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</table>
| 1st Qtr   | Scientific Method/Intro to Earth Science Students will understand  
  - How to apply the steps of the scientific method.  
  - How to write a basic lab report.  
  - Differences between observation and inference | S6C56. Students will communicate scientific ideas and activities clearly.  
  a. Write clear, step-by-step instructions for conducting scientific investigations, operating a piece of equipment, or following a procedure.  
  c. Organize scientific information using appropriate tables, charts, and graphs, and identify relationships they reveal.  
  L6-8WHST2.  
  Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.  
  L6-8RST3.  
  Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.  
  L6-8RST4.  
  Determine the meaning of symbols, key terms, and other domain specific words and phrases as they are used in a specific scientific or technical | No Phenomena for Scientific Method | *STEM Lab: Scientific Method Penny Drops Lab     
*Weekly Assessments       
*Literacy Activities     
*Constructed Response Test Items     
*Discovery Activities & Assignments     
*Performance tasks     
*Vocabulary scavenger hunt, bingo card | *STEM Lab: Scientific Method Penny |

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| 1st Qtr Aug 6/ Aug 28 UNIT 1 3 weeks (LAYERS 1 ½ WKS & PLATES/EVENTS 1 ½ WKS) | Geology (Inside Earth)  
- the earth is layered with a partly molten, metallic core; a mantle that though solid, is hot enough to flow; and a colder, rigid lithosphere.  
- lithospheric plates on the scales of continents and oceans constantly move.  
- major geological events, such as earthquakes, volcanic eruptions, and mountain building, result from these plate motions.  
- Some changes in the earth’s surface occur abruptly while others occur gradually. | S6E5. Obtain, evaluate, and communicate information to show how Earth’s surface is formed.  
  a. Ask questions to compare and contrast the Earth’s crust, mantle, inner and outer core, including temperature, density, thickness, and composition.  
  f. Construct an explanation of how the movement of lithospheric plates, called plate tectonics, can cause major geologic events such as earthquakes and volcanic eruptions. (Clarification statement: Include convergent, divergent, and transform boundaries.) | (1.) The Core: Can ya dig it?  
(2.) Plate-Tectonics: Oops we shifted again….  
----------------------  
**EQ’s to keep in mind**  
How do scientists use fossils to determine Earth’s changing surface over time?  
How are the Earth’s layers alike and different?  
What challenges stand in the way of sending explorers to the center of the earth?  
How does the movement of lithospheric plates cause major events on earth’s surface?  
What evidence do scientists have that continents were once joined together?  
What can fossils tell us about movements of the plates in the past? | *Labs  
*Science Starters  
*Weekly Assessments  
*Homework  
*Earth Layers project  
*Literacy Activities  
*Discovery Activities & Assignments  
*Vocabulary Review Games: scavenger hunt, cubing, carousels, bingo cards  
*Edible Plate Tectonics Lab | Unit 1 - Inside Earth  
*Quarterly Assessments | Unit 1 - Inside Earth with Constructed Response Test Items  
*Earth Layers Project and paragraph, possible Cloze Activity |
# Madison County 6th Grade - Earth Science Curriculum Map (2019 - 2020)

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| 1st Qtr | Geology (Rocks)  
- Many materials used by people come from rocks and minerals.  
- Rocks are classified based on how they formed and their mineral composition.  
- Sedimentary rocks are formed by the ongoing deposition of rocks and other sediments that are cemented together.  
- Fossils, the remains of organisms preserved in sedimentary rocks, are part of the evidence scientists use to infer changing conditions at the Earth’s surface through time.  
- Rocks at the Earth’s surface weather, forming sediments that are buried, then compacted, heated, and often recrystallized into new rock.  
Earth’s Resources (Renewable and Nonrenewable)  
- Human activity can have a positive or a negative impact on the surface of our Earth.  
- Renewable resources can be replenished within a relatively short time period.  
- Nonrenewable resources form very slowly, over millions of years when present supplies are used there will be no more.  
- How humans can better conserve resources. | S6E5. Obtain, evaluate, and communicate information to show how Earth’s surface is formed.  
b. Plan and carry out an investigation of the characteristics of minerals and how minerals contribute to rock composition.  
c. Construct an explanation of how to classify rocks by their formation and how rocks change through geologic processes in the rock cycle.  
e. Develop a model to demonstrate how natural processes (weathering, erosion, and deposition) and human activity change rocks and the surface of the Earth.  
L6-8WHST2.  
L6-8RST3.  
L6-8RST4. | 1. Glowing Rocks (Rocks are made up of minerals and some have fluorescent properties)  
2. Rocks Tell a Story  
P.77 Project Earth Science  
Geology  
EQ’s to keep in mind  
How are minerals identified?  
How are rocks formed?  
How are rocks classified?  
How can rocks change from one type to another?  
What is the rock cycle and how do rocks move in this cycle?  
How do scientists use fossils to determine Earth’s changing surface over time?  
Why do mountains often occur in ranges thousands of kilometers long? |  *Labs*  
*Science Starters*  
*Weekly Assessments*  
*Homework*  
*Literacy Activity*  
*Discovery Activities & Assignments*  
*Vocabulary Review Games: scavenger hunt, cubing, carousels, bingo cards*  
*Rock Cycle Story* | Unit 2 - Rocks  
*Quarterly Assessments* |

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<tr>
<td>1st/2nd Q</td>
<td>Weathering and Erosion (Soil) -Weathering is the process that breaks down rock and other substances at Earth’s surface. -Erosion is the movement of rock particles by water and wind. -Deposition occurs where wind, water and ice (the agents of erosion) lay down sediment -Although weathered rock is the basic component of soil, the composition and texture of soil and its fertility and resistance to erosion are greatly influenced by plants and other organisms. -Erosion is the movement of rock particles by water and wind. -Deposition occurs where the agents (forces) of erosion lay down sediment. -Weathering and erosion wear down, and deposition fills in the Earth’s surface. -Human activities, such as reducing forest cover and intensive farming have changed the Earth’s surface.</td>
<td>S6E5. Obtain, evaluate, and communicate information to show how Earth’s surface is formed. d. Ask questions to identify types of weathering, agents of erosion and transportation, and environments of deposition. (Clarification statement: Environments of deposition include deltas, barrier islands, beaches, marshes, and rivers.) e. Develop a model to demonstrate how natural processes (weathering, erosion, and deposition) and human activity change rocks and the surface of the Earth.</td>
<td>(1.) Granite Dome Exfoliation (2.) Jekyll Island is Moving South (2 units) ----------- EQ’s to keep in mind What is meant by weathering? Describe the different processes of weathering. How are weathering and erosion similar and different? How does the formation of soil relate to the processes of weathering and erosion? How do erosion and deposition affect geological features? What is soil and how is it formed? What are soil components?</td>
<td>*Labs *Science Starters *Weekly Assessments *Homework *Literacy Activities *Constructed Response Test Items *Discovery Activities &amp; Assignments *Performance tasks *Vocabulary Review Games: scavenger hunt, cubing, carousels, bingo cards *Foldables</td>
<td>Unit 3 - Weathering/Erosion * Assessments</td>
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### Madison County 6th Grade - Earth Science Curriculum Map (2019 - 2020)

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| 2nd Qtr    | **UNIT 4** Water in Earth’s Processes (Blue Planet)** EQ’s to keep in mind** How does the amount of saltwater differ from the amount of freshwater on Earth? How does water move through the water cycle? Why does water continually move through the water cycle? What happens to water after it evaporates from the oceans and land? Where does salt in the ocean come from? How are the geological features that exist on land similar to the geological features on the ocean floor? What are the causes of waves, currents, and tides? **Jekyll Island is Moving South (2 units)**  
- The majority of the Earth’s surface is covered with water.  
- Most of the water on the Earth is salt water. Only a small amount is fresh water, including water in rivers, many lakes, underground water, and in the form of ice.  
- The cycling of water in and out of the atmosphere plays an important role in determining climatic patterns.  
- Water evaporation from the surface of the earth, rises and cools, condenses into rain or snow, and falls again to the surface.  
- The water, which is a solvent, falling on land collects in rivers and lakes, soil, and porous layers of rock, and much of it flows back into the ocean.  
- Salts have become concentrated in the sea (compared with freshwater) because the sun’s heat causes the evaporation of water, leaving the salts behind.  
- Underneath the ocean, the Earth has plains, mountains, and valleys, which are often larger than those on dry land.  
- Ocean currents can be caused by factors such as wind, salinity, temperature, the Coriolis Effect, and gravitational pull.  
- S6E3. Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes.  
  a. Ask questions to determine where water is located on Earth’s surface (oceans, rivers, lakes, swamps, groundwater, aquifers, and ice) and communicate the relative proportion of water at each location.  
  b. Plan and carry out an investigation to illustrate the role of the sun’s energy in atmospheric conditions that lead to the cycling of water. (Clarification statement: The water cycle should include evaporation, condensation, precipitation, transpiration, infiltration, groundwater, and runoff.)  
  c. Ask questions to identify and communicate, using graphs and maps, the composition, location, and subsurface topography of the world’s oceans.  
|           | **EQ’s to keep in mind**  
- How does water continually move through the water cycle?  
- Why does water move through the water cycle?  
- What happens to water after it evaporates from the oceans and land?  
- Where does salt in the ocean come from?  
- How are the geological features that exist on land similar to the geological features on the ocean floor?  
- What are the causes of waves, currents, and tides?  
|           | **Standards/Elements taught**  
- S6E3. Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes.  
  a. Ask questions to determine where water is located on Earth’s surface (oceans, rivers, lakes, swamps, groundwater, aquifers, and ice) and communicate the relative proportion of water at each location.  
  b. Plan and carry out an investigation to illustrate the role of the sun’s energy in atmospheric conditions that lead to the cycling of water. (Clarification statement: The water cycle should include evaporation, condensation, precipitation, transpiration, infiltration, groundwater, and runoff.)  
  c. Ask questions to identify and communicate, using graphs and maps, the composition, location, and subsurface topography of the world’s oceans.  
|           | **Standards Based Formative Assessment**  
- *Labs*  
- *Science Starters*  
- *Weekly Assessments*  
- *Homework*  
- *Literacy Activities*  
- *Constructed Response Test Items*  
- *Discovery Activities & Assignments*  
- *Performance tasks*  
- *Vocabulary Review Games: scavenger hunt, cubing, carousels, bingo cards*  
|           | **Standards Based Summative Assessment**  
- Unit 4 - Water  
- *Quarterly Assessments*  
- Student Choice Menu Project  
- Benchmark Assessment #1 (2 Days)  
|           | **Advanced Content**  
- Water Cycle Ecosystem

Revised: May 23, 2019
Ocean currents flow in predictable patterns around the world. The moon's gravitational pull and the spinning of the earth cause ocean water to bulge, producing tides.

d. Analyze and interpret data to create graphic representations of the causes and effects of waves, currents, and tides in Earth’s systems.

**L6-8WHST2.L6-8RST3. L6-8RST4.**

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<td>2nd Qtr</td>
<td><strong>UNIT 5</strong>&lt;br&gt;Weather (What's With the Weather?)&lt;br&gt;-Because the Earth turns daily on an axis that is tilted relative to the plane of the Earth’s yearly orbit around the sun, sunlight falls more intensely on different parts of the Earth during the year. The difference in heating of the Earth’s surface produces the planet’s seasons and weather patterns.&lt;br&gt;- The cycling of water in and out of the atmosphere plays an important role in determining climatic patterns.&lt;br&gt;-Heat energy carried by ocean currents has a strong influence on climate around the world.&lt;br&gt;-The sun is the major source of energy for phenomena on the Earth’s surface, including winds, ocean currents, and waves.&lt;br&gt;- Waves transfer energy from one place to another. Waves in oceans and lakes are caused by wind blowing over the surface of the water.&lt;br&gt;- Ocean currents influence the weather in coastal areas. Currents can be caused by wind, differences in salinity,</td>
<td><strong>S6E4. Obtain, evaluate, and communicate information about how the sun, land, and water affect climate and weather.</strong>&lt;br&gt;a. Analyze and interpret data to compare and contrast the composition of Earth’s atmospheric layers (including the ozone layer) and greenhouse gases. (Clarification statement: Earth’s atmospheric layers include the troposphere, stratosphere, mesosphere, and thermosphere.)&lt;br&gt;b. Plan and carry out an investigation to demonstrate how energy from the sun transfers heat to air, land and water at different rates. (Clarification statement: Heat transfer should include the processes of conduction, convection, and radiation.)&lt;br&gt;c. Develop a model demonstrating the interaction between unequal heating and the rotation of the Earth that causes local and global wind systems.</td>
<td>(1.) Humidity and Hair Frizz&lt;br&gt;(2.) Tornado Alley...Does it really exist?</td>
<td><em>Labs</em>&lt;br&gt;<em>Science Starters</em>&lt;br&gt;<em>Weekly Assessments</em>&lt;br&gt;<em>Homework</em>&lt;br&gt;<em>Literacy Activities</em>&lt;br&gt;<em>Constructed Response Test Items</em>&lt;br&gt;<em>Discovery Activities &amp; Assignments</em>&lt;br&gt;<em>Performance tasks</em>&lt;br&gt;<em>Vocabulary Review Games: scavenger hunt,</em></td>
<td><em>Quarterly Assessments</em>&lt;br&gt;Unit 5 - Weather</td>
<td>Flip Grid Weather Reporting</td>
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<td>3rd Qtrr</td>
<td>Earth, Moon, and Sun (Celestial Dance)</td>
<td>S6E2. Obtain, evaluate, and communicate information about the effects of the relative positions of the sun, Earth, and moon.</td>
<td>Full Moon Lunatics: Do people really go crazy at the full moon?</td>
<td>*Labs</td>
<td>Unit 6 - Earth/Moon/Sun Constructed Response</td>
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<tr>
<td>Jan 27 to Feb 24</td>
<td>- The moon’s orbit around the Earth once in about 28 days changes what part of the moon is lighted by the sun and how much of that part can be seen from the earth.&lt;br&gt; - A lunar eclipse occurs when the moon passes through the Earth’s shadow.&lt;br&gt; - A solar eclipse occurs when the moon passes between the Earth and the sun.&lt;br&gt; - Because the Earth turns daily on an axis that is tilted relative to the plane of the Earth’s yearly orbit around the sun, sunlight falls more intensely on different parts of the Earth during the year. The difference in heating of the Earth’s surface produces the planet’s seasons and weather patterns.&lt;br&gt; - The gravitational pull from the moon, and the spinning of the earth, causes ocean water to bulge, producing the tides.</td>
<td>a. Develop and use a model to demonstrate the phases of the moon by showing the relative positions of the sun, Earth, and moon.&lt;br&gt; b. Construct an explanation of the cause of solar and lunar eclipses.&lt;br&gt; c. Analyze and interpret data to relate the tilt of the Earth to the distribution of sunlight throughout the year and its effect on seasons. L6-8WHST2. L6-8RST3. L6-8RST4.</td>
<td>How does the moon appear to change shapes?  How do lunar and solar eclipses differ?  How are lunar and solar eclipses alike?  Why does the Earth have different seasons?  Why does the Earth have tides?</td>
<td>*Weekly Assessments</td>
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<td>4 weeks</td>
<td>Unit 6 - Earth/Moon/Sun</td>
<td>How does the unequal heating of land and water affect weather?</td>
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<td>*Quarterly Assessments</td>
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<td>*Foldables</td>
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| 3rd/4th Qtr Feb 25 - April 1 | **UNIT 7** 5 weeks **Universe and Solar System (What's Out There?)**  
Students will understand that:  
- Observational evidence caused the model of the solar system to be changed from one in which the sun and planets orbit the Earth to one in which the Earth and planets orbit the sun.  
- The “Big Bang” is a theory of how the universe began.  
- The sun is a medium-sized star located near the edge of a disk-shaped galaxy of stars (Milky Way), part of which can be seen as a glowing band of light that spans the sky on a very clear night.  
- Gravity is the force that keeps planets in orbit around the sun and governs the rest of the motion in the solar system.  
- The planets of our solar system differ in size, composition (rock or gas), surface and atmospheric features, and distance from the sun. | **S6E1. Obtain, evaluate, and communicate information about current scientific views of the universe and how those views evolved.**  
a. Ask questions to determine changes in models of Earth’s position in the solar system, and origins of the universe as evidence that scientific theories change with the addition of new information.  
( Clarification statement: Students should consider Earth’s position in geocentric and heliocentric models and the Big Bang as it describes the formation of the universe.)  
b. Develop a model to represent the position of the solar system in the Milky Way galaxy and in the known universe.  
c. Analyze and interpret data to compare and contrast the planets in our solar system in terms of: size relative to Earth, surface and atmosphere. | Why Doesn’t Earth Crash into the Sun?  
------------  
**EQ’s to keep in mind**  
How does the current model of the solar system differ from past models?  
How do scientists believe the universe began?  
What is the order of the formation of the universe?  
Where is our solar system located in the Milky Way?  
What is the force that keeps the planets in motion?  
How does the Earth differ from the other planets? | * Literacy Activities  
* Foldables  
* Science Starters  
* STEM Labs (writing lab reports)  
* Projects  
* Performance Tasks  
* Homework  
* Weekly Assessments | * Quarterly Assessments  
* Benchmark Assessment #2 | Student Choice Menu: Board Game or Travel Brochure |

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Planets move around the sun in nearly circular orbits.
- The Earth is the only body in the solar system that appears to be able to support life.
- The motion of an object is always judged with respect to some other object or point, so the idea of absolute motion or rest is misleading.
- Comets and asteroids are objects smaller than planets that orbit the sun and vary in size, composition, and characteristics.

atmospheric features, relative distance from the sun, and ability to support life.
- Develop and use a model to explain the interaction of gravity and inertia that governs the motion of objects in the solar system.
- Ask questions to compare and contrast the characteristics, composition, and location of comets, asteroids, and meteoroids.

**L6-8WHST2**
**L6-8RST3.**
**L6-8RST4**

Why does a star look different if you move from place to place?
- How could you tell a planet from a star if you look at the same constellations over several nights?
- How are asteroids and comets different?

*Discovery Activities and Assignments*
*Vocabulary Review Games: scavenger hunt, cubing, carousels, bingo cards*

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<td>4th Qtr</td>
<td>Helping ELA</td>
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<td>Reading, writing (constructed response, rewrite) Topics- tone, mood, character analysis</td>
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<td>- Consumer Fair</td>
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<td>- Extensive Practice with the Scientific Method via Experiments</td>
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<td>- Novel concerning the standards that we have taught this year</td>
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