

Approximate Dates	March 1-24 4 weeks
Essential Question	Why does change matter?
Guiding Questions	How does weather affect earth's surface? What are some natural disasters that happen to Earth's surface? How do changes to Earth's surface affect us? How are rocks formed? Is change inevitable?
General Topic	Earth materials and systems
Sub Topic	Influence of the atmosphere on landforms (Geosphere: solid & molten rock, soil and sediments) through weather and climate The rock cycle
Standards Addressed	5-ESS 2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and or atmosphere interact.
Writing Anchor Standards	<ul style="list-style-type: none"> • Conduct short and more sustained research projects to answer a question • Use technology to produce/publish writing
Disciplinary Core Ideas	ESS2.A: Earth materials and systems
Scientific Practices	<ul style="list-style-type: none"> • Developing and using models • Obtaining, evaluating and communicating information
Crosscutting Concepts	<ul style="list-style-type: none"> • Systems and system models • Patterns • Cause and Effect • Stability and Change
Conceptual Knowledge	<ul style="list-style-type: none"> • The rock cycle- How each of the 3 rocks are formed, where they are found and how they play a role in the wearing down of Earth's surface • Weathering & Erosion-How wind, water, & ice wear down Earth's surface • Understand vocabulary such as- atmosphere, geosphere, slow & fast changes, weathering, erosion, deposition, and landforms
Procedural Knowledge	<ul style="list-style-type: none"> • Students can explain and apply their knowledge of why Earth's surface is affected by the type of rock found in it

	<ul style="list-style-type: none"> The learner will develop a model to explain how weathering and erosion wear down Earth's surface Student will use cause and effect relationships to explain the interactions of weathering, erosion, and deposition Student will be able to explain the relationship that plate tectonics and earthquakes play in shaping the surface of Earth 			
Culminating Project	Working model of natural disaster & Keynote/Prezi/Adobe pages presentation			
<p>Day 1</p> <p>Topic: A day of exploration with Mr. McConnel's rock & mineral collection</p> <p>Anticipatory Set: Today we have a special treat! We have a guest speaker who is here to share his personal collection of rocks and minerals with us. I want you to think of how these sample's have changed over time, what did they start as and what have they become?</p> <p>Activity: Students will start their exploration of rocks & minerals with</p>	<p>Day 2</p> <p>Topic: Rocks and Minerals</p> <p>Anticipatory Set: Today we are going to start our exploration of rocks and minerals and you will be the geologists trying to find ways to classify the materials on your trays</p> <p>Activity: Students are given an assortment of rocks and minerals and have to work in groups to find a way to classify and make sense of them (Students also add their rock/mineral to the group)</p> <p>-Granite, feldspar, mica, quartz</p>	<p>Day 3</p> <p>Topic: Classify and explore characteristics of Sedimentary, Igneous, and Metamorphic rocks</p> <p>Anticipatory Set:</p> <p>Activity: Explore and classify I, S, & M rocks.</p> <p>Independent Practice:</p> <p>-Split class into thirds and rotate between 3 stations (10-15 min. per station)</p> <p>-Set up tray's of rocks at each station (5 per group) with tools to explore such as hands lens</p> <p>-Set out vocabulary cards for scaffolding as well as "The Rock Cycle"</p>	<p>Day 4</p> <p>Topic: Rock Cycle and it's role in forming Earth's surface</p> <p>Anticipatory Set: Read-a-loud "Amazing ROCKS" by Bob Glass</p> <p>Activity: Log on to sciencebook.dkonline.com</p> <p>-Real World Inquiry</p> <p>--Climbing through the rock cycle</p> <p>*Students will watch the video and then explain where each rock can be found at their own pace in science NB</p> <p>-Discuss as a whole group how each rock is formed</p>	<p>Day 5</p> <p>Topic: Rock Cycle and it's role in forming Earth's surface</p> <p>Anticipatory Set: Today we are going to explore how different rocks affect the wearing down of Earth's surface</p> <p>Activity: Rock experiment stations</p> <p>*Students will be put in groups of 4 and rotate around together to the 4 stations (10 minutes per station) recording observations</p> <p>-Station 1: Chemical weathering on the 3 different types of rocks (Student Resource 7.2</p>

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<p>Mr. McConnel's collection -Each student will have 2-3 types of rocks/minerals/fossils/or petrified wood on their desks -Mr. McConnel will lead students through his collection Assessment/Closure: What did we learn about classifications of sediments today? Homework: Bring in your own rock/mineral to share with the class tomorrow Materials: *Assortment of rocks, minerals, petrified wood, fossils in sediment, polished rocks (Anything to get the students to think about the surfaces in nature)</p>	<p>-Use an observation web on the platform Poplet -Share out as groups to the whole class Assessment/Closure: Read-a-loud: "Starting a rock collection" by Barbara A. Donovan Exit Ticket: what is the difference between a rock and a mineral? Justify your answer with evidence from today's exploration. Materials: *Assortment of minerals and rocks *Hand lens *iPads with Poplet platform (can use Prezi as well)</p>	<p>science support reader from Houghton Mifflin -Students have to identify and find similarities among the rocks at their station -In science NB students must create a note catcher to identify the rocks at each station and make a list of characteristics with their group Assessment/Closure: Discuss similarities & differences from the 3 stations, then define each of the three rocks and add to notes Homework: Complete the 1st activity off of the Rocks & Minerals Tic-Tac-Toe board Materials: *Vocab cards for S, M, I rocks *Variety of the 3 rocks, trays, hand lens</p>	<p>Assessment/Closure: Homework: Complete the 3rd and final activity off of the R&M Tic-Tac-Toe board Materials: *Science NB</p>	<p>pg.90) Section 7 Investigate 1 pg.82-83 -Station 2: Physical weathering (Student Resource 7.3 pg.91) section 7 pg.84-85 -Station 3: Comparing Physical weathering of Large and small rocks (Section 7 Investigate 3 pg.86-87) -Station 4: Weathering by ice pg.87 Assessment/Closure: https://www.youtube.com/watch?v=XlebFtd-t8Y&t=958s Materials: *Station guiding question cards (see list of materials from experiment pages for stations) *student recording sheets</p>
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Day 6	Day 7	Day 8	Day 9	Day 10
<p>Anticipatory Set: When you think of change what comes to mind? Where have you seen change around you? Topic: Making observations of change to Earth's surface Whole Class Activity: Show collage of photos from around Nampa & Boise; riverbeds, foothills, canyons, lakes & reservoirs -Have students fill in a O.Q.I. sheet while rotating through the 6 different groups (Each table group will be outfitted with a variety of themed pictures, ex: G1-riverbeds, G2-foothills) -After students have rotated through the 6 groups return to original group</p>	<p>Anticipatory Set: Show students the collage board and explain the purpose (W & E pictures will be brought in by students and placed on the appropriate side) Topic: Defining Weathering, Erosion & deposition/ Agents of weathering (wind, water, ice) Whole Class/Small Group Activity: Play Weathering/ Erosion/Deposition game Next: Create definitions for the vocabulary mentioned above by analyzing photos from yesterday (record definitions in NB) -Use photos to discuss where these agents of weathering are seen -Discuss and reason among table groups</p>	<p>Anticipatory Set: Please grab a piece of tape and place your picture on the collage board under the correct label (discuss as a class if anything needs to be shifted) Topic: National Science Photo card exploration Activity: Each table group is given 9 photo cards with different landforms from around the world. In their NB they will set up a page where they will work with their groups to answer questions on the back of the cards (Introduce the terms Slow & Fast changes) Assessment/Closure: In SS journal please reflect on what we have learned the past 3 days. Prompt: In your own words explain how wreathing & erosion play a part in</p>	<p>Anticipatory Set: Who can remind us what longitude and latitude are? Why would geographers need to use these tools? Topic: Graphing volcanoes and earthquakes via longitude & latitude coordinates Activity: Students will be given a list of volcano and earthquake coordinates that they will be asked to graph on a world map Small group: as table groups students will work together to plot these coordinates Whole class: Teacher puts some of the coordinates on the classroom map using post-its with help from student volunteers Closure:</p>	<p>Anticipatory Set: What conclusions did we come to after yesterday's activity? Topic: Plate Tectonics Activity: Explore the theory of plate tectonics & apply knowledge of plate boundaries Video: Plate tectonics (Natural History Museum Video) By Kiumars Irani Oreo Activity: Each student get's 1 cookie and will be asked to show an example of each plate boundary with the top layer of crust (the cream being the mantle) once finished students can enjoy the cookie Notes in Science NB: Have students come up with the terms for the three plates, show them teacher page under Doc</p>

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<p>Closure: Discuss themes of things that can be found in all photos: water, weathering, landforms Materials: *photos of landscape in Idaho-6 different themes *O-Q-I chart *Science Notebook</p>	<p>where weathering/erosion has played a role in shaping the landscape Assessment/Closure: Have students re-visit their O.Q.I. sheet from yesterday and address any questions that remain Homework: Bring in 1-2 examples of pictures that showcase weathering/erosion (can be from any media) -Will be making a collage board in classroom Materials: Weathering, Erosion, & Deposition card game</p>	<p>wearing down and building up Earth's surface. Be sure to mention how this takes place slowly & fast with different agents Materials: *Photo cards *Notebook</p>	<p>What can we observe from the data? What patterns do we see? Make some inferences about what you think is happening where we have marked these "X" & "O"? What force of nature do you think is at work here along these lines we see? (Students staple maps into notebook) Materials: *Coordinates page * World map *Notebook</p>	<p>Camera as a guide and then have them draw a picture to go with each Homework: Students finish drawings for all three boundaries and list an example of a landform that you can see at each of the three boundaries. Materials: *Oreo cookies *notebook</p>
<p>Day 11 Anticipatory Set: When you think about a volcano or earthquake, what comes to mind? Topic: Understanding how earthquake and volcanoes work along a</p>	<p>Day 12 Anticipatory Set: Today we will continue to explore natural disasters Topic: Natural disasters culminating project Whole Class Activity: Teacher demonstrates one type of natural</p>	<p>Day 13 Anticipatory Set: Today you will be starting your project in your groups. You will be focusing on doing research about your natural disaster you chose yesterday.</p>	<p>Day 14 Anticipatory Set: Today you will be continuing your research to ensure you have all of the components for your keynote presentation at the end of the unit</p>	<p>Day 15 Anticipatory Set: Today you will finish up the research part of your keynote presentation and begin the design process of your model. Topic: Building Models of N.D.</p>

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<p>fault line or plate boundary Activity: Students will look up modules of volcanoes and earthquakes using the iPads. Next: Students will work in groups to explain where and how volcanoes and earthquakes occur *The focus remaining on plate boundaries *Check-off list on board of the items they should find and record in NB (What is a volcano/earthquake, Where in the world do they occur, Which boundaries can each be found on, Name 2 famous volcanoes/earthquakes) Materials: *iPads *Notebooks</p>	<p>disaster model for whole class *Introduce the project and pass out papers with directions and expectations *Take questions, set due dates and pick topics *Introduce Keynote Platform for culminating project Materials: *items for demonstration (depends on what Natural Disaster model) *Project papers for students; directions, expectations, guidelines</p>	<p>Topic: Natural Disaster culminating project (Research Day 1) Activity: Students will use News ELA or another kid friendly site to find resources that pertains to the topic -Students should be text coding and focusing on answering questions from their sheet they received yesterday Assessment/Closure: Check in with each group to set expectations for tomorrow Materials: *Natural Disaster topic sheet with assigned groups *A list of questions that students will be searching to answer in their research</p>	<p>Topic: Natural Disaster culminating project (Research Day 2) Activity: Students will continue to work as a group to answer their research questions that will go into their keynote presentation -Groups will begin taking information and putting it into a keynote template Assessment/Closure: Check in with all groups and set expectations for tomorrow Materials: *iPads *Research information</p>	<p>Activity: Students will start first day of model building *They will delegate jobs, pick out materials, begin planning for the construction phase of the model Assessment/Closure: Check in with groups to make sure every member knows what their part is and what they need to bring in. Tomorrow your groups will have time to build your model Homework: gather materials from home that you need for your models Materials: *Varies for different groups *iPads</p>
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<p>Day 16 Topic: Building Models of N.D. Day 2 of design and building of the models *Students should have model ½ complete</p>	<p>Day 17 Topic: Building Models of N.D. Day 3 of design and building of models *Students should be able to explain what jobs everyone in the group has for tomorrow's presentation *Model should be complete and ready to show how it works *Students should be able to answer the following questions: What ND is your model showcasing? Where are weathering, erosion, and deposition happening? Where can these types of disasters happen? How can they affect people living in those areas?</p>	<p>Day 18 Anticipatory Set: Topic: Test and display models in front of peers Activity: Students will demonstrate how their models work for their peers -Students should delegate jobs so that 1-2 students are presenting, 1 is taking pictures, and 1 is taking video -What natural disaster is your model showcasing? Where are weathering, erosion, and deposition happening? -Where can these types of disasters happen? -Was your model successful? Assessment/Closure: 3-2-1 exit ticket for peers that did not present *Reflection on how your project did for presenters</p>	<p>Day 19 Anticipatory Set: Now that we have had a chance to demonstrate how our models work, it's time to take our findings of our models and create our final project for this unit Topic: Keynote presentations for Culminating Project Activity: Students will be putting together their steps of design, what the model was designed to test, what the model did while testing, and what was your model supposed to show *These should be the final slides to the keynote presentation Materials: *iPads</p>	<p>Day 20 Anticipatory Set: Today is where you present out to groups about the entire process of your project. This is your chance to showcase your knowledge of the natural disaster your group had Topic: Keynote presentations Activity: Groups present keynote projects to classmates Assessment/Closure: Reflect on what went well and 1-2 things you would change for next time Materials: *iPads</p>
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Resources:

- Story Map for Day 4 & 5 to use with Adobe Spark Video
- Assortment of photos of landforms from around Idaho for Day 1 & 2
- Rocks and minerals from collection for kids to explore Day 7
- Vocabulary cards for content specific vocabulary
- Weather, Erosion, Deposition matching game
- Platforms: Keynote and Popplet
- Articles from NewsELA & Lilly.org

Accommodations: Partner reads, group sharing, headphones so students can listen to articles, shortened assignments, use of technology to look up vocabulary, range of lexile levels for articles being used in the unit, variety of rock and mineral posters, leveled readers from unit in Houghton Mifflin

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Day One

Date: April 2017

Course: Science

Lesson Length: 55 minutes

General Topic: Rocks and Minerals

Essential Question: Why does change matter?

Guiding Questions: What is Earth's surface made of? What are all of these landforms made up of? How can we distinguish the difference between a rock and a mineral? How do we classify rocks? Minerals? How are rocks and minerals formed?

Standard(s) Addressed: ESS2.A: Earth materials and systems

Scientific Practices: Developing and using models, Obtaining, evaluating and communicating information

Crosscutting Concepts: Patterns

Conceptual Knowledge: Understand vocabulary such as: rock, mineral, igneous, metamorphic, sedimentary, landforms, Earth's Crust

Procedural Knowledge: The learner will develop an understanding of rocks, minerals, and the 3 families of rocks by showcasing a classification web using the platform Popplet.

Technology Component: Popplet

Materials Needed: Assortment of minerals and rocks, hand lens, iPads with Popplet platform (can use Prezi as well)

Accommodations: Houghton Mifflin vocabulary cards for scaffolding, thinking map for smoother transfer to platform

Assessment(s): Popplet presentation

LESSON ELEMENT	DETAILS	TIME
<i>Activation of prior knowledge</i>	Anticipatory Set: When you think of Earth's surface what comes to mind? -Today we are going to start our exploration of rocks and minerals and you will be the geologists trying to find ways to classify the materials on your trays -Your mission is to be able to make sense of the samples in order to create a classification web using Popplet to display your thinking	5 min
<i>Activity</i> <i>Guiding Questions</i>	Students are given an assortment of rocks and minerals and have to work in groups to find a way to classify and make sense of them <ul style="list-style-type: none"> • What do we notice about the color of these samples and the patterns in these? Is there a difference between a rock and mineral? Do all rocks fit into 3 categories? What about minerals, do they fit into a certain category? What patterns if any are you seeing with these samples? I wonder if all minerals are one color? 	30 min
<i>Assessment/ Closure</i>	<ul style="list-style-type: none"> • Groups share Popplet presentations out to class • Class creates definitions for what a rock and mineral are and add it to their science notebook • Exit Ticket: what is the difference between a rock and a mineral? Justify your answer with evidence from today's exploration. 	20 min