

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, and ponds.
- 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

- boulder / guijarros grandes
- clay/ arcilla, barro
- decaying plant and animal matter/material de planta y animal decompuesta
- fresh water/ agua dulce
- glacier/ glaciar
- gravel/ grava
- groundwater/ agua subterranean
- hardness / dureza
- heavy/ pesado
- humus/ humus
- lake/lago
- ocean/ océano

• pollution/ contaminación

- properties/ propiedades
- particles/ partículas
- pebble/ guijarros
- pond/ estanque
- recycle/ reciclar
- reduce/ reducir
- reuse / reusar
- river/río
- salt water/ agua salada
- sand/ arena
- settle/ asentarse
- silt / cieno
- soil/ suelo, tierra
- stream/arroyo
- surface water/ aguas de superficiales
- texture/textura

Supporting Vocabulary Link

- [Elementary School Supporting Vocabulary](#)

Student Prerequisite Knowledge

Students should know:

- rocks come in all kinds of shapes, sizes, colors, and textures.
- scientists describe rocks by their properties.
- rocks can be sorted by their properties.
- properties of rocks determine how they can be used.
- water differs in color and clarity when it contains minerals.
- water can be polluted.
- water we drink is purified.
- natural resources are found in nature.
- man uses resources to make things for everyday use and meet their needs.
- resources are reusable and recyclable.

Resources: AISD Module Kit, Model Lesson Portfolio, FOSS: [Pebbles, Sand & Silt Investigations](#), [STEMscopes](#), eBooks: Envisions Science Leveled Readers, Scott Foresman Text, [Science Notebook Resources](#), [BrainPop Jr.](#), [Discovery Education](#)

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 <i>Important knowledge and skills</i>	
STAAR: RC = Reporting Category; DC = Dual Coded Skills; Readiness Standard ; Supporting Standard Concepts are addressed in another unit.	Students Will Know	Students Will Be Able To
1.7: Earth and space. The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems. The student is expected to		
1.7A: observe, compare, describe, and sort components of soil by size, texture, and color.	<ul style="list-style-type: none"> • Soil is all around us. • 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. 	<ul style="list-style-type: none"> • Measure rocks and soil components. • Observe, describe, and compare rocks by size, shape, color, and texture. • Observe, describe, and sort soil components by size, color, and texture (properties).
1.7B: identify and describe a variety of natural sources of water, including streams, lakes, and oceans.	<ul style="list-style-type: none"> • Know where our water on Earth comes from. • Identify freshwater sources: rivers, lakes, and streams. • Identify salt- water sources: (oceans and a few lakes and seas). 	<ul style="list-style-type: none"> • Identify and describe natural sources of water. • Identify water in the Austin area. • Compare the water from different sources. (This would be a model of fresh/salt water samples).
1.7C: gather evidence of how rocks, soil, and water help to make useful products.	<ul style="list-style-type: none"> • Know how to observe rocks and soil. • Know why water is important to life. • Know uses for natural resources in our world. • Identify examples of products made of/with water, soil, and rocks. • Know that 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. 	<ul style="list-style-type: none"> • Gather evidence and give examples of ways rocks, soil, and water are used to make useful products. • Demonstrate how we can use, re-use, recycle, and conserve natural resources.

The study of science is taught through the lens of [Scientific Processes \(TEKS 1.1-1.4\)](#); 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 1st grade, districts are encouraged to facilitate laboratory and field investigations for at least 80% 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.)
<ul style="list-style-type: none"> • Students investigate the following with hands-on labs and activities: • River Rocks • Sand • Clay • Silt • Homemade Soil • Bodies of Water • Where is Water Found? • Major Rivers of Texas • Salty or Fresh? • Useful Products Scavenger Hunt • Earth Protector 	<ul style="list-style-type: none"> • Science Notebooks and Lab Notes • Teacher Observations and Questioning • “Sand, Gravel, and Pebbles” Student Sheet • “Sand and Clay Drawings” Student Sheet • “Bottle Drawing” Student Sheet • Rock Rules Student Sheet • Where is Water Found? Student Sheet • Water Sources • Freshwater Flipchart • Major Rivers of Texas • Useful products made of/with rocks/soil/water. • Students’ use of evidence to support explanations and claims.
LESSON PLANNING TOOLS	
<p>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.</p>	
<p>Science Fair 5 Days <i>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.</i></p>	
<p>Model Lesson- Earth Materials: Rocks/Soil</p> <ul style="list-style-type: none"> • Earth Materials <p>Suggested Pacing: (9 days) TEKS: 1.7A</p>	
<p>Model Lesson- Earth Materials: Useful Natural Resources: Rocks/Soil/Water</p> <ul style="list-style-type: none"> • Natural Resources <p>Suggested Pacing: (10 days) TEKS: 1.7C</p>	
<p>Model Lesson- Earth Materials: Water</p> <ul style="list-style-type: none"> • Earth’s Water <p>Suggested Pacing: (9 days) TEKS: 1.7B</p>	