents.</td>
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<tr>
<td>6. WCE.SC.14: Explain that the global movement of water is affected by the transfer of energy and variations in salt concentrations.</td>
<td>I can examine the “Global Ocean Conveyor” (thermohaline circulation) that yields surface and deep currents due to density, salt content, and temperature.</td>
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<tr>
<td>6. WCE.SC.15: Model and explain a convection cell in the ocean.</td>
<td>I can explain that the global movement of water is affected by the transfer of energy and variations in salt concentrations.</td>
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<tr>
<td>SPI 0607.8.4 Interpret meteorological data to make predictions about the weather.</td>
<td>I can model and explain that the circular motion of convection cells is based on density (less/more dense), temperature (warmer/cooler), particle motion (fast/slow movement) and salinity (less salt/more salt).</td>
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<tr>
<td>6. WCE.SC.16: Explain how wind and ocean currents affect weather and climate along coastal regions.</td>
<td>I can interpret data found on ocean current maps and make predictions about weather events.</td>
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- California current
- Gulf stream
| WCE.SC.17 | Model how air moves along coastal regions, due to land and water heating at different rates. |
| WCE.SC.18 | Research and communicate the following concepts: tornado/hurricane, cold/warm air masses, weather fronts, high/low pressure systems, the water cycle as it pertains to weather. |
| WCE.SC.19 | Evaluate tools and technologies designed to predict and minimize the effects of severe weather and other natural disasters. |

### SPI 0607.T/E.3
Distinguish between the intended benefits and the unintended consequences of a new technology.

#### Universe
**SPI 0607.6.3** Distinguish among a day, lunar cycle and year based on the movements of the earth, sun, and moon.

**SPI 0607.6.6** Use a diagram that shows the positions of the earth and sun to explain why we have seasons on Earth.

### SPI 0607.6.4
Explain the different phases of the moon using a model of the earth, moon, and sun.

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Explain the different phases of the moon using a model of the earth, moon, and sun.
SPI 0607.6.5 Predict the types of tides that occur when the earth and moon occupy various positions.

I can model and explain the phases of the Moon in a Lunar Cycle.
- 8 Phases
- Waning/Waxing
- View from Earth
- View from Space

SPI 0607.6.7 Explain the difference between a solar and a lunar eclipse.

I can model and diagram the relationship between the Earth, Sun and Moon during High Tide and Low Tide.
- Neap/Spring Tides
- Tidal Range
- Daily Tides

I can model and explain the relationship between the Earth, Sun and Moon during Solar and Lunar eclipses.