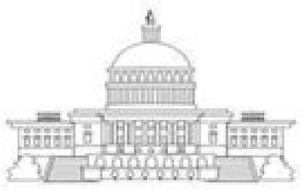
53996396 271018416.25 25831105.205479 3922313.3181818 27571228.785714 11824207000 11893033180 25774397.517857 3040694.46 2263210976 111005451634 1788980.3956044

Three Branches of Government

There are three departments that make up the United States Government. These departments are often referred to as the three branches of government.

Legislative	Executive	Judicial
		
The Legislative Branch makes the laws. Congress and Senate make up the Legislative Branch.	The Executive Branch enforces the laws. The President and Vice President are part of the Executive Branch.	The Judicial Branch judges the laws. It is made up of nine supreme court justices.

Checks and Balances

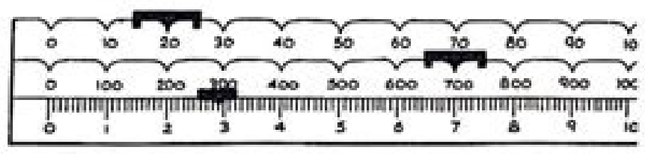
The three branches are designed to check and balance each other. No one branch should have all the power. Each branch is important to the functioning of our government.

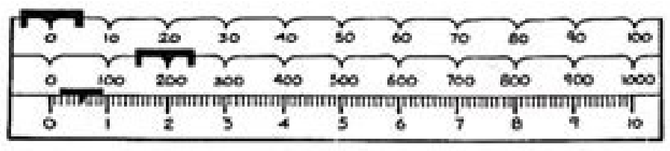
USING THE BALANCE

Name _____

The following balance measure mass is grams. What masses are shown on each of the following balances?

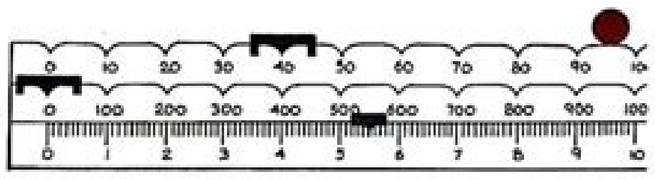
Answer: _____

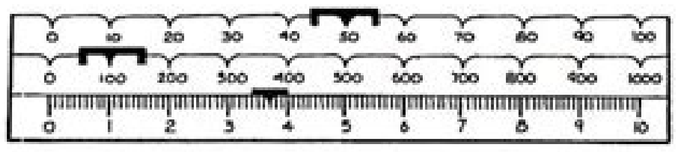




Answer: _____

Answer: _____





Answer: _____

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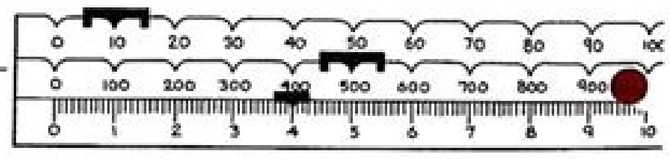

Heat Transfer Quiz

Complete the Fossil and Mountain Chain Evidence activity by coloring fossil and mountain chain data on the continents. It may be best to design and test on separate days so that you can gather the materials that students need to test their designs. Finally, have two groups of partners compare their questions and answers. Opening Various questions on seasons and diagrams. Review seasons study guide #1 Work Session Review stationss 1. a. They are not the same. Obtaining, Evaluating, and Communicating Information: Critically read scientific texts adapted for classroom use to determine the central ideas and obtain scientific information to describe patterns in and/or evidence about the natural world(s). Have parents or business partners donate when possible. Remind students to bring in a chocolate bar for the Chocolate rock cycle lab. Only a small amount is fresh water, including water in rivers, lakes, underground water, and in the form of ice. Furthermore, how can we solve this problem and make sure people do get access to water? Complete Chocolate rock cycle activity handout, explain how each rock is formed   CLOSING (10-20 min) Intro: Rock Cycle Song Students will sing-a-long to the rock cycle song Exit ticket on notebook: Write the formation processes of various types of rocks Students will place the 3 rock type names/formation processes on a 3×5 index card. Each will pick up a card and the partner will explain the rock formation process In the notebook, students will write a one paragraph story on how each rock is formed, where it came from and where it can go Students explain what happened to the chocolate and the cookies and how the rock cycle process is similar to what happened during the lab Differentiation Strategies Grouping Scaffolding Help out individually Some students will be given partially filled in graphic organizers Singing Graphic organizer, picture illustrations Pair share Singing rock cycle song Some students will be given samples to use Some students will be partnered with teacher or specified student to help Assessments Minerals written quiz, Oral response during class, Brainpop review quiz, Paper Plate illustration, Singing, Completing organizer Openings or Daily Warm Ups. Probing. Check for understanding.   Questioning and discussing student responses on the daily content. Developing and Using Models: Develop a model to describe phenomena Evaluate limitations of a model Crosscutting Concepts: Systems and System Models: Models can be used to represent systems and their interactions—such as inputs, processes and outputs—and energy, matter, and information flows within systems. -Draw out cause and effect relationships and interactions between energy and matter Explain (Day 3-4) Students discuss lab conclusions Students take notes on convection currents and/or participate in simulations such as Students draw a cross-section of the Earth (including its layers) to draw a model of convection currents in the mantle Students write an explanation of how plates move (Formative Assessment) -Discuss the conclusions from the lab with students. Today, power companies use the heat produced by nuclear fission to produce electricity. Do not study ocean life. Begin instruction so that students' questions get answered. Assessment Skills Tutor content. USA TEST PREP content (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate. Rock Cycle Nature Walk Students will go on a walk down to the stream at the back of the school. They will go over the bridge and identify various rocks on the ground. Students will: — Describe the types of rock found near this stream — Explain how the rocks formed — Explain how the rocks got to the stream — Explain where the rocks and materials near and in the stream came from. S7L2. Some students will volunteer to read their story. 2017 8-14 to 8-18 GMS HUTCH & PAYNE Standard(s) Element(s) (S6E5) Students will investigate the scientific view of how the earth's surface is formed. Their accumulation in the atmosphere can only be explained by human activity. (S6E3.a) Explain that a large portion of the Earth's surface is water, consisting of oceans, rivers, lakes, underground water and ice. Opening Water Cycle stages/definitions warm-ups. Various questions on the water cycle Work Session 1. Water Cycle Fly Swatter: Students line up to swat at answers on the water cycle 2. Water Cycle Manila Folder Poster. Students draw, illustrate, and color a water cycle diagram. Work Session World ocean current and climate reading comprehension graphic organizer. Students read about the way currents affect world's climate, compare the world's temperatures based on latitude, and discuss how the climate is affected. Discuss how the ocean becomes salty (erosion). Circulate around the room and ask partners to explain which question revealed the most information and why. · Our water comes out of visible, readily accessible sources. Opening Complete the Water Cycle Graphic organizer from Wednesday. Review, discuss, explain Work Session Computer Lab Students log on to teacher website (www.choiscience.weebly.com). Lesson Plans Paula Hutchison for the week of (3/13 – 3/17) 2017 MON 3-13 Essential Question(s) What are fronts and how do High pressure areas differ from low pressure areas? This will cause the students to further own the general information on the rock cycle. Students answer the quiz at the end of the video. Handout Ask students to hypothesize how fossils ended up in these three disparate locations. ·   The sea floor is flat. Coal Coal is the most abundant fossil fuel. What did you learn? Sample of soil mixed up soil materials will be observed and described.Work Session: Students will go outside and dig in the soil, sample of the soil, and list items observed. A sample of soil profile will be given. Students will draw the sample and describe what is in the soil. Ocean Currents Activity: Teacher will guide/review with students the cause waves and currents. World's oceans and current directions will be discussed. Discussion will include: Where the currents are moving, temperature (students will explain which currents are warm or cold and why) Looking at the activity map, what type of current flows and circulates around Florida and Great Britain? Answer assessment questions on the organizer 2. Follow interactive water cycle website #4. Complete the graphic organizer for this activity. Quiz: Weather, Cold Fronts, Warm Fronts, Severe Weather, Weather symbols Students who complete the quiz will draw figure 4 on page 520 of the textbook. This is the next unit we will be working on (seasons) Closing Work on drawing figure 4 (page 520) Differentiation Some students will be read to during the testing Assessment Weather quiz (S6E4.c) Relate how moisture evaporating from the oceans affects the weather patterns and weather events such as hurricanes winter-break-reading-challenge-25hv4x5 Rags to Riches is similar to Who Wants to be a Millionaire, Challenge Board is like Jeopardy and the cloze activities give you choices to fill in the blank. Enjoy Science prefixes Force and energy 6.2 Cloze Earth's Energy Source 6.3 Rags to Riches Solar Energy 6.3 Cloze Matter 6.4 Rags to Riches 6.5 Wonderful Water Rags to Riches Wonder of Water 6.5 Cloze Atmosphere 6.6 Rags to Riches Science 6.7 Watershed Rags to Riches Virginia Watersheds 6.7 columns VA Watersheds 6.7 Rags to Riches Water Cycle Rags to Riches Solar System Cloze 6.8 Solar System Columns 6.8 Resources 6.9 Rags to Riches Lesson Plans Paula Hutchison for the week of (2/13 – 2/17) 2017 Ocean waves Ocean currents and wind currents circulating around the world another good simulater Ocean Currents and waves information Sea/Land breezes MON 2/13 Essential Question(s) What is a tide? The environmental problem arises because a dam is typically built on a river creating a lake where land once stood. Also has a great pdf: The Water Cycle and the Water Crisis Personal Water Footprint Calculator– estimates how much water individuals use each day Unit Lesson Plans Fresh Water Fiasco Water Cycle Additional Lab/Lesson Activities STEM Challenges/PBL Fresh Water Fiasco Groundwater STEM Challenge Sample 3-D Performance Tasks Topic 2: The Ocean Big Ideas/Enduring Understandings: ·   Although we label five "separate" oceans on a globe/map, there is really only one interconnected global ocean. HFCs are a group of chemicals synthesized by humans which also act as greenhouse gases. Describe the contents of each soil layerDifferentiation Some students will be given assistance with completing the T-chart. Partially filled out graphic organizer.Assessment Drawing and labeling with using notes. Group students according to their abilities. Assessment Formative test, Summative test, Exit ticket, Performance task. Ask students to write a question they have about the item on a sticky note and come to the board to stick it around the projected image. Evaluate students' use of evidence to support hypotheses in their models Sixth Grade Dynamic Earth Unit Title: Fossils Provide Evidence of a Changing Environment Estimated Time: 4-5 class periods Core Ideas (GSE Standards): S6E5g. Standards SCI.6.S6E2.c Lesson Plans for Paula Hutchison for the week of (3/20 – 3/24) 2017 MON 3/20 Essential Question(s) What cause the different seasons on Earth? Students follow PowerPoint (How the water is distributed on the earth's surface). Use circle graph, Rectangle Grids to visually show how water is distributed. Watch video. Follow with handout and fill definitions. Discuss and Explain the conditions that are required for each stage of the water cycle. 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 using a pie/circle graph. Assessment   Uneven heating lab activity questions. Read/familiarize instructions/questions on the graphic organizer. FRI 3/24 Essential Question(s) What cause the different seasons on Earth? -Place the mix into a tub of ice. Rock Cycle Study Guide #2: Work on the study guide graphic organizer independently (10 min). Pair/Share with partner (5 min) Review the answers for the rock cycle study guide graphic organizer Make Flash Cards: Create Flash Cards for each type of rock. What are the average temperatures in Wyoming? The practical sources of energy include the fossil fuels, natural gas, petroleum (or oil), and coal. Engage (Day 1) Watch the trailer for Journey to the Center of the Earth Write down observations about what the Earth looks like under the surface and what the center of the Earth looks like in the movie Participate in class discussion about whether we can dig to the center of the Earth. Give each group the three graphs in the Ocean Composition document. Continue with the activity stations. Make sure all students have had an opportunity to complete at least two of the 2 stations If time remaining: Rock Cycle Song Have student review the study guide for test #2 Group students according to their abilities. What is the difference between mechanical (physical) weathering and chemical weathering?Opening: Wonders of the world pictures: Weathering Identification. Students answer and review.Various Weathering and Erosion questions. Explain the difference between weathering and erosion. Explain the difference between mechanical and chemical weathering. Create Weathering T-chart from memory.Work Session: Weathering and Erosion Summative Test

Students who finish early will silently read textbook pages and 288 – 293 about our next topic: Soil formation and conservation. 2. PLC SCIENCE PLANNING, which means, I am in the building, but not in the classroom! THU 2/2 Essential Question(s)   What causes water waves and what are the parts of a wave called? The goal is to generate as many questions as possible. Vocabulary Igneous Rock Sedimentary Rock Metamorphic Rock Melting Weathering, Erosion, Deposition, Compaction Cooling, Hardening Heat and Pressure Magma, Lava Foliated Stratified Words used to describe various rocks: Layers, many crystals, no crystals, mixed, sandy, wavy, folded Lesson Plans for May 8-12; May 15-16; and May 22-26 Name: Unit 7 Solar System and Universe Length (weeks): 3 Description Dynamics of processes that shape the Earth. Thank you for your participation! 23 days; 20 hours; 34 ins; 15 seconds left in 2017-2018 school year: We will have our UNIT 7 test on Friday, May 4, 2018 We will begin our Unit 8, Energy & Conservation Sixth Grade Unit 8-26fx47h Sixth Grade Energy and Conservation Unit Parent Background Information WHAT IS ENERGY? Discussion on the field trip to the stream. The Brainpop video can be used to introduce ocean floor features. Check for understanding, use as an anticipation guide. Remind students that this study guide is a mastery study guide. Students should now know all the key vocabulary associated with the rock cycle and the formation processes for each type of rock. The water (and any objects on top of the water) actually moves up down and around NOT forward. 3. Seasons study guide #1. Students will answer various questions on the reasons for the seasons. Students compare various earth/sun alignments and figure out what season it is in the northern/southern hemispheres Closing Students will finish the sentence: "The reason for the seasons — Tilt of the Earth." (23.5 degrees) Differentiation Some students will be given a partially filed graphic organizer. Pair work. Some students will be read to in Spanish. Student choice: Must complete 3 of the 4 listed below 1. Skills Tutor (Rocks and minerals and earth science pretest) 2. Study Jams (watch video and answer quiz) 3. Virtual Study: View Rock cycle: section 4, 5, 6, 8 4. Rock Cycle Animation interactive activity Students will inform the teacher of their progress, teacher will scaffold as students complete each activity. Protecting the environment is an expensive luxury which is often unaffordable Global warming is caused by the ozone hole because the hole lets in more radiation. Currents: Use the Currents lesson plan: In this lesson, students analyze the temperature and salinity differences in various parts of the ocean. Review Closing Water cycle rap. Water cycle song Differentiation Some students will be given partially filled graphic organizer. Pair. Read to. The following are explanations of how to do this with each type of phenomenon. Have students communicate their findings by making a diagram (on paper or digitally) of the layers. Proper Conceptions: Allowing the environment to degrade continuously can result in disasters for people that may not have an affordable solution. Explore (Day 1-2) Students complete the Modeling Convection Currents Lab Students note cause and effect relationships and how energy and matter interact in the lab. Burning fossil fuels is one of these. The questions and answers created on the power point. Students will describe the structure and function of cells, tissues, organs, and organ systems. Nucleolus– The control center of the cell. The brain. DNA Nucleus– Regulates cell activity. Houses the DNA Cell membrane– Protective layer and control the flow of water Vacuole– Stores nutrients. Controls waste products. ·   Ocean currents flow in predictable patterns around the world. ·   How do currents affect climate? Opening Semester 2 cumulative test MIDTERM Work Session Semester 2 Midterm on bubble answer sheet. The high temperature of the sun is generated in the core, where small atoms of hydrogen are fused, that is, the centers of the two atoms are combined. WED 3/22 Essential Question(s) What cause the different seasons on Earth? Students look at a map of ocean currents to make connections between the data they are analyzing and the movement of water on the globe. 3. How many high tides are in one day (24 hours)? Fine-Grained b. ·   Water cycles on earth as liquid, solid, and vapor. Why or why not? Oral questioning and responses. Graphic organizer, Reciting, recalling vocabulary wordsGPS (S6E5.a) Compare and contrast the Earth's crust, mantle, core, including density, temperature, and composition. Ebony says there is only one ocean but Min-jun says there are five oceans. It is thought to have been herbivorous and grew to approximately one meter in length, with a stocky build like a pig. S6E3 Students will recognize the significant role of water in earth processes S6E5. Asking questions to identify and communicate the location of the world's oceans: Ps & Qs (Partners and Questions): Divide the class into pairs and pass out the Ocean Map to each group. · Salinity can vary by location or season. Planets move around the sun in elliptical orbits. How do ocean currents affect the climates along the coast of continents? On-going oral questioning throughout the lesson. Completing the paper plate 3D soil profileGPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material THU 10/19 Essential Question(s) LEARNING TARGET 1. Assessment   none (S6E3.d) Explain the causes of waves, currents, and tides. Each part of the webquest list interactive website to follow and answer questions on each Crest, Trough, Height, Length Closing Have students act out the part of a wave Differentiation Individual assistance. Scaffolding.   Some students will be given partially filled organizer Assessment   Study jams questions, Brainpop questions (S6E3.d) Explain the causes of waves, currents, and tides. natural gas wood 3. That energy is then emitted back to the atmosphere as heat. Rock Cycle Video #4: Watch part 4 of rock cycle videos. After watching, complete Rock cycle study guide #2 Prior to watching, students read the questions on the study guide and think about the answers. ·   How are land features above the oceans similar to ocean floor features? ·   The sea floor has canyons, mountains and mountain ranges, and plains just as the land does. 4. What are the alignments of the Earth, Moon, and Sun during spring and neap tides? This lesson hits briefly on the causes of earthquakes and volcanoes—it's best to follow up this lesson with a more in-depth study of those geologic events. (Earth Science Edition) Where is Most of the Fresh Water? A depletion of ozone allows more UV light to reach the surface, but is not an important factor leading to increased temperature on Earth. Assist some students as needed to complete the graphic organizer # students will receive a study guide with hints Notebook writing task check Check for understanding Oral questions and responses while guiding the students in completing their projects Homework: Take home quiz: rock cycle TUE Standard(s) (S6E5.c) E.Q.(s) 1. Review wave and currents for a quiz In notebook: Students draw a wave, its parts, and describe the parts Students write and answer the following: — What is a wave? What causes waves to form? Investigations into the causes of waves, surface/deep ocean currents, and tides are also completed. Then they follow up this activity by graphing sea surface temperatures of the Gulf Stream in the Atlantic and discuss the effects of the Gulf Stream on the climate of western Europe. When cement is made from ground up limestone, the hardening process releases CO2. What is the difference between intrusive and extrusive igneous rocks Opening Work Session Closing Differentiation Assessment Rock formations questions. Notebook writing on the formation processes of 3 types of rocks. Difference between intrusive and extrusive igneous rocks Explain what "Rock Cycle" means. Evidence of Learning By completion of this lesson, students will be able to: ·   Communicate the composition, location, and subsurface topography of the world's oceans. Explain (Day 2-4) Use texts, online simulations, or teacher lecture material to fill in information about the temperature, thickness, density, composition of each layer on the Earth's Layers Comparison Chart and Earth's Layers Cross Section Diagram -Whole group instruction about the temperature, thickness, density, composition of each layer on the Earth's Layers Comparison Chart and Earth's Layers Cross Section Diagram Or -Student Investigation using Annenberg Interactive: Elaborate (Day 5) Students make an analogy (model) to compare the layers of the Earth to another model (i.e. a hardboiled egg). ESOL English Proficiency Standard (WS4) English learners communicate information, ideas and concepts necessary for academic success in the content area of Science (TSWBAT) Describe/Explain the formation processes of igneous, sedimentary, and metamorphic rocks. Make sure the students include how each type of rock is used. Scientists are exploring the practicality of other sources called renewable energy sources. Opening Water Cycle stages/definitions warm-ups. Various questions on the water cycle. Check H/W Work Session Computer Lab Students log on to teacher website (www.choiscience.weebly.com). Gravity is the force that keeps planets in orbit around the sun and governs the rest of the motion in the solar system. FRI 2/10 Essential Question(s) What causes tides? What are the alignments for a spring/neap tides? Students who have mastered the rock cycle unit will fill-in the graphic organizer on the whiteboard, at the back of the class or create their own cartoon storyboard to tell about the rock cycle (in their notebook) Student Power Point Presentation: Students will come up to present the power point they created on the rock cycle As each student completes their presentation, they will explain what they learned about the rock cycle. Next, discuss and evaluate the questions using a Depth of Knowledge (DoK) Question Rainbow (a poster made of of colored paper to make a continuum- blue for DoK Level 1, green for DoK Level 2, yellow for DoK Level 3, red for DoK Level). Cell parts are interdependent. The only greenhouse gas emitted by human activities is carbon dioxide from burning fossil fuels. Closing Summary writing in notebook: 1. Gasoline is a mixture of liquids, and natural gas is mainly methane and is piped into homes and office buildings where it is used as an energy source for heating, cooking washing, and drying. Consider the question: "Pangaea existed 200 million years ago. ·   Sea water's "salt" is made of dissolved minerals from surface runoff (excess water from rain, snow or other sources that must flow over land). Check / grade the study guide. These include sun, wind, geothermal, water, and biomass. Responses on sticky notes and put upDiscussion on responses (compare to a present or a box with something in it). We could guess by shaking it, drilling into it, base on what is coming out of it....)Introduce 1st Earth Layers Rap: Read the lyrics with students to learn the cadence of the songClosing Practice singing the earth layers song.Differentiation Some students will be paired for assistance.Assessment Brainstorming ideas, guessing, pair/share group talk.GPS (S6E5.a) Compare and contrast the Earth's crust, mantle, core, including density, temperature, and composition. Resources Blackboard online: Vocabulary Heliocentric– Copernicus theory that Sun is the center of the universe. BrainPop: Gravity. Explanation of gravity Closing Students will describe and illustrate: High/Low tide and Spring/Neap tide Differentiation Read to, Paired activities. Some student will be given partially filled graphic organizer Assessment Opening, Study jams assessment. Tides: Follow the Tides lesson plan. ·   Do salt water and fresh water move through the same water cycle? Study Jams: Wind and Coriolis Effect Closing Students will explain: Why is the Gulf Coast warm, while the California Coast cold? Materials needed: ·   Lava lamp (optional) ·   Modeling Convection Currents Lab (per group): –   Large glass beaker –   Small glass beaker – Small pieces of paper –   Cold water –   Hot water (may need to have a hot plate and pan to heat water and/or a thermos to keep it hot) –   Aluminum foil –   Food coloring –   Rubber band –   Pencil with sharp point ·   Computer Lab or devices ·   Snack Tectonics Lab (see teacher notes for approximate amounts): – Several cans of frosting –   Several boxes of graham crackers –   Several boxes of Fruit Roll-Ups –   Plastic knives (1 per student) –   Wax Paper (Costco/Sams/Restaurant Supply Stores have big packs of pre-cut pieces) –   Plastic cups filled with water (one per group of students) ·   Student Handouts: –   Modeling Convection Currents Lab –   Snack Tectonics Instructions –   Snack Tectonics Handout Sixth Grade Dynamic Earth Unit Title: Fossils Provide Evidence of a Changing Environment Estimated Time: 4-5 class periods Core Ideas (GSE Standards): S6E5g. homes and industries as much power as nuclear plants. THU 3/23 Essential Question(s) What cause the different seasons on Earth? Students determine what layer of the Earth the lamp (especially the light itself in the lamp) represents. 3. What is the alignment of the earth and the moon for high tides and low tides? 4. What is gravity? f. TUE 1/10 Essential Question(s)   How is the water distributed on Earth? GPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material MON Essential Question(s) 1. Develop a hypothesis: How could this tree have existed in present-day Wyoming? What will Earth look like 200 million years from now?" Make a model (map) to hypothesize changes over time to the current positions of Earth's continents Pose initial question to students Provide paper and colored pencils (optional) for students to construct maps Evaluate Submit CER from the "explain" phase and the model from the "elaborate" phrase Use CER rubric to evaluate students' CER arguments. Opening Work Session Closing Differentiation Assessment Rock Cycle Diagram Fill-In Model Tennis ball - Toss: a tennis ball will be used to choose students to answer blank fill-ins Rock Cycle Diagram progress check. Have student put their rock cycle diagram and rubric on their table. Scientific theories of the solar system and universe have changed. 2. Poster: Students will be given a colored copy paper. Students will illustrate high/low tide alignments. Students will illustrate Spring/Neap Tide alignments. Students will describe what happens during these alignments and why they occur. Opening: As students enter, they will watch a video: magma flowing out of a volcano. Opening Unpack Standard (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle. (Earth Science Edition) Groundwater (Earth Science Edition) Where did the Water Come From? Visible light from the sun passes through the atmosphere and is absorbed by the Earth's surface, heating it up. Rock Cycle Video (culminating): Students will view how rocks are formed and destroyed. Students will take notes and answer questions on a video graphic organizer (paused during discussion and answering). This video will reinforce what the students have learned. Discussion will follow to clear up any misconceptions. Opening Return/Review/Correct Ocean Floor quiz Unpack Standard (S6E3.e) Explain that a large portion of the Earth's surface is water, consisting of oceans, rivers, lakes, underground water and ice. Poles? Authentic Scenario Palm frond fossils are found in present-day Wyoming. Edusmart software: Climate and Weather. Students will operate the edusmart software to introduce and learn about climate and weather. Students complete edusmart assessment on weather. 3. I have, Who has (rock cycle vocab/formation processes) Students will complete at least two of the three stations. Cause and Effect: -Cause and effect relationships may be used to predict phenomena in natural or designed systems Stability and Change: -Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and forces at different scales, including the atomic scale. -How are asteroids and comets different? 2. How many high tides are in one day (24 hours)? — What causes winds to form? Galaxy-Large groups of stars, dust, and gas. – What are the basic parts of an animal cell and a planet cell? ·   Waves can be caused by wind or underwater disturbances of the seafloor such as earthquakes or volcanic eruptions. ·   While currents flow like a river, there are not actually rivers, they are just ocean water that is moving due to wind or temperature or salinity differences. . Currently the nonrenewable resources supply the majority of our energy needs because we have designed ways to transform their energy on a large scale to meet consumer needs. Homework check: Check for understanding and mastery of the rock cycle. Clear up any misconceptions. Content Standards S6E3a. Differentiation Some students will be given partially filled graphic organizer Assessment   Water Distribution video summary assessment. Anticipation questioning throughout the lesson, check for understanding questions throughout the lesson. Students will also illustrate/draw the equator, N/S hemispheres, Axis, N/S poles, and the tilt angle (23.50) Show students how to log-on to teacher's website to see the animation video at home or during computer lab. 1. What are tides? Construct an argument using maps and data collected to support a claim of how fossils show evidence of the changing surface and climate of Earth Science and Engineering Practices: Asking Questions and Defining Problems: -Ask questions that arise from careful observation of phenomena, models, or unexpected results. Assessment   Vocabulary Review and Diagrams during access testing (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle THU 1/19 Essential Question(s)   How does water change through the water cycle? Water distribution demonstration with graduated cylinders. Using 4 graduated cylinders, demonstrate the amount of total water, salt water, and fresh water. The students visually recognize/examine the vast difference between the amount of salt water and fresh water and the location of each. -Prepare all materials for the Modeling Convection Currents Lab -Read through directions with students. Opening Finish seasons paper plate Work Session Seasons Test Quick review of basic seasons UNIT Test on climate, weather & seasons: Students who finish prior to the end of class: Draw the moon phases on Page 662 (figure 3) on notebook Closing Turn in test, draw the moon phases on page 662, figure 3 Differentiation Pair, Translate, read to some students Assessment Seasons Test (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate. Scaffolding. Students explain Who, What, When, Where, How, Why. Opening Compare Earth's different latitudes and how the sunlight shines different amounts. Follow up these two data analysis activities with general instruction about tides, for example by showing the HowStuffWorks video listed in the Web Resources section. Disadvantage to these methods is the environmental change caused in the process. Describe the position of the solar system in the Milky Way galaxy and the universe. Opening Warm-Up: Parts of a wave, high/low tides, and the alignments for spring/neap tides. ·   Energy moves through waves. Closing Water cycle rap. Water cycle song Differentiation Some students will be given partially filled graphic organizer. Pair. Read to. What questions would you ask of both Ebony and Min-jun before you decide who you think is correct? Differentiation Some students: read to, scaffold, Paired activities Assessment Ocean currents activity questions (S6E3.d) Explain the causes of waves, currents, and tides. The questions will be on the power point with pictures. Station activities FRI Standard(s) (S6E5.c) E.Q.(s) 1. Then students share their explanations in a group, discuss, and write a group explanation. As an extension, to show the daily, 50-minute lag in tides, students complete the Timing the Tides activity, using a model of the earth and moon, rotating the moon around the Earth and looking at a clock to see how the time changes each day. · While water is technically a renewable resource, the rate at which water is being used and polluted is not sustainable. Closing Compare the land (sand) to the ocean(water) and explain: How does the difference in heat affect winds and climate? What is happening to the pressure...? While the mix cools, students will complete the graphic organizer: After about 10 min, the chocolate mix will be examined and the results discussed. (The molten mix has cooled and hardened into an igneous rock) Student Use of Technology: ipad Differentiation (Content/Product/Process): # symbol represent differentiation for students and in handouts # will have hints added to the questions. Evaluate students' use of evidence to support hypotheses in their models Title: Earth's Layers Estimated Time: 5 class periods Core Ideas (GSE Standards): S6E5a. Seasons Fly Swatter game; Students line up and swat at answers to various questions on seasons. (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle WED 1/25 Essential Question(s) What causes water waves and what are the parts of a wave called? Essential Questions: ·   Is the ocean the same everywhere? Students will understand the effects of the relative positions of the earth, moon and sun. Opening Warm-up re-teach water cycle/distribution handout. Complete and clear up any questions Work Session Unpack the standards (S6E3.d): Waves, Currents, Tides. What are the formation processes of igneous, sedimentary, and metamorphic rocks? Draw illustrations and explain. Answer assessment. Assessment Study Jams assessment organizer. Questions based on Study Jams video (S6E4.c) Relate how moisture evaporating from the oceans affects the weather patterns and weather events such as hurricanes THU 3/16 Essential Question(s) What are fronts and how do High pressure areas differ from low pressure areas? (Vol 3) What are Clouds Made Of? Wood is considered a renewable energy source. Collect rock cycle story for grading Biography of Earth Video: Short video on how the earth was formed Discuss how the rock cycle connects to the formation of the earth's crust. MON 1/30 Essential Question(s) What causes water waves and what are the parts of a wave called? 288-293). Then, students will read what they just listened to: Draw/Illustrate/label the soil horizons in notebook (without using notes). Only use notes when necessary. Instructional Strategies When this standard is taught with fidelity, student analyze data to create graphs that show the causes and effects of waves, currents, and tides. You will need to reserve a computer lab or acquire devices to use to allow students time to research their one or two questions. Water Distribution Review: Whiteboard vocabulary activity. Students write the water distribution percentages and locations based on clues. · There are many avenues a water molecule can take throughout the water cycle · Groundwater is water that occurs as a liquid resource that is dispersed through innumerable holes, pores, fractures and cavities in bodies of rock or sediment. TUE 3/21 Essential Question(s) What cause the different seasons on Earth? Lesson Plans for Paula Hutchison for the week of (1/09 – 1/13) 2017 MON 1/09 Essential Question(s)   How is the water distributed on Earth? Assist some students as needed to complete the graphic organizer # students will receive hints on the question. Some students will receive key words to use to answer the graphic organizer. How do I describe the soil horizons? Why is soil conservation important?OpeningWarm-Up: Various questions on soil horizons. Name and composition of the soil layers Check soil unit study guide and mini-quiz Work Session Completion of Soil Profile/Horizons illustration mini-poster. Draw/illustrate the soil profile on a manila folder. Include the soil horizons foldable onto the manila folder Soil conservation video: Explain why soil conservation is important. Text audio listening: Page 294-297. Students will write/draw/illustrate (notebook) soil conservation. Students will explain what is soil conservation and list/draw 3 common examples of soil conservationSoil conservation questions (ppt) Closing Summary writing in notebook: 1. A 2003 study by researchers at the Harvard-Smithsonian Center for Astrophysics found that "many records reveal that the 20th century is probably not the warmest nor a uniquely extreme climatic period of the last millennium." A 2005 study published in Nature found that "high temperatures- similar to those observed in the twentieth century before 1990- occurred around AD 1000 to 1100" in the Northern Hemisphere. Work Session Study Jams: Tides and mini-assessment 1. 3. Coriolis Effect: Students will work in pairs. One student will hold and slowly spin a 3×5 index card and the second student will draw a straight line while the paper is rotating (this simulates earth's rotation, the drawing simulates wind or ocean surface currents) In each activity, the causes of waves, currents, Coriolis effect will be discussed and analyzed. Students make models of the plate boundaries in the Snack Tectonics Lab. In the 1930's scientists found that splitting the nucleus of an uranium atom releases a tremendous amount of heat energy. Finally, ask students which questions would be most helpful in learning about the graphs. Wood Wood provides U .S. Worldwide, wood is poor man's oil, providing 50-60% of the people with the barest energy necessities. THU 2/9 Essential Question(s) What causes tides? What are the alignments for a spring/neap tides? Science and Engineering Practices: Asking Questions and Defining Problems: Ask questions that arise from careful observation of phenomena, models, or unexpected results, to clarify and/or seek additional information. What is the difference between in intrusive and extrusive igneous rocks? They also note cause and effect relationships about what kind of geologic activity happens at each boundary. Do you know what ocean currents are? Where do they originate and where do they go? Students who complete the test early will peruse the textbook on the next topic (Weathering and Erosion). Pages 276-296. They will answer questions at the end of the chapter. What is the difference between mechanical (physical) weathering and chemical weathering?Opening Weathering and erosion (and partial rock cycle) Crossword Puzzle. Use spin wheel to pick students.Show final solution of puzzle after answering. Weathering and erosion Graphic Organizer review. Use spin wheel again.Work Session Weathering and Erosion T-Chart: Make a summary T-chart for weathering and erosion vocabulary concepts and definitions. Practice to complete the T-chart by memory.Weathering and Erosion formative Quiz: A blank 3×5 card will be given for students to make the t-chart prior to the quiz again.After completing the quiz: Wonder of the world weathering. Explain/Describe the weathering processes of various pictures of statues and monuments from around the world. What type of weathering and how they are weathered. Complete for homework Closing Summary writing in notebook: Explain and illustrate how water causes mechanical and chemical weathering.Differentiation Some students will be given assistance with completing the T-chart. Partially filled out graphic organizer.Assessment Quiz, T-chartsGPS (S6E5.d) Describe the processes that change rocks and the surface of the earth. FRI Essential Question(s) What are the basic Earth layer names and their composition?Opening   Earth Layers Rap #1Work Session Peach Activity:Students will cut a peach into halves and draw the peach: skin, fruit part, red part, and the pit.These parts will be compared to the interior of the earth. Discuss, compare, contrast the earth layers with the parts of a peach.Earth Layers Graphic Organizer completion while watching earth layers videosClosing Have students recite the 4 basic earth layers (in order)Outside to inside, inside to outsideHottest to the coldest, coldest to the hottestDifferentiation Scaffolding: Some students will be given assistance in completing the Earth Layers organizerAssessment Opening and warm ups. Return to class: Exit ticket questions on rock cycle: Students use their notebook to write out the questions and the answers. It is raw material to make other chemicals, and is the cleanest bumming fossil fuel. Activity -prompt students to look for patterns Explain Use the "Analyzing Evidence: Continental Drift" page to construct an argument (using the CER framework) about how fossils show evidence of the changing surface of the Earth. New ways of using coal are being explored, such as liquefication, in which a product similar to oil is produced. Write the essential question. Answer the EQ, Draw a simple wave and its parts BrainPop on waves: Complete assessment at the end of brainpop video Students stand and show/act out about what they know about a wave. Draw the basic parts of a wave Jump Rope Wave formation activity: Use a jump rope to demonstrate how a wave is formed and how a wave moves. (Alternatively, you could also introduce the Restless Oceans PBL STEM Challenge here as well, which takes you into the next element as well). Water Cycle drawing and vocabulary graphic organizer. Students use notes to complete the organizer. Student Use of Technology: using IPAD cart as resource for research Differentiation (Content/Product/Process): Grouping Scaffolding Help out individually ELT Focus: Daily Journal Writing: A sentence or a paragraph explaining or answering the essential question or a question on the current topic. Relate cell structures (cell membrane, nucleus, cytoplasm, chloroplasts, and mitochondria) to basic cell functions. Discuss, describe, explain how the rocks and all the materials surrounding the stream is all part of the rock cycle. Students will master the difference between rotation and revolution. According to a 2010 study in the Chinese Science Bulletin, the recent global warming period of the 20th century is the result of a natural 21-year temperature oscillation, and will give way to a "new cool period in the 2030s." According to an Aug. (Earth Science Edition) Why is the Ocean Salty? Half sheet with 5 questions on the rock cycle. Have students pass around the document and pose questions about one graph. Return/Review Test Discuss how we are doing, did we increase test scores compared to the quiz? ii. 20 minutes on Each of the two stations 3. Review study guide(s) with power point. Clear up any misconceptions. Make sure students master the difference between revolution with tilt causing seasons compared to spinning/rotation which causes day/night. Wave, Currents, Tides vocabulary graphic organizer. Complete the wave, currents, tides vocabulary graphic organizer using materials from last two days. Students will explain each rock type, formation processes, physical characteristics, and any additional information they found. -Instruct students to write down questions that arise as they watch this video. (S6E5.c) Classify rocks by their formation process. For example: "Why does the temperature decrease? (S6E5.d) Describe the processes that change rocks and the surface of the earth Essential Question(s): What are the formation processes of igneous, sedimentary, and metamorphic rocks? -How could you tell a planet from a star if you look at the same constellations? Asking questions to identify and communicate the composition of the world's oceans: Pass Arounds: Put students into groups of three or four. Write/illustrate what is happening to the magma/lava in notebook. Discuss the type of rock formed by magma/lava coming out to the earth's surface and cooling. Work SessionTest: Soil Horizons, Soil Conservation, and weatheringStudents who finish will work on the following: Internet search: Earth layers preview. Research internet, find names and compositions of earth layers. Graphic Organizer provided.Closing Students will complete the test and work internet research on the layers of the earth.Differentiation Some questions on the test will be read to some students.Assessment Soil unit testGPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic materialGPS (S6E5.i) Describe method for conserving natural resources such as soil THU   Essential Question(s) If we cannot go into the Earth, how can we learn what is inside the earth?What are the basic Earth layer names? Then tell students to design an investigation to model the water cycle. Description of Key Content Teacher Background Information Misconceptions Proper Conceptions ·   Tides are caused by Earth's rotation ·   Spring tides are a seasonal phenomenon. Engage in a class discussion about group's hypotheses as to how and why these fossils exist in Wyoming. Work Session Computer Lab. Soar Cards for each completed assessment (at least 85% each) 1. Skills Tutor: – Earth and Space 2. USA test prep: – Weather – Severe weather – Seasons – Other listed assessments Teacher will check on completion and award points based on how many were completed and what score was achieved Closing Students will finish the sentence: "The reason for the seasons — Tilt of the Earth." Differentiation Peer help. Pair working. Students are to determine the various conditions which causes evaporation, condensation, precipitation Work Session 1. Study Jams: Water cycle. For students who finish, the will work on the following: – Skills Tutor: Rock and minerals and quiz – Virtual Learning interactive website: rock cycle Rock Cycle Quiz 1a Students complete a rock cycle quiz: mostly igneous rocks. Note that Lystrosaurus could not swim well. Opening Warm-up re-teach water cycle/distribution handout. Complete and clear up any questions Work Session 1. Finish Water Cycle Diagram Project: Turn in (include water distribution as shown by teacher) 2. Complete crossword puzzle: semester 1 review 3. Complete Vocabulary boxes; semester 1 review vocabulary 4. Students who complete all of the above will write a "water cycle" story about a water droplet going through the water cycle. Include ocean, rivers, plants, animals, people, water company, toilets, ETC. How does land and water absorb and lose heat differently? 2. Copy the Rock Cycle illustration on pages 92-93 3. Define the

following: a. Follow power point on the soil layers.BrainPop (soil formation). Much of it flows back into the ocean which causes the ocean’s salinity. You see this as the wave cresting, and since the water can’t support it, it breaks, releasing all the energy, and propelling you forward. Assessments/CFU: Oral responses to answer questions from the lab graphic organizer. Notebook writing task check Check for understanding Oral questions and responses while guiding the students in completing their projects TUE Standard(s) (S6E5.c) E.Q.(s) 1. Literacy Connection Daily Journal Writing: A sentence or a paragraph explaining or answering the essential question or a question on the current topic. Opening warm up on powerpoint Work Session Vocabulary Review Students will follow a power point and complete a vocabulary graphic organizer: Students will write the definitions of the 40 main vocabulary words for the 2nd semester. Rock Cycle test#1 Video quiz WED Standard(s) (S6E5.c) E.Q.(s) 1. Work Session Tides Mini Poster 1. Tides power point animation presentation. Teacher will review how the Earth, Moon, and Sun are aligned for the various tides. Students will make diagrams and take notes in their notebook. Show students the most recent movie poster (or trailer (through 1:24) (Guiding Question Can humans journey to the center of the Earth? They could also make a paper slides video about how the ocean gets salty. Cells take in nutrients to grow, divide, and make needed materials. 2. Quiz. Wave, Current, and TIDES Finish with test. Students who finish early will do the following: Draw Figure 6 on page 462 (Sea and Land breezes) Closing Notebook check to see illustration of p. Paraphrase the test questions to some students Rock Cycle test #1 Standards: (S6E5) Students will investigate the scientific view of how the earth’s surface is formed. ·   Spring tides occur every 14 days, either when there is a new moon or a full moon. Analyze the tilt of the earth and compare the sunlight distribution on earth. Continue with the graphic organizer: Have students draw and illustrate figure 4 on text page 520. Make sure the students understand that this illustration is for the NORTHERN hemisphere. Discuss what the seasons would be in the southern hemisphere at the listed dates (March 21, June 21, Sept 22, Dec 21) Explain/Discuss the four special days of the year (Vernal Equinox, Summer Solstice, Autumnal Equinox, and Winter Solstice). How do these dates relate to how people from long ago were able to get ready for farming and gearing up for each different season Closing Students will finish the sentence: “The reason for the seasons — Tilt of the Earth.” (23.50) Differentiation Some students will be given partially filled graphic organizer. Pair/Partner work Assessment Webquest questions (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate. Work Session Salt water vs. Milky Way galaxy-The galaxy in which our solar system is located, spiral galaxy. Opening Warm-up: Label wave parts, define the wave part names Explain the causes of waves and currents Explain the difference between surface currents and deep sea currents (what cause their movements?) Work Session Demonstration Activities: The causes of Waves, Currents, and Coriolis Effect 1. Waves: A hair dryer will simulate (different speeds) wind blowing across the sea (Large pan of water-blue colored). Students will explain what is happening with the water. Hutchison for the WEEK of (1/17 – 1/20) 2017 MON 1/16 MLK Holiday TUE 1/17 Essential Question(s)   How does water change through the water cycle? Assessment   Water Cycle diagram poster assignment (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle TUE 1/24 Essential Question(s)   How does water change through the water cycle? ·   Currents are rivers in the ocean ·   Waves move water and objects forward. Explain the importance of soil conservation.Differentiation Scaffold for some students. Hints on study guide. Mon: (9/4) No School TUE Standard(s) (S6E5.c,d) E.Q.(s) 1. Assessment Fly Swatter, Review questions, Poster (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle. Students will investigate the scientific view of how the earth’s surface is formed. Opening Work Session Closing Differentiation Assessment Power Point Warm-ups: Using rock cycle diagram, students figure out multiple paths that rocks can be changed and formed. To harness the rising and falling of the tides would be an expensive process, but it would be a very important future source for Eastern United States. Enduring Understandings Earth is an amazing planet in which the (Rock Cycle, Water Cycle, Moon Cycle, Plate Tectonics, Earth Layer Dynamics) play major roles in its continuing journey through time. Complete the Paleoecology webquest: -Facilitate a class discussion about group’s hypotheses about how and why these fossils are found in Montana -Monitor students as they work on the webquest Explain 1. Cell structure is related to cell function. (S6E5.d) Describe the processes that change rocks and the surface of the earth. Geothermal energy was generated by the decay of natural radioactive materials within the earth. Opening Warm-up re-teach water cycle/distribution handout. Complete and clear up any questions Work Session Waves, Currents, Gyres, Coastal Climate Video Density Demonstration: Plastic trash bag will be used to demonstrate how warm fluid is less dense than its surroundings and will rise. This is part of the convection current cycle in the air, the mantle, and the deep ocean currents Convection Current Demonstration: Water in a Beaker will be heated. Pieces of paper will be placed in the beaker. The pieces of paper will circulate just like the convection currents. Fronts (weather) organizer Closing Exit ticket: Draw a cold front and a warm front and how they move. Complete the study guide Differentiation Some students will be given partially completed graphic organizer. Pair assistance. Opening Review weather study guide. For a long time, the energy of wind has been to drive pumps. 2012 study in Nature, the rate of global carbon uptake by the earth’s carbon sinks, such as its forests and oceans, doubled from 1960-2010 and continues to increase As with any debate in science, it is important to evaluate the research studies: are they peer-reviewed, by whom are they funded? How do I describe the soil horizons?Opening   Soil Horizons Graphic Organizer: Illustration and Labeling. Note taking and drawing/illustrating the soil horizons. Naming and describing each horizon.Work Session Audio listening on the formation of soil. Students will listen to soil formation “From bedrock to soil” portion of the textbook (p. You can think of greenhouse gases as a blanket- and human-induced increases in greenhouse gas concentrations make this blanket thicker, warming the planet. What is the difference between intrusive and extrusive igneous rocks Opening Work Session Closing Differentiation Assessment Notebook writing task: Students will write in their notebook the difference between the formation processes of intrusive and extrusive igneous rocks students will write the definitions on the whiteboard Check for understanding: – Meaning of the rock – Formation process – What it looks like   Computer Lab / Rock Cycle Diagram: Continued from Tuesday — Title, Name and formation process for each rock type — A sample picture found on the internet — How the rock is used in everyday life — Upload the completed presentation to the teachers drop-box Complete power point presentations. (Text, simulation: or direct instruction) -Collect Snack Tectonics supplies from parent donations or buy ahead of time -Explain how Plate Tectonics Lab works -Check for food allergies in your class ahead of time. Continue and Complete Write you own rock cycle story Students complete writing their rock cycle story. – Earthquakes – Soil formation – Land formation – Rare gem stones – Human use – Landscape Teacher will assist with some students (scaffold) in checking off each required item in the rock cycle diagram rubric Assist as needed when student(s) are creating the power point presentation Notebook writing task check Check for understanding Oral questions and responses while guiding the students in completing their projects WED Standard(s) (S6E5.c) E.Q.(s) 1. coal water 2. (Earth Science Edition) Vocabulary: Continental shelf Continental slope Continental rise Mid-ocean ridge Seamount Volcanic island Ocean trench Surface zone Twilight zone Deep ocean salinity Web Resources Information about Oceans Layers: Ocean Floor Lesson: 3A%3Aof%3A%3A-MS-Earth%E2%80%99s-Oceans-%3A%3Aof%3A%3A-CK-12-Earth-Science-For-Middle-School/ Ocean Layers and Life in the Ocean: Ocean Zones Video: Ocean Floor Video: Ocean Floor Features: Ocean Floor Features and How Depth is Measured: Composition of Ocean Water: Video: Why is the Ocean Salty?: Unit Lesson Plans Ocean Water Ocean Floor Additional Lab/Lesson Activities STEM Challenges/PBL Sample 3-D Performance Tasks Topic 3: Waves, Currents, and Tides Big Ideas/Enduring Understandings: ·   Ocean currents are caused by wind, salinity, temperature, the Coriolis Effect, and gravitational pull. Computer Lab: Students will use their rock cycle tests #1 and #2 (questions, diagrams, constructed/extended response) to enhance their power point on the Rock Cycle. Coarse-Grained. Assessment   Post assessment on the interactive website; Students will correct any mistakes. Students will ask the teacher if necessary for going over the questions on the assessment (S6E3.d) Explain the causes of waves, currents, and TIDES. Homework check: Review, check for understanding. Video from HowStuffWorks: Ocean Tide Data: Tidal charts plus moon phases Unit Lesson Plans Waves Currents Tides Additional Lab/Lesson Activities All About Waves All About Tides Convection Currents Lab STEM Challenges/PBL Restless Oceans STEM Challenge Sample 3-D Performance Tasks Sixth Grade Unit 4-28kkdn9 Sixth Grade Dynamic Planet Unit 5E Stage Student Activities How will students engage actively in the three dimensions throughout the lesson? How does the rock cycle affect the earth’s surface? Sing Rock Cycle Song Rock Cycle Diagram: Students complete their rock cycle diagram illustration. Students will explicitly follow the rock cycle diagram rubric. Teacher will check and guide students in their progress Computer Lab / Rock Cycle Diagram: Use the diagram to create a power point presentation, which must include the following: — Title, Name and formation process for each rock type — A sample picture found on the internet — How the rock is used in everyday life — Upload the completed presentation to the teachers drop-box As students complete each project, they will be writing, drawing, and explaining the formation process of each type of rock. Scientists know how much is left of non-renewable resources and are able to predict when they will run out. Many of these features are much larger than those found on land. In 2013, a surface temperature study published in Science found that global warming over the past 100 years has proceeded at a rate faster than at any time in the past 11,300 years. Brainpop: Water Supply and water distribution. Complete assessment at end of video Water distribution T-Chart. Students make a T-chart to organizer water distribution percentages Have students rewrite the T-chart 3 times for Homework Closing Mini-Quiz on water distribution & ocean floor Differentiation Student pairing for assistance. Some students will be given water distribution guides Assessment   Water Distribution video summary assessment. Anticipation questioning throughout the lesson, check for understanding questions throughout the lesson. Mini-quiz, Brainpop assessment. Severe weather video: “Hurricanes, Tornados, and Thunderstorms.” Students complete a graphic organizer: Questions and vocabulary dealing with general weather and severe weather. Complete each section and review each item and terminology. Check for understanding while reviewing 2. (Vol 3) Vocabulary Water cycle Evaporation Condensation Precipitation Transpiration Runoff Infiltration Fresh water Salt water Aquifer Groundwater   Web Resources The USGS Water Science School- informational website with text, graphs, charts, etc good for student research and teacher background info The Story of Drinking Water– informational and interactive website about water on Earth, the water cycle, and water conservation Earth: The Water Planet– YouTube video The Water Cycle: Precipitation Education– has articles, web resources, lesson plans, etc… Brainpop: Water Cycle– video and activities The Water Project- breaks down each “step” of the water cycle with resources, lab ideas, videos, etc. Work Session Quiz on waves, wave parts, and currents. Two Rock Cycle Tests: (both are similar with variations) 1st test (students see what parts they are strong/weak at; they will work on their weaknesses to prepare for rock cycle test #2) When students finish the test, they will begin on Write you own rock cycle story Students will complete a review rock cycle organizer, draw a simple rock cycle, and create their own rock cycle story. (This will help prepare for rock cycle Test #2) — Today the students will complete a rough draft of their story Student Power Point Presentation continued: present the power point they created on the rock cycle As each student completes their presentation, they will explain what they learned about the rock cycle. Work SessionSoil Horizons Foldable. Students will cut and put together a foldable. On each soil profile section, the students will label the horizons, illustrate, and describe the composition of each horizon.Paper plate 3D soil profile: Students will use glue and soil materials to create a 3D soil profile. The profile will be labeled and soil composition described. Clean-upClosing Exit ticket: label and describe a soil profileDifferentiation Some students will be paired for assistance.Assessment Exit ticket. How do I describe the soil horizons?Opening Make a soil profile T-Chart, include how each layers is formedWork Session StationsStation 1. Soil Horizons flyswatter. Students slap at the answers to various pictures and diagramStation 2. Soil Profile/Horizons illustration mini-poster. Draw/illustrate the soil profile on a manila folder. Include the soil horizons foldable onto the manila folder Soil Horizons vocabulary whiteboard game. As words or ideas pop-up, students write the definition or the words associated with soil. -Circulate and assist students as they perform the lab. This raises the temperature of the atmosphere and ultimately, the Earth’s surface. Students finish the test prior to the end of class-time will peruse the textbook pages 276-296 (weathering and erosion) Students also have a choice to create an addition rock cycle diagram on a paper plate for extra credit. Scaffold students with power point creation. How to format one main slide and copy/paste to make additional slides. (Direct students to plot the current locations of fossils on a map. Have them justify and defend their choices. Comets and asteroids are objects smaller than planets that orbit the sun and vary in size, composition, and characteristics. · Much of our municipal and industrial water comes out of the ground. Differentiation Some students: read to, scaffold, translate to Spanish for some words. Additional Assessment Adopted Resources TBD Literature Connections: The Magic School Bus On the Ocean Floor by Joanna Cole; illustrated by Bruce Degen Island of the Blue Dolphins by Scott O’Dell; illustrated by Ted Lewin Probes How Many Oceans and Seas? (students who scored 80% or higher will complete this activity). Most students did very well on the Rock Cycle Test part 1 and 2. Students did an excellent job on the constructed response. Students needed more writing on the extended response. Overall average was 84% Reteach Students who scored less than 80% on rock cycle test part 2 will work with the teacher to see what caused the mistakes. The test questions and a graphic organizer will be used to reteach. Students will practice making a simple T-chart and use the T-chart to answer the questions on the test. Additionally ocean floor topography is studied. Give assistance study guide. Assessment Soil profile T-Chart, flyswatter, whiteboard game, study guide.GPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material TUE   Essential Question(s) 2. TUE 2/7 Essential Question(s) What causes tides? What are the alignments for a spring/neap tides? Opening In notebook, answer the following questions. ·   Waves are caused by the wind and geological events like earthquakes (tsunamis) Essential Questions: ·   Why do currents, tides, and waves occur? Web Resources Lessons and Lab Activities Lessons: Great Energy Debate Global Warming Lesson Plan Additional Lab Activities: Alternative Energy Resources Intermediate Energy Infobook Renewable Energy– from Teach Engineering Common MisconceptionsMisconceptions: Protecting the environment is important only for those people who care about the natural world. What is the difference between intrusive and extrusive igneous rocks? Students are supposed to be making their own observations and asking questions they occur to them as they watch. To get students asking questions, consider posing this scenario and following the Fresh Water Fiasco lesson plan: “By 2025, 1.8 billion people [about ¼ of Earth’s population] will experience absolute water scarcity, and 2/3 of the world will be living under water-stressed conditions” Show this map at the same time (Then show this picture of the globe from space and ask: “How can people around the world be running out of water when one of our planet’s nicknames is “The Blue Planet”? (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle WED 1/18 Essential Question(s)   How does water change through the water cycle? Guiding Question How do fossils show evidence of the changing surface and climate of the Earth? (Thumbs up, down, sideways) Closing Soil unit study guide and mini-quiz (request students to bring in play-doh)Differentiation Pair with higher performing students. Watch video and have students complete video quiz and discuss what cause seasons. Rock Cycle Test #1 Students will take Rock Cycle Test #1. In this unit, students learn about the distribution of earth’s water, the water cycle (movement of water on earth), and the role of water in earth’s processes. Explain how each rock transforms into other rocks. Include sample rock cycle diagram and a drawing of each type of rock Students who complete the test early will peruse the textbook on the rock cycle. Pages 92-110. They will answer questions at the end of the chapter. Students will measure the temperature change as water and sand is heated and cooled. THU 1/26 Essential Question(s)   What causes water waves and what are the parts of a wave called? S6E3b. Standards SCI.6.S6E2.c Tue Essential Question(s) What cause the different seasons on Earth? FRI 1/27 Essential Question(s) How do ocean currents affect the climates along the coast of continents? Students will be given examples of water cycles to choose from or they can create their own diagram 3. Water Cycle and Water Distribution Test Closing Water Cycle review questions, Study guide for Test on Monday/Tuesday Differentiation Some students: read to, scaffold, translate to Spanish for some words. Which direction will the wind blow during the day and at night near the coasts? Closing Students will finish the sentence: “The reason for the seasons — Tilt of the Earth.” (23.50) What causes seasons? WED 1/11 Essential Question(s)   How does water change through the water cycle? When students complete, collect. FRI 1/13 Essential Question(s) How does water change through the water cycle? Concentrations for these gases are now higher than at any time for which we have ice core records, which stretch back 800,000 years. Carbon comes in different isotopes (carbon-12, carbon-13, carbon-14; the numbers indicate the atomic weight). Rock Cycle Activity Stations: Students will be split into 3 groups. The Snack Tectonics lab requires an abundance of food items. ·   The moon’s gravitational pull and the spinning of the earth cause ocean water to bulge, producing tides. Assessment Weather Study Guide (S6E4.c) Relate how moisture evaporating from the oceans affects the weather patterns and weather events such as hurricanes FRI 3/17 Essential Question(s) How does cold fronts and warm fronts move and affect the weather? In the absence of a greenhouse effect, the average temperature at the Earth’s surface would be approximately 60ºF colder. It shows itself in the fountains of boiling water and steam known as geysers. What temperatures do palm trees need to survive? How do we explain the mysterious placement of these two fossils? How do I describe the soil horizons? Why is soil conservation important?Opening   Soil/Weathering/Horizons/soil conservation questions. Review and reinforce. Some ideas for this instruction include (and are outlined specifically in the Ocean Water and Ocean Floor Lesson Plans): i. Brain-Pop: Seasons and assessment. Preview the questions and complete the assessment. Soar cards will be given out as students volunteer to answer the questions Closing Students will finish the sentence: “The reason for the seasons — Tilt of the Earth.” (23.5 degrees) Differentiation Some students will be given partial answers on the assessments Assessment Billy Nye video assessment. Brain Pop video assessment (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate. Work Session Introduction to Seasons. “Reason for the season” — Tilt of the Earth— 1.   OPENING (10-20 min) Minerals Summative Quiz Students complete quiz to conclude minerals unit. Skills Tutor weather and atmosphere graphic organizer 3. · Water is a renewable resource · The water cycle can only flow one direction and has only three steps: evaporations, condensation, and precipitation · Groundwater is found as freely flowing underground rivers or lakes. (Copernicus, Ptolemy) The “Big Bang” is a theory of how the universe began. -Show students the palm frond picture (-Provide students with resources or technology tools to do research Explore 1. FRI 2/3 Essential Question(s) How do ocean currents affect the climates along the coast of continents? Connect the rock pictures with rock name and formation process. Weather test search graphic organizer 2. Plot locations of Lystrosaurus fossils on a map. The humans evolving from hunter/gatherers to agricultural people. All these were occurring about 5000 BC. This is about the end of the the last Ice Age. Discuss ways to rethink the questions so they can move from lower-order questions to higher-order questions. Opening Weather map symbol identification: Students identify the symbols on a basic weather map. Rock formations writing task. Students will write the formation processes of each type of rock on a half-sheet graphic organizer. Review, reinforce, check for understanding. Unpack Standards S6E5.c,d Preview/Discuss Rock cycle video set #1. Closing Exit ticket: Students will answer the following questions: 1. What causes tides? You do not need to spend much time on the layers of the ocean and only need to focus on pressure and temperature trends. The sun is the supplier of energy which runs the water cycle. Rock Cycle Graphic Organizer with literacy Vocabulary organizer. Students will learn how to wear goggles and apron for the lab for the work session Work Session: Chocolate Rock Cycle Lab: Chocolate, Sprinkles, and Cookies will be used to simulated how the three types of rocks are formed through the rock cycle. Students will wear goggles and aprons. Write an explanation to the question: “How do fossils give us information that Earth’s climate changed over time?” noting examples of cause and effect (Can use the webquest as a resource) Assisting students who need extra help to draw out evidence to answer the question Elaborate 1. As the water through which waves travel gets shallower, the waves are slowing down and at some point, the orbit speed (the “around” motion) gets ahead of the wave speed, and the wave sort of runs over itself. What is the difference between intrusive and extrusive igneous rocks Opening Work Session Closing Differentiation Assessment Pair/Share: 5 questions about the rock cycle. Student will write in the boxes provided. Students who finish early will read textbook 90 – 110 and answer the following questions (previewing next week’s topics). Assessment Skills Tutor content. USA TEST PREP content (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate Standards SCI.6.S6E2.c Wed Essential Question(s) What cause the different seasons on Earth? Lesson Plans for HUTCH for the week of 10/16-20, 2017 (Page 1) MON 10/16 Essential Question(s) LEARNING TARGET 1. Analyze and interpret data to create graphic representations of the causes and effects of waves, currents, and tides in Earth’s systems. Answering the questions set for the nature walk FRI Standard(s) (S6E5.c) E.Q.(s) 1. I WILL BE ABSENT TODAY. Students will view a video on Currents, Gyres, Coriolis, (explanations)(notes) Student hypothesize the type of climate, beach, local conditions near the currents. Ocean currents and wind currents circulating around the world Closing What is the motion of a wave. How does a wave differ from current movement? How is the climate affected by currents from the equator? At the full moon and new moon (this is called a spring tide) the tide height increases and at the first- and third-quarter moons it decreases (called a neap tide). (Earth Science Edition) Water Cycle Diagram (Earth Science Edition) Where Did the Water in the Puddle Go? Fossil fuels are referred to as nonrenewable energy sources because, once used, they are gone. Rock Cycle song Return/Review Correct mineral quiz Rock Cycle song In the notebook, Students will draw in a rock cycle diagram from textbook page 94 or choose from other rock cycle diagrams. Students will explain the formation process of each type of rock, including magma and lava. Explore 1. (S6E4.a) Demonstrate that land and water absorb and lose heat at different rates and explain the resulting effects on weather patterns. Use spot-lights and a glove to Demonstrate how different part of the earth (Northern/Southern hemispheres and latitudes) get different amounts of sunlight. Relate this information with previous unit on uneven heating and weather. Teacher will assist individually as the student work on the poster Assessment   Warm up questions, on-going questioning throughout the lesson. ·   The ocean has the same salt that we eat ·   Oceans have the same salinity everywhere. Students will draw a diagrams/illustrations of the vocabulary words Closing Place the completed vocabulary words in the collection box Differentiation Pair assistance. Scaffolding.   Some students will be given a copy of the power point to work at their own pace. Opening Warm-up: Basic parts of a surface wave Work Session Wave animation simulation demonstration. Wave simulation will be shown. As the wave moves, the water (or things that float) moves up and down in a circular motion. Students will follow a point on an object that is floating on the ocean and track its movements. Unit Resources: Unit 4 Videos   Parent Guide Topic 1: Water on Earth and The Water Cycle Big Ideas/Enduring Understandings: ·   The majority of the Earth’s surface is covered with water ·   Most of the water on the Earth is salt water. -Provide students with the Venn Diagram -Grade student work Teacher Notes: You cannot show the video of the Earth’s layers with sound because the narration will give away too many answers. Students will be given a information card to place on to their agenda (website address, username, password) Study Jams (Rock Cycle) Computer Lab Students will one required and have choice of 4 additional interactive activities. Students must complete one required and at least 3 of the other four.   www.choiscience.weebly.com Required: On the rock cycle tab, Virtual Rock Lab Students will various rock samples and identify their color, grain size, and rock type. Students will use their notes and what they learned. What is the difference between intrusive and extrusive igneous rocks Opening Work Session Closing Differentiation Assessment 1. Some students will be given extra time to complete the test. Assessment   Vocabulary graphic organizer. On going oral questioning throughout the lesson (S6E3.d) Explain the causes of waves, currents, and tides. Waves: Use the Waves lesson plan: Students gather, graph, and analyze live ocean buoy data to determine how wave height is affected by wind speed. Power Point presentations: The students present their Rock Cycle power points. Each student will be given one minute to present. Rock cycle song Students will sing a fun rock cycle song. The song will enhance remembering the rock formation processes. You will need 1.5-2 cans of frosting per class period (each student receives one big dollop), 1-2 boxes of graham crackers per period, and 2-4 boxes of fruit roll-ups (they usually come 10 to a box—Fruit by the Foot does not work). (S6E4.c) Relate how moisture evaporating from the oceans affects the weather patterns and weather events such as hurricanes TUE 3/14 Essential Question(s) What are fronts and how do High pressure areas differ from low pressure areas? There are power plants in the United States, which use methane derived from these organic wastes (mainly manure). Opening Work Session Closing Differentiation Assessment Warm-Up questions on the rock cycle. Work Session Water Distribution Stud Guide. Check for understanding, review all the questions. Clear up any misconceptions. Follow power point. Questioning and Discussion. Return/Review Rock Cycle test, part II Discuss how we are doing, did we increase test scores compared to rock cycle test part 1? 3. Date/Standard Mon 8-14 (S6E5.c,d) Tue 8-15 (S6E5.c,d) Wed 8-16 (S6E5.c,d) Thu 8-17 (S6E5.c,d) Fri 8-18 (S6E5.c,d) Essential Question(s) What are the formation processes of igneous, sedimentary, and metamorphic rocks? WED 2/8 Essential Question(s) What causes tides? What are the alignments for a spring/neap tides? — What is a current? · Most of the freshwater on Earth is located in glaciers and ice caps. If this energy is due to the fact that matter is moving or is in use, it is called kinetic energy. Follow up with your own instruction, highlighting the percentages of water found in each reservoir and requires students to graph the data. Students complete the questions in 20 minutes. Explain that gravity is the force that governs the motion in the solar system. Have students identify the parts of a wave – what causes waves – energy transferred from winds. Power Point presentations: All the student who did not present will present today. Students will explain formation processes, physical characteristics, how these rocks are used by humans. Rock Cycle Cumulative Test part III This will be a combination of test #1, #2, and added questions to see mastery of the Rock Cycle. Complete graphic organizer for the computer lab Rock Cycle song Students will learn how to wear goggles and apron for the lab   WORK SESSION (20-40 min) Inquiry: compare, contrast various rock samples Students will group rock samples and discuss how they were grouped. Evidence of Learning By completion of this lesson, students will be able to: · Describe where water is located on Earth and in what percentage · Explain how water can move through the water cycle · Design an investigation to show how and why water moves through the water cycle Additional Assessment TBD Adopted Resources TBD Literature Connections Probes Land or Water? As students’ questions are answered, have them write those answers down on their paper. Opening various questions on seasons Work Session Test taking strategies 1. Seasons, Fly Swatter game 2. StudyJams (day/night) Paper Plate seasons illustration project. Explain what will be done on the mini-project (starting Monday) Next week: Seasons Study guide #2, Study Jams, and quiz on seasons Closing Students will finish the sentence: “The reason for the seasons — Tilt of the Earth.” Differentiation Pair, Translate, Partially filled graphic organizers, Assessment Fly Swatter, Study Jams (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate. These are not in the middle of oceans. Water Distribution Graphic Org. WED 2/15 Essential Question(s) What causes tides? What are the alignments for a spring/neap tides? Evaluate (Day 7) Students write an explanation answering the following question: “Why do plates move and how do they cause geologic events such as earthquakes and volcanoes?” -Grade student papers for accuracy of content Teacher Notes: Practice lab safety with students in the Modeling Convection Currents Lab with the hot water and handling lab equipment. 462 completed Differentiation Pair assistance. Authentic Scenario/Phenomenon Journey to the Center of the Earth is a popular book and movie. Opening Water Cycle stages/definitions warm-ups Work Session Access Testing during periods 1, 2, part of 3 Non-ESOL students and afternoon classes will complete the following: 1. Vocabulary review definitions and diagrams 2. Vocabulary review crossword puzzle 3. Water Cycle Poster (use rubric) Closing Water Cycle Definitions and diagrams Differentiation Some students will be given partially filled graphic organizer. Pair. Read to. The degree of power is determined by the amount of water and the distance it falls. WHAT ARE THE PRACTICAL SOURCES OF ENERGY? Rock Cycle song Computer Lab: Go to computer lab. The planets of our solar system differ in size, composition (rock or gas), surface and atmospheric features, and distance from the sun. Opening Return/Review/Correct quiz. If the results are low, there will be a review and a retest Work Session Set up for lab: Beakers of water and Beakers of sand will be heated with heat lamps. The temperatures will be recorded and analyzed. Study Jams: Waves. Complete questions at end of study jams Go to (choiscience.weebly.com): Follow webquest directions and complete information on waves, currents, and tides. 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. I WILL BE ABSENT TODAY…. Study Jams: Air masses and Fronts. Students will illustrate and explain Cold/Warm fronts and how they are related to various weather patterns. Students will illustrate how the air moves based on temperature and density. Evaluate (Day 5) Students use a Venn Diagram to compare and contrast the layers of the Earth in terms of temperature, density, thickness, and composition Students complete an exit ticket answering the questions: Can humans journey to the center of the Earth? FRI Standard(s) (S6E5.c) E.Q.(s) 1. nuclear fission biomass geothermal ocean tides (Source: GREENHOUSE GASES AND CLIMATE CHANGE The greenhouse effect is a naturally occurring process in the Earth’s atmosphere that warms the planet. Describe the characteristics of comets, asteroids, and meteors. Students will explore current scientific views of the universe and how those views evolved S6E2. Some people think nuclear energy should be our main source of future energy. Part 2: Fossils Show Evidence of the Changing Surface of Earth (2-3 Days) 5E Stage Student Activities How will students engage actively in the three dimensions throughout the lesson? 2., USA Test Prep: Students will choose from a variety of benchmark assessments. Lon-On to USA test prep website and complete the following assessments based on materials learned previously in preparation for the EOG science test. This song will engage the student physically (kinesthetic learning). This will also have a life-long memory effect. What is the difference between intrusive and extrusive igneous rocks Opening Work Session Closing Differentiation Assessment Practice on logging on-to Mr. Choi’s website and how to navigate/use the website. Students will be familiarizing on how to use the Skills tutor. Geocentric-Ptolemy theory that Earth is the center of the universe. & vocabulary : Igneous Rock Sedimentary Rock Metamorphic Rock Melting Weathering, Erosion, Deposition, Compaction Cooling, Hardening Heat and Pressure Magma, Lava Foliated Stratified Closing: Intro: Rock Cycle Song Students will sing-a-long to the rock cycle song Assessments/CFU: Minerals written quiz, Oral response during class, Brainpop review quiz, Paper Plate illustration, Singing, Completing organizer Openings or Daily Warm Ups. Probing. Check for understanding.   Questioning and discussing student responses on the daily content. Opening Warm-Up: Seasons, rotation, revolution Work Session 1. Study Jams (Day and Night). Study Jams assessment 2. Edusmart: Seasons. Students operated Edusmart interactive software. Complete each segments with questions. As students volunteer to answer/operate, soar cards will be awarded. Closing Check with teacher to show that each student completed the assignments for today Differentiation Pair assistance. Scaffolding.   Some students will be given a copy of the power point to work at their own pace. They also graph ocean temperature versus depth. As always, check for student food allergies ahead of time. Meteoroid– a relatively small, rocky body that travels through space Asteroid-small, rocky object that orbits the sun Gravity– Force that holds the planets in orbit. 1. Rock Cycle Jeopardy / Fly-Swatter / Whiteboard game. Students will compete to see who can get the answer the quickest 2. Flash Card game: Use the flash Cards made on Monday to test each other (pair/share). Where are palm trees found today? AFTER Spring BREAK & AFTER Milestones, starting April 16 – May 18, 2018 : Sixth Grade Unit 7-1azbpj7 March 15 until Spring BREAK: Sixth Grade Unit 6-1qafg7f Starting, March 5, 2018: Sixth Grade Unit 6-1q9cpw4 Sixth Grade Unit 5-q0t7wn   Unit 5- Lesson 1- Danger in the Jet Stream-q3gc9u Sixth Grade Unit 4: Water on the Earth   5 weeks Unit Description S6E3 Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes. Opening Various questions on cold/warm fronts and severe weather. (S6E4.a) Demonstrate that land and water absorb and lose heat at different rates and explain the resu Paula Hutchison for the week of (2/6- 2/11) 2017 MON 2/6 Essential Question(s) What is a tide? (Clarification statement: the water cycle should include evaporation, condensation, precipitation, transpiration, infiltration, groundwater, and runoff). Description of Key Content Teacher Background Information Misconceptions Proper Conceptions · Most of Earth’s freshwater is found in streams and lakes. Students will complete by answering various questions on currents based on a world ocean currents map. petroleum wind 4. After their investigation, students should draw and label a model of what happened in their experiment, including the vocabulary required by the standard, and then explain the results. Name vocabulary words using given definitions (including guessing based on prefixes of words) Draw/Illustrate a rock cycle diagram in notebook. Students use any handout or p. Compare Earth’s different latitudes and how the sunlight shines different amounts. 1. Why is rock important to us? Resources Blackboard online: Vocabulary Vocabulary in units 1 to 7. Essential Questions: ·   How is water distributed around the Earth? Ocean Currents Activity: Teacher will guide/review with students the cause waves and currents. World’s oceans and current directions will be discussed. Discussion will include: Where the currents are moving, temperature (students will explain which currents are warm or cold and why) Students will complete by answering various questions on currents based on a world ocean currents map. Teacher Activities How will the teacher facilitate and monitor student learning throughout the lesson? Climate change can include many variables (temperature, precipitation, wind direction, wind speed) and different geographic scales, over a continent, within an ocean, for the Northern Hemisphere, for the planet. The groups can then report out to the class. It is not a widely used energy source due to the cost of mining and its impurities, which cause pollution (acid rain). Lystrosaurus – which literally means ‘shovel reptile’ – was dominant on land in the early Triassic, 250 million years ago. Make sure all students have a complete understanding of what causes tides, the alignment of the earth, moon and sun during high/low tide and spring/neap tide. Also make sure the students can explain the tidal differences between spring and neap tide. Rock Cycle Test #1 Students will take Rock Cycle Test #1. 2. 4. Students begin on Seasons mini-diagram project on paper plate. Draw/Illustrate/Explain the season on a paper plate. Show the tilt of the earth, motion of the earth, and the season(with dates: equinoxes, solstices) Closing Students will finish the sentence: “The reason for the seasons — Tilt of the Earth.” Differentiation Some students will be given partial answers on the assessments Assessment Study guide, fly swatter, seasons paper plate (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate Standards SCI.6.S6E2.c Fri Essential Question(s) What cause the different seasons on Earth? -How does the Earth differ from the other planets? If all students complete prior to the end of class, the class will sing the rock cycle song for fun Some students will be given key vocabulary words to use in completing constructed response and extended response questions Rock Cycle Test #2 Earth Science (2017) Week: 9-25 to 9-29 Topic: Rock Cycle, Rock formation processes Teacher: HUTCH Standard(s) Element(s) (S6E5.c) Classify rocks by their formation process. Some students will be given assistance in working through the interactive websites. Some will be taught how to use the websites. THU 2/16 Essential Question(s) What causes tides? What are the alignments for a spring/neap tides? ·   Tides are caused by the pull on ocean water by the moon’s gravity. Explain how soil is formed 2. Review study jams information from previous two graphic organizers Work Session   Discuss/answer any questions relating to weather and weather symbols Review weather study guide. Make sure all students understand (mastered) how air moves (how all fluids move: from high pressure to low pressure. Demonstrate with a balloon: high pressure inside, low pressure outside. Check for understanding about hurricanes and tornados. How are they similar/different. Weather map symbols. How weather is made. Differentiation Pair/Partner work Assessment Study Jams, Edusmart (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate. Assessment   Graphic organizers for the water cycle interactive websites (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle. Skills Tutor: Weather and Atmosphere. Students will complete 15 question graphic organizer. Students will use information from the skills tutor interactive assessments and answer the questions on the graphic organizer. — Explain what will happen to the rocks and materials in the future. Over the next year, 10 years, 100 years, million years. Closing Draw a wave, its parts, and definitions (no notes). Lesson Plans for Paula Hutchison for the week of (1/23 – 1/27) 2017 MON 1/23 Essential Question(s)   How does water change through the water cycle? – Lead students to understand how heat and density changes cause convection currents (cycling of matter) in Earth’s mantle to make the plates move (use simulations, models or direct instruction) -grade formative assessment, reteach as necessary Elaborate (Day 5-6) Students take notes about different types of plate boundaries and explain why the movement occurs the way it does at each boundary. Afterwards, they choose a location of their choice and do the exercise again for a location of their choice, using data from (this site actually has both tide data and moon phases) and (just moon phases). Closing Check that all students have completed the writing assignment Differentiation Pair (high/low students). Assist some students with definitions and illustrations Assessment   Notebook writing assignment on waves and currents (S6E3.d) Explain the causes of waves, currents, and tides. Opening Work Session Closing Differentiation Assessment General questions on the rock cycle. Students will answer various questions in their notebook. THU Standard(s) (S6E5.c) E.Q.(s) 1. -Show Journey to the Center of the Earth trailer through 1:24 (pause so students can see how the movie portrays the center) -Ask students whether they think we can dig to the center of the Earth Explore (Day 1-2) Watch second video of Earth’s layers Write down questions about things they see in the second video. Apply scientific knowledge to construct an explanation as to why people might not survive in the unpopulated areas on Earth. Solar energy can be used to cook food, heat water and generate electricity. Work Session Brain Pop: Weather, weather map symbols. Water is a renewable energy source. – Ask students what they predict will happen to the lamp as the bottom heats up by the light -Ask “If this lamp is a model of the Earth’s layers, what does the lamp represent in our Earth model?” (the hot core). Closing Students draw a cold front and a warm front: Explain how they are related to high pressure and low pressure Differentiation Some students will be given partially completed graphic organizer (weather video) Assessment Edusmart assessment on climate and weather. Rock Cycle Study Stations: Students will be split into 3 groups. Several types of human activities lead to significant emissions of greenhouse gases. For each assessment completed at 90% or better, a soar card will be given Closing Make sure that all students know how to use usa test prep and skills tutor prior to leaving Differentiation Assist some students logging on and using the websites Assessment Skills Tutor questions graphic organizer. USA TEST prep benchmark tests (students take the test until 90% or better) (S6E4.c) Relate how moisture evaporating from the oceans affects the weather patterns and weather events such as hurricanes WED 3/15 Essential Question(s) What are fronts and how do High pressure areas differ from low pressure areas? Water Cycle Graphic organizer. Follow interactive website, view the animations for the water cycle, and complete the organizer. As the graphic organizer is completed, discuss and explain how the different conditions cause the changes in water throughout the water cycle 4. Students will be given examples of water cycles to choose from or they can create their own diagram Closing Water Cycle review questions, Study guide for Test on Monday/Tuesday Differentiation Some students: read to, scaffold, translate to Spanish for some words. ·   The ocean has three distinct layers, differentiated by the amount of sunlight they receive and the amount of pressure. Opening Demonstrate logging onto USA TEST Prep and Skills Tutor Work Session Computer Lab 1. Which material absorbed or lost heat faster/slower? Which direction will the air move at a beach during a hot day or during a cool night? Then they analyze the cause and effect relationship: the high tide changes in height according to the moon’s position. Global warming is caused by increased amounts of greenhouse gases in the atmosphere. Enduring Understandings Observational evidence caused the model of the solar system to be changed from one in which the sun and planets orbit the Earth (Geocentric) to one in which the Earth and planets orbit the sun (Heliocentric). -Teach students the three types/four zones of plate boundaries. Materials: Chocolate, candy sprinkles, cookies, tub of hot water, large container of ice, plastic sandwich bags, scissors, cookie sheets. Assist some students on how to copy/use the test to create a power point. The force that holds the universe together Name: Unit 8 Overview Earth Science and preview 7th grade science Length (weeks): 1 Description Final Projects, Cumulative Activities, Preview 7th Grade Essential Questions – What type of projects can be used to show what I have learned in Earth Science? b. Content Standards S6E3c. Watch the animation, write the vocabulary definitions, and complete quiz at the end of the video. Tides note taking guide. Graphic organizer on high/low tide and spring/neap tide. Compare/contrast each type of tide. Examine how often the tides occur. The nature of energy is very complex, but it is best described by these characteristics: energy is the ability to do work, work is the application of a force through a distance (e.g., carrying yourself and a loaded back pack up a mountain trail), force is that which can put matter into motion or stop it if it is already moving (e.g. , you are stopped at a stop sign and the car behind you doesn’t see you stop, and can’t stop before colliding with your rear bumper, pushing you into the intersection), and motion is a change in distance or direction with time (e.g., making a right hand turn). Give assistance study guide. Assessment Soil profile T-Chart, flyswatter, whiteboard game, study guide. In summary, energy sources can be classified as renewable or nonrenewable: Renewable   Nonrenewable sun 1. ** How do we learn from our test errors? “Global warming” refers to the increase of the Earth’s average surface temperature due to a build-up of greenhouse gases in the atmosphere. If it is due to the position, structure of matter, or composition, it is called potential energy. Assessment Soil Profile/Horizons illustration mini-poster. Notebook writing: Describe the composition of the soil horizons. Explain the importance of soil conservation. Agriculture, including growing rice and raising livestock, leads to the release of increased amounts of methane, another greenhouse gas. Can animals live here in this zone…?, etc” Have students write down their questions; when they are done asking questions about one graph they should go on to the next graph. As you circulate around the room, write down students’ comments so that you can discuss, evaluate, and validate their questions. Explore map of Pangea by piecing continents together, analyzing patterns of fossil locations Explain Fossil and Mountain Chain Evidence activity to students. Opening Discuss the 1st 20 questions from semester 2 cumulative test (Average 70%, lower than expected) Have students look at the questions and check which questions were incorrect. Students will be given the 1st 20 questions to view and inspect what was done correctly, incorrectly, and how to make sure not to make mistakes on similar questions on the EOG. Ask questions to compare and contrast the Earth’s crust, mantle, inner and outer core, including temperature, density, thickness, and composition. Pair/Share. Partners will check each other for understanding the formation processes of each rock. Ask questions and hypothesize with a group about how these fossils could end up in these three disparate locations (especially since Lystrosaurus could not swim this far) Provide information about and a picture of Lystrosaurus. Venn-diagram: Compare/Contrast warm fronts and cold fronts Weather Review Study Guide. Students will work in pairs to complete various questions to prepare for a quiz on the next day. If not complete, students will complete as homework Closing Review and Complete the study guide Differentiation Some students will be given partially completed graphic organizer. Pair assistance. Work Session 1. Several pieces of evidence support the view that greenhouse gas concentrations in the atmosphere are increasing because of human activities. Assessments on each of the websites. Student will show the teacher how well they did on each of the activities. Next week: Write their own rock cycle story, sugar cube activity Test #2 Rock Cycle Song # Students will be given extra time to complete the test. How does the tilt of the Earth relate to seasons in the northern and southern hemispheres? Work Session Ocean current exploration using ocean motion simulator. Student investigate the various currents of the world to hypothesize the type of climate, beach, local conditions near the currents. Stdnts complete internet research on rock cycle. Follow and complete interactive website. Asking questions to identify and communicate the subsurface topography of the ocean floor: Question-A-Go-Go into a Question Rainbow: Project a picture of the ocean floor (such as this one: on your board. 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. Work Session Study Jams: Air pressure. Graphic organizer on Air pressure and Wind. How air moves on earth. Students explain the air patterns formed due to the Coriolis Effect. Explain the general air movement pattern throughout the world. Find out where our soil comes from.Closing Exit Ticket: Notebook Writing: What did you learn about Weathering and Erosion?Differentiation: Some students will be paired for assistance. Some students will be given partially filled graphic organizerAssessment: Weathering and Erosion Summative TestGPS (S6E5.d) Describe the processes that change rocks and the surface of the earth. Conservation involves sacrificing quality of life so we can save resources and protect the environment. How do I describe the soil horizons?Opening Make a soil profile T-Chart, include how each layers is formedWork Session StationsStation 1. Soil Horizons flyswatter. Students slap at the answers to various pictures and diagramStation 2. Soil Profile/Horizons illustration mini-poster. Draw/illustrate the soil profile on a manila folder. Include the soil horizons foldable onto the manila folder Soil Horizons vocabulary whiteboard game. As words or ideas pop-up, students write the definition or the words associated with soil. Looking at a population density map, analyze patterns relating to cause and effect about where people do and do not live on Earth. FRI 2/17 Essential Question(s) What causes tides? What are the alignments for a spring/neap tides? Students will view a molecular point of view as waves in water move along, but the water molecules move in a circular path. Gravity as the force that shapes and drives the universe. Fossils of Lystrosaurus are only found in Antarctica, India and South Africa but Lystrosaurus couldn’t swim. Review 3. Complete water cycle/distribution study guide and assessment Closing Water Cycle Rap and Song Differentiation Student pairing for assistance. Some students will be given partially filled graphic organizer Assessment   Interactivity assessments. Water Cycle and water distribution mini assessment. Learning Target(s) (TSWBAT) Describe/Explain the formation processes of igneous, sedimentary, and metamorphic rocks. How does soil form and what is in the soil? 2. Wind The unequal heating of the earth’s surface by the sun produces wind energy, which can be converted into mechanical and electrical energy. (1inch = 1 feet). Students will explain why they did not see big rocks. Students will draw the items found outside into their notebook Audio listening on the formation of soil. Students will listen to soil formation “From bedrock to soil” portion of the textbook. Then, students will read what they just listened to: Students will be chosen (by wheel) to read the sections Closing Exit ticket: Writing in notebook. Where did the soil come from? What is in the soil?Differentiation Students will be paired to assist other students while digging and naming items found outside. Scaffold some students by the teacher.Assessment: Exit Ticket. Various oral questioning throughout the lesson/outside about what is in the soil(S6E5.d) Describe the processes that change rocks and the surface of the earth.(S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material Essential Question(s): (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic materialOpening: What standard are you learning today? How are you learning the standard?Based on yesterday’s field work and drawing a sample of soil, list the items in order from top to bottom.Work Session: Soil Layers Graphic Organizer. End of each website activity. -Breaking the chocolates into small pieces (weathering/Sediments) -Take the small pieces, add broken cookies, layer them together, and gently tap to put them together (compaction and cementation) -Squeeze and twist the mixture (Pressure, Foliation) -Place the mix into a hot tub of water (Melting into magma) -Hold bag over a cookie sheet, (teacher cut a hole on the bottom), gently squeeze out the mix and fold the cookie sheet around the mix. Write name on the mix. TUE 1/31 Essential Question(s) What causes water waves and what are the parts of a wave called? MON Standard(s) (S6E5.c,d) E.Q.(s) 1. This map has the continents and oceans labeled and has a heading at the top that says “Two friends are debating about the oceans on Earth. (On Thursday) Each student will have 1 minute to present his or her power point presentation. Students share what they know about the earth’s interior. (Use Power point timed for this intro.) Work Session Earth Layers Intro: Students look at events that happen on the Earth’s surface and brainstorm what is inside the earth that could create such events. This knowledge was used to make atom bombs. Opening Warm-Up: Seasons, rotation, revolution Work Session Seasons Webquest: Whole class work Students follow step by step webquest on earth’s seasons. Complete the graphic organizer. What causes tides? ·   Why does water continually move through the water cycle? Without sunlight, fossil fuels could never have existed. Multi-Day Lesson: (time is approximated—work at the pace of your students) Sixth Grade Dynamic Earth Unit 5E Stage Student Activities How will students engage actively in the three dimensions throughout the lesson? Big Bang Theory-The theory that the universe began with a tremendous explosion. The Earth is the only body in the solar system that appears to be able to support life. Rock Cycle Final Test #3 Earth Science (2017) Week: 9-4 to 9-8 Topic: Rock Cycle, Rock formation processes Teacher: HUTCH/PAYNE Standard(s) Element(s) (S6E5.c) Classify rocks by their formation process. -Define analogy (or metaphor) -Give students an example of how the Earth is like a hardboiled egg, justifying why you have chosen the model and modeling how to explain model’s strengths and limitations. Essential Question(s): What are the formation processes of igneous, sedimentary, and metamorphic rocks? Test corrections: Students make corrections on every question they got wrong. Students will write out the questions and explain the correct answer and the wrong answer. Opening Warm-up questions on seasons Work Session Computer Lab. Soar Cards for each completed assessment (at least 85% each) 1. Skills Tutor: – Earth and Space 2. USA test prep: – Seasons – Weather – Sever Weather – Rock Cycle 1 , 2 Teacher award soar cards based on how many were completed and what scores were Closing Students will finish the sentence: “The reason for the seasons — Tilt of the Earth.” Differentiation Peer help. Pair working. Content Standards S6E3d. 2. Overview seasons graphic organizer (pink paper). Complete with power point. -Ask questions to clarify or identify evidence and the premise(s) of an argument Developing and Using Models -Use and/or develop models to predict, describe, support explanations, and/or collect data to test ideas about phenomena in natural or designed systems, Analyzing and Interpreting Data -Use graphical displays (e.g., maps) of large data sets to identify temporal and spatial relationships Constructing Explanations -Base explanations on evidence obtained from sources and the assumption that natural laws operate today as they did in the past and will continue to do so in the future -Apply scientific knowledge and evidence to explain real-world phenomena, examples, or events. Natural Gas Sometimes natural gas is confused with gasoline, the fuel in cars. Teacher will demonstrate the initial starting sample. The students will complete the rest in the computer lab. Weather Map Symbols. This will be a 40 question test. Complete Edusmart assessment. It remains the cleanest energy source and it is renewable. Students can communicate their understanding of ocean floor features by creating a 3-D Ocean Floor Diagram. Students will complete the webquest on tides, complete vocabulary hangman game, and complete test When complete, students will draw the high/low , spring/neap tide illustration from the website onto their notebook. Student must copy all the details of the tides and explain what causes the tides Students who complete the webquest will log on to skills tutor and complete assignments on water, oceans, dynamic earth, earth and space. TUE 2/14 Essential Question(s) What causes tides? What are the alignments for a spring/neap tides? Differentiation Individual assistance. Scaffolding.   Some students will be given partially filled organizer Assessment   On-going questioning during class: How current affects climates around the world (S6E3.d) Explain the causes of waves, currents, and tides. Human societies have long caused environmental problems whose effects persist for generations, and the scale of these problems is rapidly increasing. Encourage partners to take turns asking and answering questions based on the prompt and map. Banning of CFCs from spray cans and Styrofoam has caused the ozone hole to stop growing, and it is expected to get smaller. Rock Cycle Test #2 (including constructed/extended response) 1. Complete multiple choice questions (30 min) 2. Complete constructed response and extended response questions Constructed Response: Describe, in detail, the formation process of intrusive and extrusive igneous rocks. Include where they are formed and the type of crystal they form. May use bullets or a T-chart Extended Response: Explain and describe the formation processes of Igneous, Sedimentary, and Metamorphic rocks. Bill Nye: Seasons. Preview assessment questions. See if students know any of the information on seasons. Tilt of the Earth and Orbit/Revolution.   What cause day/night? Spin/Rotation. Engaging in Argument Construct, use, and/or present an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem Crosscutting Concepts: Patterns: -Patterns can be used to identify cause and effect relationships. Create Study Guide Power Point: Students will create their own questions based on the tests. Students will copy, change, or edit the questions and answers from the test and create a question/answer power point. ·   Where does salt in the ocean come from? Petroleum or Oil This is the black, thick liquid pumped from below the earth’s surface wherever you see an oil rig. Pair high/low performers in the activities Scaffold in the study stations Power Point Presentation Students will explain the various rock formation processes while presenting their power point. Learning Target(s) Students will Describe/Explain the formation processes of igneous, sedimentary, and metamorphic rocks.   Opening: Minerals Summative Quiz Students complete quiz to conclude minerals unit. How do I describe the soil horizons?Opening   Soil/Weathering warm-up questions. Various questions on soil and weathering Work SessionSoil profile and soil formation T-Chart. Students will create a t-chart using notes from the previous 3 days.Pair/Share: Students check each others rough draft t-chart and check for errors. Create a final T-chart on a 3×5 card. Practice making the t-chart 3 times.Closing Mini Quiz: Basic review questions on soil and weathering. Review the answers: use spin name.Differentiation Some students will be paired for assistance.Assessment Closing mini quizGPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material FRI 10/20 Essential Question(s) LEARNING TARGET: 1. This energy source is not popular in the United States, but Yellowstone has some geysers. How do I describe the soil horizons?Opening   Soil/Weathering warm-up questions. Various questions on soil and weathering Work SessionSoil profile, soil formation, weathering Quiz: Students will write the T-Chart (from memory) on a scratch paper and use the T-chart during the quiz.Student who finish early will read SOIL CONSERVATION in textbook pages 294-297Closing Soil and weathering quizDifferentiation Some students will be given assistance in making the t-chartAssessment quizGPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material Lesson Plans, Earth Science P. Students placed in groups to investigate how water absorbs and loses heat differently. Completing the graphic organizer with illustrations Standards: (link or list here)(S6E5.c,d) (S6E5) Students will investigate the scientific view of how the earth’s surface is formed. Opening Water Distribution Warm-Up. Various questions on water distribution based on previous day’s information. Students may use previous day’s graphic organizer. The uneven heating of the earth produces wind energy. All must complete at 80% or higher or do over until meeting 80% or higher WED Standard(s) (S6E5.c) E.Q.(s) 1. You might start with showing students a diagram of the water cycle (, making sure to point out some of the steps they may not have learned in elementary school, such as transpiration, infiltration, runoff, etc. Formative soil quiz(S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material Earth Science (2017) Week: 9-18 to 9-22 Topic: Rock Cycle, Rock formation processes Teacher: HUTCH Standard(s) LEARNING TARGET (S6E5.c) Classify rocks by their formation process. What is the difference between mechanical (physical) weathering and chemical weathering?Opening: Weathering and Erosion Video #2.Work Session: Computer Lab (www.choiscience.weebly.com)Students will create a presentation using power point or powtoon to explain, define, and illustrate weathering/erosion, chemical/mechanical weathering. Include ice wedging, Plant roots, Rusting, cave formation, stalagmites, stalactites, acid rain (Students use the notes, handouts, and the internet)Closing Return to class and complete an exit ticket: 1. Explain the difference between weathering and erosion.2. Explain the difference between mechanical and chemical weatheringDifferentiation Some students will be given assistance in working through the interactive websites. Some will be taught how to use the websites. Some students will be given information to put onto their power point slides.Assessment: Students making their own vocabulary definitions, illustrations, explanations on the power point. Creating their own explanation on Powtoon.GPS (S6E5.d) Describe the processes that change rocks and the surface of the earth. Time permitting: Seasons study guide, page 1 and 2 as time permits Closing Students will finish the sentence: “The reason for the seasons — Tilt of the Earth.” Differentiation Some students will be given partial answers on the assessments Assessment Billy Nye video assessment. Brain Pop video assessment (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate. Turn-in Rock Cycle Diagram project, Collect for grading Rock Cycle Video #1 or #4. The resulting data will be displayed, compared, and discussed. Other people feel that the dangers are too great from radioactive waste products, meltdowns, and radiation exposure of workers. Watch, answer assessment at the end of videoSoil Horizons foldable. List items in each soil layer. Explain composition and function of each soil horizon.Closing: Formative mix quiz: Soil and weatheringDifferentiation Some students will be given partially filled out graphic organizerAssessment: Assessment brainpop, Graphic organizer. Water distribution Video. View video and answer the summary quiz at the end of video. What is the difference between intrusive and extrusive igneous rocks Opening Work Session Closing Differentiation Assessment Rock formations questions. Pair/Share: 5 questions about the rock cycle. Student will write in the boxes provided. Assessment Semester 2 (1st 20 questions), seasons study guide (S6E2.c) Relate the tilt of the Earth to the distribution of sunlight throughout the year and to its effect on climate. Scale, Proportion, and Quantity Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small. How do I describe the soil horizons?Opening Soil formation and horizon names video. Soil Horizons Computer lab expectations. Line up to go to the computer lab.Work SessionSoil formation and layers Computer lab: Follow the graphic organizer, Read each screen, and answer the soil formation and horizon questions.Review the answers: Use spin the wheel to randomly choose the students.Closing Return to class, start on the soil horizons graphic organizer (to be completed and opening on next day)Differentiation Some students will be given assistance during the computer lab. Some students will have available partially filled out graphic organizer. Some students will be paired with higher performing students. Assessment Graphic organizer questions/answers.GPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material TUE 10/17 Essential Question(s) LEARNING TARGET 1. Solar The sun is 93 million miles away and yet, this ball of hot gases is the primary source of all energy on earth. Burning wood for cooking and heating also releases CO2. Teacher will assist individually as the student work on the poster Assessment   Wave, Current, and TIDES (S6E3.d) Explain the causes of waves, currents, and TIDES. Geothermal energy is used to heat some homes, greenhouses, and factories. Ocean current exploration using ocean motion simulator. Student investigate the various currents of the world to hypothesize the type of climate, beach, local conditions near the currents. (30 min). As the students complete their diagrams and power point presentations, check for understanding. Ask, “how does the rock cycle change the earth’s surface?” Return to class: Discussion: How does the rock cycle affect the earth’s surface? -As the convection current in the lava lamp begins, ask students to try to explain what is happening. Regardless of the source of energy, the energy contained in the source is changed into a more useful form. Opening Return/Review/Correct weather quiz. -Show students a lava lamp (or a video of one). 1. Rock Cycle Jeopardy / Fly-Swatter / Whiteboard game 2. Make Flash Cards: Create Flash Cards for each type of rock 3. I have, Who has (rock cycle vocab/formation processes) As the students present their power points and work at each study stations, the students will be presenting/sharing what they are learning or have learned. Carbon dioxide from fossil fuels has a certain isotopic “signature” that differs from other sources of CO Scientists measure the different isotopes to confirm that the increase in carbon dioxide in the atmosphere is predominantly from fossil fuel combustion. Work Session Tides Review and Quiz 1. Practice assessments on waves, currents, and tides. Evidence of Learning By completion of this lesson, students will be able to: ·   Explain the causes and effects of waves, currents, and tides Additional Assessment Adopted Resources TBD Literature Connections: Kon-Tiki By Thor Heyerdahl Probes Vocabulary: Surface current Waves Tides Deep current Coriolis Effect Continental Deflection Wave length Wave height Wave frequency Web Resources Smithsonian’s Ocean Portal: Information about waves, currents, and tides: NOAA- Ocean Explorer: Information and lessons about waves, currents and tides: Earth: A Global Map of Wind, Weather, and Ocean Conditions: Live tracking Ocean Wave Data: From NOAA—real time buoy data: Ocean Currents Map: Ocean Motion: Information about currents on Earth (from NASA): Ocean Current Data: Ocean Currents: Brainpop Video: Go with the Flow–Interactive game about currents: The Science of Tsunamis- Video from TedEd: How do Tides Work? Differentiation Some students will be given partially filled graphic organizer. Pair. Read to. Opening Water cycle warm up #2. Various questions on the water cycle Work Session 1. Water Cycle Fly Swatter: Students line up to swat at answers on

the water cycle 2. Water Cycle Manila Folder Poster. Students draw, illustrate, and color a water cycle diagram. BrainPop: Water cycle, View, (Assessment at end) 3. Closing Exit Ticket. Assessment Ocean currents activity questions (S6E3.d) Explain the causes of waves, currents, and tides. Hydroelectric (Falling Water) When water is collected behind dams on large rivers, it provides a source of energy for the production of electricity. Relate the Nature of Science to the progression of basic historical scientific models (geocentric, heliocentric) as they describe our solar system, and the Big Bang as it describes the formation of the universe. Elaborate 1. Materials needed: Classroom computer, projector, and speakers for showing videos Computer lab or devices for student research Student Handouts: Earth's Layers Comparison Chart Earth's Layers Cross Section Diagram Earth's Layers Venn Diagram Lesson Plans for HUTCH for the week of 11/06-17/2017 Essential Question(s) 1. Students describe what they think is in the soil and how it was formed (explain where soil started from. Students will form a hypothesis on what is in the soil (about 6 feet deep)2. -What is the Big Bang Theory? c. Hutchison week of October 9-13, 2017 . Season Study guide #2. Assessment Study jams questions, brainpop assessment (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle THU 1/12 Essential Question(s) How does water change through the water cycle? Products from the remaining portions include synthetic rubber, detergents, fertilizers, textiles, paints, and pharmaceuticals. The renewable energy resources are important in long range energy planning because they will not be depleted. Land and Water uneven heating observation lab. Students identify rocks based on physical characteristic and descriptions. When this standard is taught with fidelity, students plan and carry out an investigation about how the sun's energy drives the water cycle. Introduce Tides: Same Standard (What causes wave, currents, and tides) Tides video. What cause tides? Study Jams: Tides Watch the animation, write the definitions to the vocabulary words, and take notes Study Jams mini-assessment. Teacher will call certain people to make sure those who are unsure to check for understanding. Cytoplasm– The fluid that fills the entire cell Mitochondria– Energy production Cell wall– Plants only: Rigid outer layer. Protection Chloroplast– Plants only: Photosynthesis; convert light energy to plant energy. Essential Question(s): 1. There are two ways to mine coal; underground mining and strip mining. The future supply of most non-renewable resources is uncertain, but "running out" is less of an issue than how much it will cost to extract the resource as the supply diminishes.) Properly planned conservation strategies increase comfort levels and quality of life while using fewer resources and restoring the environment. Opening Do you know what ocean currents are? Where do they originate and where do they go? Check that all students completed and turn in their rock cycle diagrams Review rock cycle study guide #1 Some students will be given a vocabulary definitions guide to assist in completing flash cards. The enormous power of falling water is capable of turning giant turbines. Standards SCI.6.S6E2.c Thu Essential Question(s) What cause the different seasons on Earth? Medium-Grained c. Some ideas students might develop include heating water in beakers on hot plates, putting water in a Ziploc bag and taping it to the window, etc). Students who finish early can help (only those who need assistance) or complete the remaining work listed in the folder. (1st semester vocabulary and diagrams, crossword puzzle) Closing Water Cycle Rap and Song Differentiation Student pairing for assistance. Students scoring less than 75% on quiz will be grouped for reviewing individual items and retaught. Some students will be given extra time to complete the diagram and the power point Teacher will assist with some students (scaffold) searching the internet and formatting power point presentation Rock Cycle Quiz 1a THU Standard(s) (S6E5.c) E.Q.(s) 1. LESSON PLANS for Monday, March 27- March 31, 2017 Mon Essential Question(s) What cause the different seasons on Earth? Rock Cycle Earth Cutout Diagram Note taking. Opening Warm-Up: Parts of a wave, high/low tides, and spring/neap tides. 1. Follow interactive water cycle website #3. Complete the graphic organizer for this activity. How do I describe the soil horizons?Opening Soil/Weathering/Horizons questions. Review and reinforce. Students must justify why they have chosen this other object as their model and identify the model's strengths and limitations. Here are a few: Ice cores from Greenland and Antarctica tell us that carbon dioxide and other greenhouse gas concentrations were relatively stable for thousands of years, but began to rise around 200 years ago, about the time that humans began to engage in very large-scale agriculture and industry. Greenhouse gases in the atmosphere can absorb this energy, preventing it from escaping back into space. Fresh water: Discuss/Explain what is the difference between fresh water and salt water. How does soil form and what is in the soil? 2. This means it contributes little environmental pollutants when bummed. Assessment Projects, Performance tasks, Research Standards S6E1. Some greenhouse gases, such as industrial halocarbons, are only made by humans. Energy can be possessed by an object in two different ways, as kinetic energy and potential energy. -Show video WITHOUT SOUND!!: – record student questions on the board, keep track of categories that relate to temperature, density, thickness and composition to show similar questions in those areas -record answers to question on the board as students answer them -debrief what the class has learned. (See this video tutorial for making a paper slides video: iii. 5. Which has the greatest tidal difference? The least difference? 2. Currents: Some paper dot will be added to the pan to see the movements of the surface water (rocks placed in the pan to simulate continents. Have students communicate their answer to the two friends of who they think is correct by writing a letter to them. Describe the composition of each soil layer. 2. Compare and contrast the planets in terms of Size relative to the earth Surface and atmospheric features Relative distance from the sun Ability to support life e. · The ocean floor has plains, mountains, and valleys, which are often larger than those on dry land. Research the following: 1. Closing questionsGPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material WED 10/18 Essential Question(s) LEARNING TARGET 1. Ocean Tides Ocean tides are very powerful forces. Roughly half of the earth's forests have disappeared since 1950. Work Session: Inquiry: compare, contrast various rock samples Students will group rock samples and discuss how they were grouped. Students/Teacher will discuss and explain the common mistakes. Students will explain on how to avoid the same mistakes. The goal is to develop fluency, flexibility, originality, and elaboration in question creation. Why do you get pushed forward at the surf-line then? Comet-small body of ice, rock, and cosmic dust that follows an elliptical orbit around the sun and that gives off gas and dust in the form of a tail as it passes close to the sun Meteor-a bright streak of light that results when a meteoroid burns up in Earth's atmosphere. Assessment Water Cycle and Distribution Test (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle. Pass out the Water Sources graphic organizer with those two questions posed at the top. Some cities produce electricity by burning garbage in especially designed power plants. To make it useful, it is refined. Students will explain what could happen during each part of the lab. The earth is such a large and well-balanced system that it soon heals any damage that humans cause. Provide scaffolding/Remind students of the C-E-R framework as they write their arguments. · Many of the oceans' deepest points are trenches, deep canyons that are formed at plate boundaries. Assessment Wave, Currents Quiz (S6E3.d) Explain the causes of waves, currents, and tides. WED 2/1 Essential Question(s) What causes water waves and what are the parts of a wave called? Instructional Strategies S6E3a When this standard is taught with fidelity, students ask questions about where water is located on Earth. "Climate change" is a broader term that refers to weather trends observed over relatively long periods of time (many decades or longer). Refining separates the gasoline portion which is used in transportation. Media Center Orientation with Mrs. Rock Cycle Study Guide #1. Review. Work with students to place the questions along the continuum. Some students will be given key words to organize their thoughts for the rock cycle story Teacher will provide scaffolding as needed Rock cycle story check Various questions during opening, reviewing test #1, and questioning throughout the lesson THU Standard(s) (S6E5.c) E.Q.(s) 1. Parker OR. Biomass This is garbage! As bacteria decomposes organic waste such as manure, septic tank sludge, food scraps, pond-bottom muck, etc., methane is produced. Ask questions to identify and communicate, using graphs and maps, the composition, location, subsurface topography of the world's oceans. These turbines drive the generators, which produce electricity. Underneath, the organizer should include a section entitled "Questions I need answered to solve this water crisis problem" and another section entitled "Things I have learned about where water is located, why is it scarce in some parts of world, and how to conserve water" After students do research on their own, have a class discussion of their findings. Work Session Tides Webquest: Show students how to use the interactive websites cbarnbau/astro_demos/tides/neap_sp.html Computer lab: (choiscience.weebly.com) Log on to website and go to drop-down menu to tides. Engage Look the following picture: This 6-foot long, 52-million-year-old palm frond fossil was found near Fossil Butte National Monument (Wyoming) and suggests a subtropical climate. Nuclear Fission This is splitting of the uranium atom. Instructional Strategies When this standard is taught with fidelity, students ask questions about three different aspects of the ocean. Although the planet has warmed 1.4 ºF over the 20th century, it is within the +/- 5ºF range of the past 3,000 years. Essential Question(s): What's in our soil and How does our soil form? Opening: Unpack Standard S6E5.h1. Hydroelectric power plants do not cause pollution, but there are fewer and fewer places to build dams. Solar system– The Sun and the planets orbiting the Sun Universe-All the seen and unseen material in space. GPS (S6E5.h) Describe soil as consisting of weathered rock and decomposed organic material GPS (S6E5.i) Describe method for conserving natural resources such as soil WED Essential Question(s) 2. Those who deny climate change point to some of the following evidence: Earth's climate has always warmed and cooled due to things like volcanic eruptions and fluctuations in the sun's activity, and the 20th century rise in global temperature is within the bounds of natural temperature fluctuations over the past 3,000 years. (Earth Science Edition) Does the Ocean Influence our Climate or Weather? Today windmills can be connected to electric generators to turn the wind's motion energy into electrical energy, and wind over 8 miles per hour can be used to generate electricity .It is a renewable, but unpredictable, energy source. Opening Warm-Up activity: Draw a wave and name the 4 basic parts How do currents affect land weather/climate? Engage (Day 1) Students make predictions about what will happen to the lava lamp as the bottom of it heats up near the lamp. Description of Key Content Teacher Background Information Misconceptions Proper Conceptions · Earth's oceans are separate and not connected · Oceans are deepest in the middle. Opening Return/Review/Correct water cycle, water distribution quiz Work Session Water Cycle / Water Distribution — Manila Folder Poster Students use rubric and complete Water cycle/distribution poster: Students must hand draw a complete water cycle diagram, including arrows, definitions, and how water changes at each water cycle stage. Color the final diagram. Part 1: Fossils Show Evidence of the Changing Climate of Earth (2 Days) 5E Stage Student Activities How will students engage actively in the three dimensions throughout the lesson? – Ancient people use of seasons, especially the EQUINOXES and SOLSTICES. Pictures of various megaliths around the world marked the beginning of each season. (Stonehenge (about the same time Egypt great pyramids were built) These sites mark the equinoxes, solstices, solar eclipses, and lunar eclipses. Differentiation Pair assistance. In this lesson, students graph high tide levels in a line graph and moon phases along the top of the graph. Write in science notebook the answers to the questions. Rotation: Spin/turn causes day/night (sun rise/set), moon rise/set. Students will be given a small cup. Bottom will be cut out. Students will look through the cup and spin their body and look at the sun(hanging in the classroom). As the students turn, they will see that it looks like the sun is moving. Student will realize that they are spinning (earth) which make it look like the sun is rising/setting. This will be repeated with a moon in the middle of the room. · Waves are only caused by wind. Last 10 minutes of class will be used to go over the crossword puzzle Closing Introduce waves: Have students demonstrate what they know about waves, currents, tides Differentiation Pair assistance. Scaffolding. Some students will be given assistance to complete the project Assessment Project, crossword puzzle. What is the difference between intrusive and extrusive igneous rocks Opening Work Session Closing Differentiation Assessment Formation Processes: Students write the formation processes of each type of rock Rock and Learn Video: Watch the video on rock cycle and answer the interactive question from the video. The actual usable geothermal sites are few, but is considered a renewable energy source. · Earth's oceans are all connected and part of one global ocean system. Assessment Vocabulary Review and Diagrams during access testing (S6E3.b) Relate various atmospheric conditions to the stages of the water cycle FRI 1/20 Essential Question(s) How does water change through the water cycle? Students will wear goggles, apron, and gloves. Chocolate will be melted, cooled, mixed with cookies, shaped, and squeezed to demonstrate how each rock is formed. — 10 slides (questions, with animated answer). · The water, which is a solvent, falling on land, collects in rivers and lakes, soil, and porous layers of rock, and dissolves salts. Power Point Presentation Students will explain the various rock formation processes while presenting their power point. Models are limited in that they only represent certain aspects of the system under study. This methane is the same as natural gas from the ground. Students write an explanation of what is happening. What factors influence weathering and erosion? How many low tides? Work Session 1. Make written corrections to the questions missed on the 1st 20 questions on the semester 2 test. Share their questions with the class Research one or two of their questions on a classroom computer or device and share with the class -Tell students they are going to watch another video about the scientific understanding of the layers of the Earth. Check and review 1. Work on creating an illustration of Spring Tide, Neap Tide, high tide and low tide Closing Students will make cutouts of the Earth, Moon, and Sun to use for tides demonstrations. Perhaps underwater windmills or floating generating stations could utilize this potential energy source to produce electricity. In addition it is the heat energy remaining within the earth from gravitational formation of the earth. 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. 94 text Brainpop on Rock Cycle: Students complete review quiz on the smartboard On a paper plate, Students will draw, color, and illustrate the rock cycle. For each formation process, students will explain each rock formation process (students will write a short story) Chocolate and Cookies Rock Cycle Lab. Geothermal Geothermal energy refers to the energy deep within the earth. Fusion releases far greater energy than splitting the atom (fission, see below). Potential energy is stored energy. Teacher will assist students to make accurate measurments. Opening Unpack standard (S6E5.a) Compare and contrast the Earth's crust, mantle, core, including density, temperature, and composition. While on the nature walk, discuss (in detail) with some students how various rocks and materials got to the stream. · How does the amount of saltwater differ from the amount of freshwater on Earth? Opening Review and refresh memory on what cause wind patterns and move on to waves and currents Warm-up : wave parts. Causes of waves and currents. Climate affected by currents. Many strategies for conserving resources save money as they protect the environment. Standards S6E1. Essential Questions -How does the current model of the solar system differ from past models? Burning is the major global source of carbon dioxide in the atmosphere. Engage 1. Season Graphic Organizer: Power point. Students label and explain the difference between rotation and revolution. In the Arctic and Southern Oceans, the formation of sea ice results in a layer of highly saline water. Pair high/low performers to complete the graphic organizer # will be given extra time to complete the graphic organizer ELT Focus: Closing: Rock Cycle Song: Students will sing-a-long to the Rock Cycle Song. 2. What causes tides? -Place the chocolate into a sandwich bag. The goal is to ask questions that will uncover more information about what is displayed in the graphs. Homework Check (Frayer Model) Students will describe what is happening to the magma and lava. Provide students with a population density map Evaluate Submit written explanations from the "Explain" and "Elaborate" phases Evaluate student explanations and their ability to use data/evidence to back up their assertions. Students will explore current scientific views of the universe and how those views evolved. ESOL Learning (WS4) English learners communicate information, ideas and concepts necessary for academic success in the content area of Science Objective(s) (TSWBAT) Describe/Explain the formation processes of igneous, sedimentary, and metamorphic rocks. What causes currents to form? Then, begin your instruction on the salinity of ocean water and layers of the ocean. (S6E3.d) Explain the causes of waves, currents, and TIDES. How are climates along coasts affected by currents?

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