Planet Earth Adventure Quest

Part 1

If your teacher did not share this with you in Google Classroom, make a copy (under file).
Answer the questions in a different color

1. Watch the video and answer the Edpuzzle questions.
    a. The Earth's ____ is a thin layer of rock that surrounds the Earth.
    b. The layers of the Earth from the center outward are
    c. Why is studying volcanoes so important?
    d. If the Earth were like an egg, the crust would be as thick as the . . .
    e. What is this guy's job?
    f. Do they predict that Mount Saint Helens, located in the state of Washington, will erupt again? If so how?
    g. Magma is . . .
    h. What is the ONLY thin COOL layer of Earth that we can walk on?
    i. What were they studying/looking at as they walked over the rock that came from the explosion of Mount Saint Helens?
    j. What is the difference between a volcano and a geyser?
    k. Why does Old Faithful, in Yellowstone National Park, a famous geyser have water that comes squirting out of the ground?
    l. The most widely accepted theory is that the Earth's crust is many tectonic plates.
    m. Pangea means . . .
    n. When the plates are moving away from each other ____ are formed.
    o. ____ are hollowed out spaces in the Earth's crust. They have stalactites hanging from the ceiling and stalagmites growing from the ground up.
    p. What were they mining in the Earth's crust?
    q. Knowledge about earthquakes helps scientists explain how they determined that the Earth's core is a solid, not a liquid.
    r. What layer of the Earth is the thinnest?
    s. Plate tectonics is the key changing things on . . .
    t. Volcanoes, Earthquakes, and Geysers _____

2. Watch the BrainPop and then take the Review Quiz. (Put the answers below)

3. Use the link to fill in the following paragraph.
   “Crust” describes the outermost shell of a _____ planet. Our planet’s thin, 40-kilometer (25-mile) deep crust—just __% of Earth’s mass—contains all known life in the universe. Earth has _____ layers: the _____, the _____, and the _____. The crust is made of solid _____ and _____. Beneath the crust is the _____, which is also mostly solid _____ and _____, but punctuated by malleable areas of semi-solid _____. At the center of the Earth is a hot, dense _____ _____.
4. Listen to and/or read the article.
   a. The Earth crust which is divided into plates moves about _____ inches in a year.
   b. Why do scientists talk about the mantle as a kind of weather system?
   c. What is a superplume?
   d. What do scientists propose that these superplumes may be responsible for?

Click the Plate Tectonics A Webquest on the left and complete all the activities.

Slide 2: Changing Earth - Edpuzzle Questions

1. The earth's interior is under intense heat and pressure. Which of the Earth's layers can rise toward the surface through cracks?
2. Which rocks are the "rocks from fire"?
3. What is the difference between magma and lava?
4. What is ocean floor limestone (sedimentary rock) made up of?
5. Which one below describes a part of the rock cycle?

Read or Listen to the story and answer the questions.

1. What is the name of the study and creation of maps?
   a. circumnavigation
   b. tectonics
   c. cartography
   d. exploration

2. In the passage, Uncle Max describes a number of things to the boys. How does he describe earthquakes?
   a. a sudden release of energy in the Earth’s crust that creates seismic waves.
   b. a slow event that occurs over many years.
   c. a gradual release in pressure that rarely causes problems.
   d. an unexpected natural disaster that could happen at any time.

3. The movement of the Earth's plates has changed the way that the Earth looks over many years. What evidence from the text supports this conclusion?

a. Science and exploration are used to establish where certain parts of the Earth are.

b. Some maps show where a coral reef is located or where a sunken ship can be found.

c. Maps of the Earth many years ago show countries and islands in different places.

d. Earthquakes sometimes come in patterns.

4. Based on the information Uncle Max explains, what can be concluded about the impact of the movement of the Earth's plates?
    a. The movement of the Earth's plates does not affect the location of lands and oceans.
    b. The movement of the Earth's plates affects the location of lands and oceans. C The movement of the Earth's plates only affects the location of the oceans. D The movement of the Earth's plates only affects the location of the islands.

5. What is the main idea of this story?
    a. Maps can help predict the movement of Earth's plates.
    b. Maps can help show you where you are and where you are headed.
    c. Maps can replace your cell phone if it runs out of battery.
    d. Maps can make hiking easier.

6. Uncle Max compares the Earth's plates to puzzle pieces. Why does Mr. Max compare the Earth's plates to puzzle pieces?

a. to show that the Earth's plates are as confusing as puzzle pieces
b. to show that the Earth's plates fit together like puzzle pieces
c. to show that the Earth's plates need to be put together by humans just like puzzle pieces
d. to show that the Earth's plates are made of the same material as puzzle pieces
6. While the Earth's plates move very slowly, some changes in the Earth happen very quickly, earthquakes.

7. Choose the answer that best completes the sentence below.

A consequently
B notably,
C finally
D initially

8. According to Uncle Max, what do maps show?

9. Describe the Earth's plates based on the information Uncle Max gives to David and Charlie.

10. Explain the reason that maps must change over time. Use information from the text.

Slide 3

1. The Earth is in a constant state of change. Earth's crust, called the lithosphere, consists of ____ ____ moving tectonic plates.
2. How did the Earth look 250 million years ago? What was the name of the landmass?
3. What separated the large continent?
4. How fast does Earth's landmass move on average?

Slide 4

1. What is the role of the National Park Service?
2. We live on a layer of Earth known as the _____.
3. The story of _____ _____ starts deep within the Earth. Each layer of the Earth has its own unique _____ and _____ _____. The thin outer layer, the one we live on, is broken into _____ _____ that move relative to one another. _____ _____ interactions result in _____ and _____, and the formation of _____ ranges, _____, and _____ basins.

Slide 5

1. What is tectonism?
2. What tectonic processes are happening on Earth?
3. What is the boundary where two plates collide called?
4. What is the Ring of Fire?
5. What is a transform margin?
6. Why does Earth have plate tectonics?
7. Are there tectonics on other planets?

Slide 6

1. The continents all came together and formed the supercontinent called . . .
2. After the continents came together and formed a supercontinent what was left on the planet was one giant ocean called . . .
3. This large ocean spanned about _____
4. True or False? The water was likely much warmer than it is today.
5. The surface current acted as a nutrient trap and became _____ rich as it flowed Eastward.
6. Why did animals and plants have to live in shallow waters?
7. Why was much of the inland thought to be utterly dry?
8. True or False: there was not much life in the ocean or on land.
9. Name 5 types of life forms that existed in this era.
10. What had formed below Pangea?
11. What was the Illawarra Reversal?
12. How was Panthalassa different from the Earth of today?

Slide 7

1. What is a fault?
2. What is a fracture?
3. What is normal faulting?
4. What is strike-slip faulting?

Slide 8

1. What is the longest mountain range on Earth?

Gimkit Final score $_____.

7. Phenomena: What would happen if the Yellowstone Supervolcano erupted? Would the human race survive? Watch the movie on the left and read the article, then answer the question in the Google Doc.