



## Teacher's Notes: Physical Weathering

**Science Standards:** E1 The composition of the Earth and its atmosphere and the natural and human processes occurring within them shape the Earth's surface and its climate.

### Learning Objectives:

- The students will be able to identify the four layers of the Earth.
- The students will be able to describe what each layer of the Earth is made up of.
- The students will be able to identify the layer of the Earth that people and animals live on.

**NOTE:** This unit includes an interactive workbook. Students use that while the ebook is projected on the SmartBoard. It is located in the worksheets and also posted as a book.

### Activities:

- Layers of the Earth pudding cups <https://leftbraincraftbrain.com/layers-of-the-earth-pudding-cups/>
- Layers of the Earth playdough project <https://www.playdoughtoplato.com/layers-of-the-earth/>
- Do a google image search for main idea words.

**General Tips:** The goal is to build background knowledge while leading an engaging discussion on any and all information that can be talked about on a given page. The items that you choose to bring up or focus on can be modified for the students you are working with. For example, if you have a student who can point to something in the picture, answer yes/no questions be sure to incorporate a lot more of that as you go through the book. On the same token, be sure to ask a lot of comprehension questions and critical thinking questions at the level appropriate for students working on those skills. There is something for everyone.

**Page 1:** We live on the planet Earth. There are a lot of rock on Earth. **Point:** rocks, sky, clouds **WH Questions:** What is there a lot of on Earth? **Yes/No:** Are there a lot of rock on Earth? Do rocks break? **Peer Interaction:** After you read the page, have students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students ask talk to each other about rocks and weathering.

**Page 2:** Big rocks break. Small rocks break. That is how we have so many different sizes of rocks on Earth.

**Point:** big rocks, small rocks, road **WH Questions:** What happens to rocks? What do big rocks break into? **Yes/No:** Do rocks break? **Applying/Analysis:** Have you ever seen rocks on the ground? Have students go outside and look at different sized rocks. **Peer to Peer Interaction:** After you read the page, have students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students talk to each other about rocks.

**Page 3:** Did you know that sand and dirt is made from very, very small rocks that have broken? **Point:** small rocks, dirt **WH Questions:** What do very small rocks break into? **Yes/No:** Do large rocks break into sand and dirt? Do very small rocks break into sand and dirt? **Applying/Analysis:** Do you like to play in the sand? Do you like to play in the dirt? **Peer Interaction:** After you read the page, have students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students ask talk to each other about sand and dirt.

**Page 4:** Weathering is when rocks break into smaller pieces.

**Point:** rocks **Questions:** What is it called when rocks break into smaller pieces? What happens to rocks during weathering? **Yes/No:** Do rocks break into smaller pieces during weathering? **Applying/Analysis:** How do you think animals cause rocks to break into smaller pieces? How do you think the wind breaks rock into smaller pieces? **Peer to Peer Interaction:** After you read the page, have students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students talk about the different ways that weathering occurs.

**Page 5:** When water crashes into large rock, it weathers it. Over time, large rock will break from the waves.

**Point:** rock, water, waves **WH Questions:** What can weather rock? **Yes/No:** Can water weather rock? **Applying/Analysis:** Do you like to swim in the water? Have you like waves? **Peer to Peer Interaction:** After you read the page, have students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students talk to each other about how water weathers rock.

**Page 6:** Wind can break rock. Wind can make arches out of rock. Strong winds blow hard. The wind breaks off pieces of the rock. Wind can make arches out of rock. An arch is like a door made out of rock.

**Point:** wind, arch **WH Questions:** What can weather rock? What is a door made out of rock called? **Yes/No:** Can wind weather rock? **Applying/Analysis:** Have you ever been outside when it is windy? **Peer to Peer Interaction:** After you read the page, have students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students talk to one another about wind.

**Page 7:** A lot of rocks have small cracks in them. Ice can get in between the cracks. This causes the rocks to break into smaller pieces.

**WH Questions:** What can weather rocks? What is frozen water called? What is ice? **Point:** ice, rock with cracks **Yes/No:** Is frozen water called ice? Is ice frozen milk? Is ice frozen water? Can ice get in the cracks of rocks? Can ice weather rocks? **Peer to Peer Interaction:** After you read the page, have

students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students talk about how ice weathers rocks.

### **Page 8**

**WH Questions:** What is the fourth layer called? Is the inner core the hottest or coldest layer of Earth? What shape is the inner core? **Point:** Earth, inner core **Yes/No:** Does exhale mean breathe air in? Does exhale mean breathe air out? Do we exhale through our nose? Do we exhale through our mouth?

**Applying/Analysis:** Put your hand on your chest. Exhale. What happens to your chest when you exhale? Plug your nose and exhale through your mouth? Close your mouth, and exhale through your nose. **Peer to Peer Interaction:** After you read the page, have students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students talk to each other about the inner core? What is the temperature? Where is the inner core?

**Page 9:** People and animals live on the crust of the Earth. The other three layers are way, way, way below the crust. Even with a shovel, you could not get down to the other layers. **Point:** people, crust of Earth **WH Questions:** What layer of the Earth do animals and plants live on? **Yes/No:** Do we live in the mantle? Do we live in the inner core? Do we live in the crust? Do we live in the outer core?

**Applying/Analysis:** We live on the crust of the Earth? Our houses and schools are on the crust of the Earth. We play, run, swim on the crust of the Earth? What do you like to do on the crust of the Earth?

**Peer to Peer Interaction:** After you read the page, have students read/show/point/eye gaze at either the main idea word or picture to a partner or the entire group. Have students talk to each other about what they like to do on the crust of the Earth.