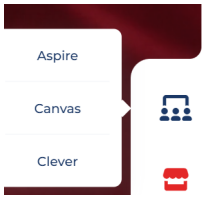
Dear Parents,

Here is the work for our Virtual Learning Day. Please help your student complete assignments.

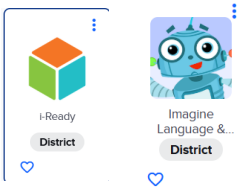
Instructions for Logging in to Canvas



1. Go to hawthornacademy.org
2. Hover over the Clever icon (it looks like this:
3. Click Clever
4. Select “Login with Google”
5. Click

6. Enter your student’s username:
   firstname.lastname (no spaces) followed by @hawthornstudent.org
   Example: *emily.smith@hawthornstudent.org*
   Password: they created their own password

Accessing iready and imagine learning



1. Once logged in, locate and click the iready icon.
2. This will take them to their lessons they need to work for 15 minutes
3. Once they finish that they will click on the Imagine Learning icon.
4. They will work on this for 20 minutes.

Assignments for the day

1. The assignments are attached, scroll down to see the assignments for today.
2. You can either print the assignments or students can write their answers on a separate piece of paper and turn that in to their teacher when we return to school. Or you can email a picture to the teacher.

Thank you for your support in helping your student succeed on our virtual learning day!

Multiplying decimals in columns

Grade 6 Decimals Worksheet

Find the product.

1. 8.1×0.531

2. 0.12×0.965

3. 0.29×5.96

4. 0.034×67.5

5. 0.015×53.5

6. 0.016×52.9

7. 0.038×0.620

8. 0.045×28.5

9. 6.3×1.23

Write three paragraphs about your favorite part of a snow day.

Earth's Dynamic Machine: Basics of Plate Tectonics

This text is provided courtesy of the American Museum of Natural History.

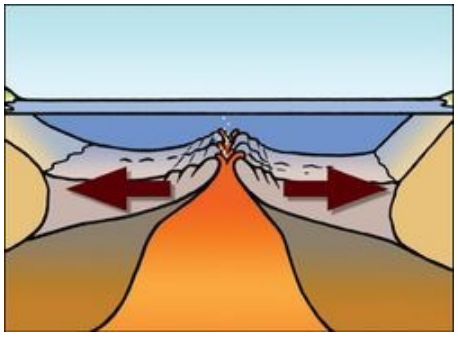
The lithosphere, the rigid, strong outermost shell of Earth, is broken into ten large plates. The mantle below those plates is solid rock. However, over time - and at high temperatures and pressures - the solid rock of the mantle very slowly flows in enormous circular motions called convective currents. These currents cause the plates to move, a process geologists describe with the theory of plate tectonics.

Because of plate tectonics, Earth's surface is in constant motion. Plates separate. They slip past one another. They even collide with each other. Arabia, for instance, pulls away from Africa, opening up the Red Sea. North America creeps away from Europe at about one inch per year - roughly the rate at which a fingernail grows! Large regions of the Pacific seafloor dive beneath the surrounding continents. And as India pushes north into Asia, it creates the world-famous mountain **range** called the Himalayas.

tectonic plates map
AMNH

Plates Moving Apart

Where plates separate, or diverge, ocean basins are created. 85% of Earth's volcanic eruptions occur along divergent **boundaries**. Many small earthquakes happen along these **boundaries** at shallow depths (less than 6 miles). As the plates move apart, magma rises from the mantle to fill the empty space. In this way, the plates grow as they separate. By this process, entire ocean basins reform about every 200 million years.



plates moving apart at a divergent boundary
AMNH

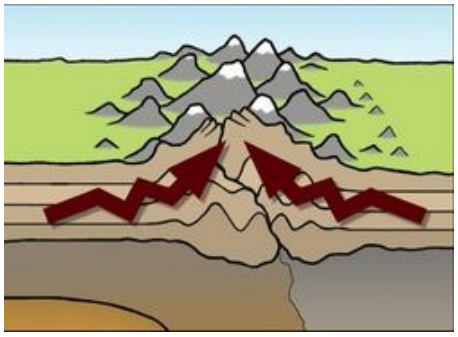
Most divergent plate **boundaries** run through the world's oceans. In the Atlantic Ocean, the **boundary** divides the ocean basin almost exactly in half. This**boundary** is called a mid-ocean **ridge**. This term means that there is a **range** of volcanic mountains running through the bottom of the Atlantic Ocean. This **range** is part of a worldwide system of such **ranges**. Together, they form a system of mountain**ranges** 50,000 miles long.

The lithosphere near the mid-ocean **ridges** is thin and warm. As the lithosphere moves away from the mid-ocean **ridge**, it cools and becomes denser. Then it sinks. That means the depth of the ocean is greater farther from a mid-ocean **ridge**. Mid-ocean **ridges** are chains of volcanoes sitting on broad rises with vast and deep oceanic plains on both sides.

Divergent **boundaries** are not always in the middle of ocean basins, however. In a few places, divergent **boundaries** run right through continents. In those places, the lithosphere stretches and thins. This causes **rifts** to form in the overlying continental crust. Basaltic magma intrudes into the thinned lithosphere. It then erupts onto the continent, and may melt portions of the continental crust to form other lava types. When such **rifts** develop long enough, an ocean begins to form. The Red Sea is one such **rift**. It may eventually grow as large as the Atlantic Ocean!

Plates Coming Together

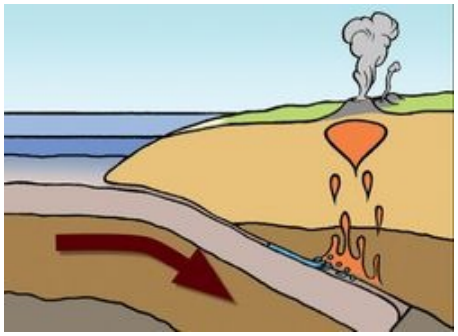
Where plates collide, or converge, a variety of **landforms** are created. Such structures include mountains, volcanic island arcs and deep-sea trenches. Convergent plate **boundaries** produce large and small earthquakes. They build great, explosive volcanoes as well. Exactly what happens at a convergent plate **boundary** depends on what collides with what.



plates coming together at a convergent boundary
AMNH

Most plate convergence occurs between oceanic and continental plates. When this happens, the colder and denser oceanic plate sinks below the continental plate into the mantle. That process is known as subduction. The **boundary** where it occurs is called a subduction zone.

The subducted plate becomes heated by the mantle, and it loses water, producing an aqueous rich fluid. The fluid moves upward and infiltrates the overlying mantle. This causes the mantle to partially melt, producing a magma that rises up through the mantle and crust to feed volcanoes on the surface. This process usually produces volcanic mountain chains on the overlying continental plate, such as the Andes. If two oceanic plates converge then the older, colder plate sinks beneath the younger, warmer plate and an arc of islands, like the Aleutians off the coast of Alaska forms on the overlying oceanic plate. Deep-sea trenches are created along convergent margins. That is where the oceanic lithosphere bends into the subduction zone. Trenches are the deepest parts of the ocean. Some have depths in excess of 36,000 feet.



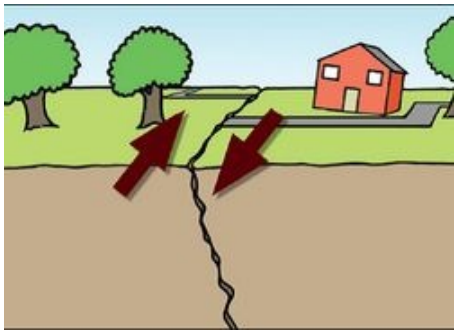
plates coming together at a subduction zone
AMNH

A different type of convergent **boundary** occurs where two continents collide. In this case subduction does not occur, because both continents have crust with a similar density. Neither is forced down into the

mantle. Instead, a mountain **range** forms as one continent overrides the other. This forms an unusually high and thick crust. The Himalayas are the best example of this type of convergent plate **boundary**. Behind these mountains, the crust of the Tibetan Plateau can be nearly 50 miles thick.

Plates Sliding By

Where plates slip past each other, they form long furrows in the lithosphere called transform **boundaries**. These **boundaries** are typically hundreds to thousands of miles long. At transform **boundaries**, crust is not created, nor does it disappear. The plates on either side of the fault may be moving in opposite directions. Or they could be moving in the same direction, but at different speeds.



plates sliding by at a transform boundary
AMNH

Many people have heard of the San Andreas Fault in California. Or perhaps they know about the Anatolian Fault that runs through northern Turkey. Both of these transform faults are among the most active earthquake zones on Earth, and both have been struck by devastating earthquakes.

Where transform faults bend, one of two different structures will form. A pull-apart basin may grow. This type of long, narrow depression collects sediment or fills with water. The Dead Sea between the countries Jordan and Israel is one such basin. On the other hand, plate motion may cause blocks of crust to jam together, creating **ridges** and folds called transverse ridges. A good example of this is the Transverse **Ranges** in California, to the north of Los Angeles. There, a bend in the San Andreas Fault causes the crust to wrinkle.

What Plate Tectonics Tells Us

The theory of plate tectonics teaches us a lot about Earth. It describes how the mantle and crust of Earth interact with each other. It makes clear why mountains, ocean basins or continents form where they do. It also explains why volcanoes and earthquakes so often appear on plate **boundaries**.

Vocabulary

boundary

noun

definition: something that marks the edge or limit.

The fence is the boundary of our neighbor's property.

Spanish: límite, frontera

forms: boundaries

landform

noun

definition: A landform is a natural part of the earth like a hill or a mountain or an island. It has been made by forces that are active inside the earth or around the earth. Each landform has a certain kind of shape. Landforms can be different from each other because of their shape, but they can also be different because of what they are made of, how big they are, and where they are located.

My brother thinks canyons are the most amazing landforms, but I think volcanoes are.

Volcanoes are the most amazing landforms because they can explode!

Spanish: accidente geográfico

range

noun

definition: a series of connected mountains.

The Himalayan mountain range is the highest on earth.

Spanish: sierra, cadena

ridge

noun

definition: a range or chain of hills or mountains.

I began to feel sick as we drove across the ridge.

Spanish: cadena, cumbres, crestas

rift

noun

definition: a geological fault, or a valley along a fault.

1. Before you start reading...

Here are the vocabulary words that will be in this reading. Let's see how well you already know them.

Check the box that shows how well you know each word. It's ok if you don't know them yet (this is not graded)!

	Don't know it	Have heard of it but not sure of its meaning	Know something about its meaning	Know it well
boundary				
ridge				

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2. Word Matcher

Every word has other words that have similar meanings or even the exact same meaning (these are called synonyms!). Draw a line from each similar word or synonym to the vocabulary word that it matches!

line border limit

boundary **ridge**

divide spine

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3. After reading and exploring the words through some activities...

Do you know these words better? Check the box that shows how well you know each word. It's ok if you don't know them yet (this is not graded)!

	Don't know it	Have heard of it but not sure of its meaning	Know something about its meaning	Know it well
boundary				
ridge				

Name: _____ **Date:** _____

1. Overall, what process does the theory of plate tectonics describe?

A. the eruptions in a range of volcanic mountains at the bottom of the Atlantic Ocean

B. the flow of an aqueous rich fluid that moves upward and infiltrates the overlying mantle

C. the way the Dead Sea flows between the countries of Jordan and Israel

D. the movement of the plates that make up Earth's outermost shell due to currents in the mantle

2. How do divergent boundaries affect the Earth's surface?

A. The plates of the lithosphere grow and reform ocean basins over time.

B. They cause blocks of crust to jam together and create ridges and folds.

C. They form an unusually high and thick crust like mountain ranges.

D. They form an arc of islands, like the Aleutians off the coast of Alaska.

3. Read the following sentences from the text.

"Most plate convergence occurs between oceanic and continental plates. When this happens, the colder and denser oceanic plate sinks below the continental plate into the mantle. That process is known as subduction. The boundary where it occurs is called a subduction zone.

The subducted plate becomes heated by the mantle, and it loses water, producing an aqueous rich fluid. The fluid moves upward and infiltrates the overlying mantle. This causes the mantle to partially melt, producing a magma that rises up through the mantle and crust to feed volcanoes on the surface. This process usually produces volcanic mountain chains on the overlying continental plate, such as the Andes."

What conclusion can you draw from this evidence?

A. Most convergent boundaries produce transverse ridges.

B. Convergent boundaries never produce an arc of islands.

C. Most convergent boundaries produce volcanic mountain chains.

D. Convergent boundaries are the reason there are oceans on Earth.

4. Pretend you found an area of ridges and folds in Earth's crust. What kind of boundary would you expect to find there?

A. continental boundary

B. convergent boundary

C. divergent boundary

D. transform boundary

5. What is the main idea of this text?

A. Earth's lithosphere has plates that move along divergent, convergent, and transform boundaries and affect the Earth's surface in different ways.

B. Subduction is when oceanic and continental plates converge and the oceanic plate sinks below the continental plate because it is colder and denser.

C. There is a divergent plate boundary, or mid-ocean ridge, in the Atlantic Ocean that is part of a 50,0000 mile long system of mountain ranges.

D. Convergent plate boundaries affect the Earth's crust in different ways depending on how they collide, and can produce earthquakes and build volcanoes.