

**CRM 5 Dynamic Earth**

**Pacing**

- 33 days
- Jan. 7-Feb.22
- Week 18-24

**DESIRED RESULTS**

**Making Meaning**

Concepts in the study of Earth science help explain many changes we observe around us. Investigations in the physical sciences help lay a foundation for students to understand the size, age, construction, and behavior of Earth. In addition, studies in life science are partially rooted in Earth science since Earth is the only planet known to support life. Earth science concepts connect with all the other disciplines and connect the concepts in the other strands of science together. These concepts build a foundation for the study of geology, geological history, geophysics, geochemistry, geobiology, climate change, and environmental sciences. Students build an understanding of the Earth and our place in the solar system and the universe.

The following make meaning valuable for learners and are investigated in this unit:

- Earth is a unique water planet that supports life.
- Earth’s surface is constantly changing due to the forces of moving wind, water, and ice.
- Forces below the surface of the Earth cause dramatic, quick changes to Earth’s surface.
- Earth produces natural resources that meet the needs of humans and other organisms.
- Earth recycles its materials.
- Humans have an impact on Earth.

**Transfer:** Students understand that models of the Earth’s surface and processes are simplified representations of real objects and processes, and that models serve as a means to communicate ideas and knowledge about how these Earth processes work.

**Enduring Understandings:**

- As we observe rocks and soil, they tell us about their past.
- Water is found on Earth in its oceans, lakes, rivers, streams and aquifers.
- Earth produces resources that meet our needs.

**Essential Questions:**

- What do the characteristics of rocks and soil tell us about their past?
- Where does all our water come from, and how do we describe it?
- How do we use materials we find in our natural world?

**Essential Vocabulary**

- aquifer/ acuífero
- conservation/ conservación
- freshwater/agua dulce
- groundwater/ agua subterránea
- gold/oro
- lake/lago
- limestone/piedra caliza
- man-made/ artificial, sintético
- natural/natural
- ocean/océano

- paper/papel
- plastic/plástico
- predict/predecir
- pollutant/ contaminante
- physical property/propiedad física
- river/río
- saltwater/agua salada
- source/ fuente
- steel/acero
- stream/ arroyo
- surface water/ aguas superficiales
- wood/madera

**Supporting Vocabulary Link**

- [Elementary School Supporting Vocabulary](#)

**Student Prerequisite Knowledge**

*Students should know:*

- soil comes in many colors, textures, and size particles.
- soil supports plant growth.
- soil is made of tiny bits of rock, decaying plants and animals, and live organisms.
- how to identify and describe a variety of natural sources of water, including lakes, rivers, streams, aquifers, and oceans.
- where our water on Earth comes from.
- freshwater sources: lakes, rivers, streams, and aquifers.
- salt- water sources: oceans. (and a few lakes and seas.)
- how to observe rocks and soil.
- why water is important to life.
- uses for natural resources in our world.
- examples of products made of/with water, soil, and rocks.
- natural resources are found in nature.
- man uses resources to make things for everyday use.
- some resources are reusable and recyclable, others are gone when we use them up.

**Resources:** AISD Module Kit, Model Lesson Portfolio, [STEMscopes](#), eBooks: Envisions Science Leveled Readers, Scott Foresman Text, [Science Notebook Resources](#), [BrainPop Jr.](#), [Discovery Education](#), [Differentiation Strategies & Resources](#)

**ELPS:** Mandated by Texas Administrative Code (19 TAC §74.4), click on the link for [English Language Proficiency Standards \(ELPS\)](#) to support English Language Learners.

TEKS Knowledge & Skills	Acquisition	
STAAR: RC = Reporting Category; DC = Dual Coded Skills; <b>Readiness Standard</b> ; <b>Supporting Standard</b> Concepts are addressed in another unit.	Students Will Know	Students Will Be Able To
2.7: Earth and space. The student knows that the natural world includes earth materials. The student is expected to:		
2.7A: observe and describe rocks by size, texture, and color.	<ul style="list-style-type: none"> <li>• Rocks come in many colors, textures, sizes, and have different masses.</li> <li>• Rocks can be measured.</li> <li>• Rocks are formed from one or more minerals.</li> <li>• Rocks are formed in different ways.</li> </ul>	<ul style="list-style-type: none"> <li>• Measure rocks.</li> <li>• Observe, describe and compare rocks by size, shape, color, and texture.</li> </ul>
2.7B: identify and compare the properties of natural sources of freshwater and saltwater.	<ul style="list-style-type: none"> <li>• Understand why water is important to life.</li> <li>• Know where our water on Earth comes from.</li> <li>• Identify freshwater sources: lakes, rivers, streams, aquifers, glaciers.</li> <li>• Identify salt-water sources: oceans and a few lakes and seas.</li> </ul>	<ul style="list-style-type: none"> <li>• Observe and describe physical properties of natural sources of water, including color and clarity.</li> <li>• Compare the water from different sources.</li> </ul>

<p>2.7C: distinguish between natural and manmade resources</p> <p>Process Skill: 2. 1C: identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal</p>	<ul style="list-style-type: none"> <li>• Natural resources are found in nature.</li> <li>• Man uses resources to make things for everyday use.</li> <li>• Identify uses for natural resources in our world.</li> <li>• Identify examples of products made of/with water, soil, and rocks.</li> <li>• Resources are reusable and recyclable.</li> <li>• Conservation is necessary to make sure we have enough of these resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Classify resources as natural or man-made.</li> <li>• Give examples of ways rocks, soil, and water are useful.</li> <li>• Demonstrate how we can use, reuse, recycle, and conserve natural resources.</li> <li>• Use and conserve water wisely.</li> </ul>
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The study of science is taught through the lens of [Scientific Processes \(TEKS 2.1-2.4\)](#); therefore, these TEKS should be taught in conjunction with content throughout the year. Suggestions for TEKS to embed in each unit are provided in the Yearly Itinerary; however, the TEKS that can be addressed within a unit depends greatly on the learning activities in which students are engaged. Therefore, teachers must be deliberate in their choice of learning activities to ensure that all Scientific Processes TEKS are appropriately embedded within the course. In 2<sup>nd</sup> grade, districts are encouraged to facilitate laboratory and field investigations for at least 60% of instructional time.

**ASSESSMENT EVIDENCE**

**Student Work Products/Assessment Evidence**

Performance Tasks	Other Evidence (i.e. unit tests, open ended exams, quiz, essay, student work samples, observations, etc.)
<p>Students investigate the following with hands-on inquiry labs:</p> <ul style="list-style-type: none"> <li>• <b>Suggested Dual Language Activity 1</b> Rocks: Students identify and discuss the properties of rocks with a partner.</li> <li>• <b>Suggested Dual Language Activity 2</b> Rock Cycle and Types Students observe and describe in writing why certain rocks are classified as different types.</li> <li>• Water Sources</li> <li>• Bodies of Water</li> <li>• Flowing Water</li> <li>• Aquifer Model</li> <li>• Recycle, Reuse, Reduce Data Collection</li> </ul>	<ul style="list-style-type: none"> <li>• Science Notebooks and Lab Notes</li> <li>• Teacher Observations and Questioning</li> <li>• Mapping Water Flow</li> <li>• Comparing Water Sources</li> <li>• Water Planet</li> <li>• Water Sources Poster</li> <li>• Recycle, Reduce, Reuse Survey and Graph</li> <li>• Conservation Posters</li> <li>• Teacher Observations: Use of safety rules and equipment</li> <li>• Teacher Observations: Management and use of tools</li> <li>• Tools foldable/web in Science Notebook</li> <li>• Students' use of evidence to support explanations and claims.</li> </ul>

## LESSON PLANNING TOOLS

In the course of lesson planning, it is the expectation that teachers will include whole child considerations when planning such as differentiation, special education, English language learning, dual language, gifted and talented, social emotional learning, physical activity, and wellness.

### Science Fair 5 Days

*Use questions and student interest from the beginning and throughout the year to guide students through a descriptive investigation. If you have made an Inquiry Board to showcase student questions and ideas, validate student thinking with reading and talking about how as a scientist, each of their questions might be answered using scientific investigations. Remember that scientists answer questions in many ways, not just experimental investigations: building models, observations, observations and data collection over time, research and collaboration with other scientists.*

### Model Lesson- [Earth Materials: Rocks](#)

- Rock Properties
  - Types of Rocks
- Suggested Pacing: (9 days)  
TEKS: 2.7A

#### Additional Optional Lessons

- The Rock Cycle
  - Rock Review
- Suggested Pacing: (4 days)  
TEKS: 2.7A

### Model Lesson- [Earth Materials: Water](#)

- Water
- Suggested Pacing (10 days)  
TEKS: 2.7B

### Model Lesson- [Earth Materials: Natural and Man-Made Resources](#)

- Natural & Man-Made Resources
  - Reduce, Reuse, Recycle
- Suggested Pacing: (9 days)  
TEKS: 2.7C, 2.1C