

CRM 5 La Tierra Dinámica

Administración

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

RESULTADOS ESPERADOS

Formando Conceptos

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.

Transferencia: 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.

Entendimiento perdurable:

- Las rocas y el suelo conservan evidencia de los minerales, las temperaturas, y fuerzas que las crearon.
- La superficie de la Tierra es constantemente cambiada por las fuerzas.
- Las características de los recursos naturales los hace útil y dignos de conservar.

Preguntas Esenciales:

- ¿Cómo es que las piedras/rocas y el suelo comunican el pasado de la Tierra?
- ¿Cómo es que las fuerzas forman la superficie de la Tierra?
- ¿Qué es lo que hace que un recurso natural sea útil?

Vocabulario Esencial

- | | |
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| <ul style="list-style-type: none"> • alternative energy/ fuentes alternativas de energía • biofuels/ biocombustibles • basin / cuenca • channel / canal • canyons/ cañón • chemical weathering/ degradación química, meteorización química • coal/ carbón mineral • delta/ delta • drought/ sequía • erosion / erosión • deposition / deposición, sedimentación • environment/ medio ambiente • extinct/ extinguirse • floodplain/Ilanura aluvial | <ul style="list-style-type: none"> • geothermal energy/ energía geotérmica • hydroelectric energy/ energía hidroeléctrica • layers/capas • natural gas/ gas natural • nutrients/nutrientes • organic matter/material organismo • petroleum / petróleo • physical weathering/ degradación física, meteorización física • sand dune/colina de arena • sediment/sedimento • sedimentary rock • stream table/ corriente de agua sobre mesa • solar energy/ energía solar • weathering/desgaste o degradación |
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Vocabulario de apoyo

- [Vocabulario de apoyo para las escuelas primarias](#)

<ul style="list-style-type: none"> fossil fuel/ combustibles fósil fossil/ fósil 	<ul style="list-style-type: none"> wind energy/ energía del viento 	
<p>Requisitos de conocimiento previo del estudiante: <i>Students should know:</i></p> <ul style="list-style-type: none"> soil formation is part of the rock cycle. soil is made of particles of rock, the remains of decaying organisms, and living organisms. understand that forces acting on matter create change. waves, wind, water, and ice shape and reshape the Earth’s surface by eroding rock and soil in some areas and depositing it in others. weathering is the breaking down of rock by water, wind, and ice. erosion carries away Earth materials by wind, water, and ice. deposition is the process by which eroded earth materials settle out in another place. man uses resources to make things for everyday use. some resources cannot be reproduced in our lifetime and are classified as nonrenewable. Other resources can be renewed in our lifetime and are classified as renewable. resources that are plant and animal based are usually renewable. resources that come from the Earth are usually non-renewable. conservation is necessary to make sure we have enough of these resources. 		
<p>Recursos Kit del módulo de AISD, Investigaciones FOSS Accidentes Geográficos, Carpeta de lecciones modelo, Libros electrónicos: Libros nivelados de ciencias de Envisions, Texto de Scott Foresman, Recursos para el cuaderno de ciencias, BrainPop Jr., Discovery Education, Recursos y Estrategias de Diferenciación</p>		
<p>ELPS: Bajo el mandato del Código Administrativo de Texas (19 TAC §74.4), haz clic en el enlace English Language Proficiency Standards (ELPS) para proporcionar apoyo a los Aprendices del Idioma Inglés.</p>		
<p>TEKS Conocimientos y Destrezas</p> <p>STAAR: RC = Área de Conocimientos; DC = Destrezas de Doble Codificación; Estándar de Preparación Esencial; Estándar de Apoyo, Conceptos son tratados en otra unidad.</p>	<p>Adquisición <i>Conocimientos y Destrezas Importantes</i></p> <p>Los estudiantes conocerán:</p> <p>Los estudiantes serán capaces de:</p>	
<p>5.7: La Tierra y el espacio. El estudiante entiende que la superficie de la Tierra cambia constantemente y está formada por recursos útiles. Se espera que el estudiante:</p>		
<p>5.7A: <u>explore los procesos que llevaron a la formación de rocas sedimentarias y combustibles fósiles.</u> RC3</p>	<ul style="list-style-type: none"> Particles of sand and silt (some containing the remains of organisms) settle in layers over time and are gradually buried together and harden to form solid rock again. A fuel is a material we burn in order to generate energy. Fossil fuels formed in Earth's crust when buried layers of decaying organic matter are chemically changed by pressure, bacterial processes and heat. It took millions of years for these organisms to change into fossil fuels. 	<ul style="list-style-type: none"> Explore the processes that led to the formation of sedimentary rocks. Understand and identify the oldest/youngest layers in sedimentary rock. Explore how fossil fuels are formed. Identify the environment that created the fossil fuel.
<p>5.7B: <u>reconozca que los accidentes geográficos, tales como deltas, cañones y dunas de arena, son el resultado de los cambios en</u></p>	<ul style="list-style-type: none"> Earth’s surface and landforms are constantly being changed and shaped by the forces of moving water, wind, and ice. 	<ul style="list-style-type: none"> Explore the processes that led to the formation of landforms. Recognize landforms created by moving wind, water, and ice.

<p><u>la superficie terrestre causados por el viento, el agua y el hielo.</u> RC3</p>	<ul style="list-style-type: none"> • Erosion carries away Earth materials by wind, water, and ice. • deposition is the process by which eroded earth materials settle out in another place; • A landform is a shape of the land. 	<ul style="list-style-type: none"> • Demonstrate examples and non-examples of landforms. • Model and explain a landform. • Explain and identify examples of deposition, weathering, and erosion.
<p><u>5.7C: identifique fuentes alternativas de energía, tales como la energía del viento, energía solar, hidroeléctrica, geotérmica y la energía que se obtiene de los biocombustibles.</u> RC3</p>	<ul style="list-style-type: none"> • Alternative energy resources are those that do not require fossil fuels, and they include biofuels (ethanol and diesel), wind, solar, geothermal, and hydroelectric resources. • Increased demand for and use of energy resources leads to more rapid depletion of Earth's energy resources and to environmental risks associated with fossil fuels. • Finding alternative resources that are renewable helps reduce pollution and availability of energy resources and creates jobs for our future. 	<ul style="list-style-type: none"> • Identify current energy resources and their benefits or challenges. • Identify why and how we might use the following alternative energy resources: wind, solar, hydroelectric, geothermal, and biofuels. • Compare advantages and disadvantages of alternative energy sources to fossil fuels.
<p><i>5.7D: identifique fósiles como evidencia de organismos vivos que existieron en el pasado y las características del medio ambiente de esa época usando modelos.</i> RC3</p>	<ul style="list-style-type: none"> • Layers of sedimentary rock provide evidence of Earth's history and of changing life forms over time. • Fossils can be in different forms. • We can infer conditions of past environments by examining fossils from different times. 	<ul style="list-style-type: none"> • Identify fossils as evidence of past living organisms. • Use fossil models to identify what the nature of the environment was like at that time.
<p>4.7: La Tierra y el espacio. El estudiante entiende que la Tierra está formada por recursos útiles y que su superficie cambia constantemente. Se espera que el estudiante:</p>		
<p><i>4.7A: examine las propiedades de los suelos, incluyendo color y textura, capacidad de retener agua y capacidad para sustentar el crecimiento de las plantas.</i> RC3</p>	<ul style="list-style-type: none"> • Soil is made of particles of rock and the remains of decaying and live organisms. • We can observe soils for properties of color, texture, how well they appear to support plant life, and their tendency to retain or drain water. • Sand, silt, and clay are particles of different sizes, and their proportion in a soil determines its tendency to retain water. • Soils containing large particles such as sand have space for air but let water drain out quickly. • Soils containing small particles such as clay have little space for air but do retain water. • A mixture of these particles is best 	<ul style="list-style-type: none"> • Investigate and describe soil components. • Compare soil samples' colors, textures, and water drainage. • Compare particle and pore size to determine water retention.

	<p>for retaining the right amount of water.</p> <ul style="list-style-type: none"> Decaying organisms add nutrients to the soil that support plant life. 	
<p>4.7C: <i>identifique y clasifique los recursos renovables de la Tierra, incluyendo el aire, plantas, agua y animales, así como los recursos no renovables, incluyendo el carbón mineral, petróleo y gas natural, y la importancia de conservarlos.</i> RC3</p>	<ul style="list-style-type: none"> Natural resources are materials found in nature that are useful for survival, for energy, and for making things. Resources are removed from the Earth at great energy “costs.” Resources may be classified as renewable or nonrenewable. Conservation is necessary to make sure we have enough of these resources. 	<ul style="list-style-type: none"> Identify and classify resources as renewable or nonrenewable. Analyze advantages and disadvantages of using fossil fuels. Make informed decisions in the conservation, disposal, and recycling of materials.
<p>3.7: La Tierra y el espacio. El estudiante entiende que la Tierra está formada por recursos naturales y que su superficie cambia constantemente. Se espera que el estudiante:</p>		
<p>3.7B: <i>investigue los cambios rápidos en la superficie de la Tierra, tales como erupciones volcánicas, terremotos y derrumbes de tierra.</i> RC3</p>	<ul style="list-style-type: none"> Volcanoes are formed when magma pushes upward, causing the land to rise, and pressure forms a vent, allowing lava to escape on Earth’s surface. Earthquakes are the result of rock plates below the Earth’s surface, creating vibrations. Landslides are the result of forces of gravity pulling on rock, mud, and land. 	<ul style="list-style-type: none"> Investigate rapid changes on Earth’s surface. Investigate volcanic eruptions, earthquakes, and landslides.
<p>El estudio de las Ciencias se enseña a través de la perspectiva de los Procesos Científicos (TEKS 5.1-5.4) por lo tanto, los Conocimientos y Destrezas Esenciales de Texas (TEKS) deberán enseñarse en conjunto con el contenido durante el transcurso del año. Sugerencias para integrar los TEKS en cada unidad se ofrecen en el Itinerario Anual; sin embargo, los TEKS que se pueden tratar dentro de una unidad dependen en gran parte de las actividades de aprendizaje en que están participando los estudiantes. Por esta razón, el maestro debe considerar las actividades que se emplearán con los estudiantes para asegurar que todos los Procesos Científicos TEKS estén debidamente incorporados durante el curso. En el quinto grado, se recomienda a los distritos que faciliten la realización de investigaciones en el laboratorio y de campo por lo menos en 50 por ciento de tiempo de instrucción.</p>		

EVIDENCIA DE EVALUACIÓN	
Productos del trabajo del estudiante/evidencia de evaluación	
Actividades de Desempeño Académico	Otras pruebas o evidencia (ej. exámenes de unidad, exámenes con preguntas abiertas, tipo ensayo, pruebas breves, ejemplos de trabajo diario del estudiante, observaciones, etc.)
<p>Students investigate the following with hands-on labs and research:</p> <ul style="list-style-type: none"> • TEA Constant Changes • FOSS: Landforms stream table investigations • Weathering, erosion, and deposition • Sedimentary rock formation and layering • Fossil formation and evidence of past environments • Changing Earth Labs • Fossil fuel formation • Natural Resources Classification • Conservation Plan • Alternative energy resource research and exploration <p>Optional Review Lessons and Labs:</p> <ul style="list-style-type: none"> • Science Fair Project • Volcanoes • Landslides • Earthquakes • Soil 	<p>Evaluación de Ciclo Corto</p> <ul style="list-style-type: none"> • <i>SCA Testing Window: Jan.28-Feb.1, 2013</i> <i>Tested TEKS: 5.7B, 3.7B, 3.8D</i> • <i>SCA Testing Window: Feb.25-March1, 2013</i> <i>Tested TEKS: 5.7A, 5.7C, 5.7D, 4.7A, 4.7C</i> <p>Sugerencias Adicionales para la Evaluación</p> <ul style="list-style-type: none"> • Student responses in notebooks • Teacher observations and questioning • Team products and decisions • Graphic organizers • Constant Changes – Evaluate page 108, RM 12 • TEA Constant Changes Labs • FOSS Landforms Lab Notes and Sheets • Student-developed surveys, graphs, and analyses using computers • Problem solving projects and communication

HERRAMIENTAS PARA LA PLANEACIÓN DE LECCIONES DE CLASE
<p>En el transcurso de la planeación de lecciones de clase, la expectativa es que los maestros tomen en cuenta consideraciones del estudiante en su totalidad como incluirán elementos que cubren todos los aspectos de diferenciación instructiva, educación especial, aprendizaje del idioma inglés, nivel de dotados y talentosos, aprendizaje social y emocional, actividad física y bienestar.</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>LECCIÓN MODELO- CHANGES TO EARTH’S SURFACE</p> <ul style="list-style-type: none"> • Erosion • Stream Tables 1: Erosion and Deposition • Stream Tables 2: Moving Water • Landforms • Ice-carved Landforms <p>Review Lessons (Optional)</p> <ul style="list-style-type: none"> • Weathering Review • Rapid Changes to Earth’s Surface Water and • Caves <p>Suggested Pacing: (9 days) TEKS: 5.7B, 3.7B</p>

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LECCIÓN MODELO- [PROPERTIES OF SOIL](#)

- Soil Properties
 - Testing Soil
 - Suggested Pacing (4 days)
- TEKS: 5.7A, 4.7A

LECCIÓN MODELO- [SEDIMENTARY ROCK & FOSSIL FORMATION](#)

- Sedimentary Rock and Fossil Formation
 - Inferring Past Environments
- Suggested Pacing: (5 days)
- TEKS: 5.7A, 5.7D

LECCIÓN MODELO- [RENEWABLE AND NONRENEWABLE RESOURCES \(FOSSIL FUELS AS A RESOURCE\)](#)

- Natural Resources
 - Fossil Fuels
- Suggested Pacing: (5 days)
- TEKS: 5.7A, 4.7C

LECCIÓN MODELO- [ALTERNATE ENERGY RESOURCES](#)

- Alternative Energy
- Suggested Pacing: (5 days)
- TEKS: 5.7C