Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_ Period: \_\_\_\_ Mr. Ahearn

**How the Earth Was Made: Hawaii**

1. This is the story of Hawaii; A mountain chain over \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ years old.



2. \_\_\_\_\_\_\_ In 1934 Felix Meinesz invented the ***gravimeter***; an apparatus used to measure…

 A. air pressure B. light C. gravity D. earthquakes

3. \_\_\_\_\_\_\_The big island is ***twice*** the height of Mt. Everest. Everest could fit inside of Hawaii ….

 A. 140 times B. 1000 times C. 140 000 times D. two times

4. Mauna Kea is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mountain in the world at 56 000 feet high.

5. Kilauea is the most \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ volcano in the world.

6. Kilauea could be producing **(100,000,000 or 100,000)** cubic yards of lava a year. The temperature of lava is about **(200 or 2000)** degrees Fahrenheit. Circle the correct choice.

7. These volcanoes built the big island of Hawaii. Number them in order from the oldest to the youngest.

\_\_\_\_\_\_\_\_\_ Kilauea \_\_\_\_\_\_\_\_\_ Kohala \_\_\_\_\_\_\_\_\_ Mauna Loa \_\_\_\_\_\_\_\_\_ Mauna Kea \_\_\_\_\_\_\_\_\_ Hualalai

Conclusion

* Experiments in the 1930’s revealed that the big island is a vast structure stretching **(30 or 3)** miles down to the sea floor.
* Readings of sulfur dioxide gas reveal that Kilauea produces more **(ash or lava)** than any other volcano on Earth.
* The Landscape reveals that lava from **(7 or 5)** volcanoes built the island.

­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_percent of the Earth’s volcanoes lay around the edge of the Pacific Ocean. **(254 or 452)** volcanoes make up the Ring of Fire.

\_\_\_\_\_\_ Which image below represents a ***subduction zone***?

1. ** B. C.**



\_\_\_\_\_\_ Which image above represents a ***hot spot***? (You may have to come back to this question later).

**(True or False):** The Hawaiian Islands are created at subduction zones.

What is the name for the type of volcanoes found in Hawaii? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(True or False):** Basalt lava is the hottest lava in the world and also some of the most fluid (runny).

In the 1950’s the US mapped the sea floor and found a range of mountains under the ocean. These are called **(sea ranges or sea horses or sea mounts)**

\_\_\_\_\_\_\_ There is a long range of underwater volcanic mountains to the \_\_\_\_\_\_\_ of the Hawaiian Islands.

 A. NW B. NE C. SW D. SE

Over **(800 or 80)** sea mounts and **(19 or 9)** islands form the sequence known as the Hawaiian \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Sea Mount Chain.

Draw an arrow on the diagram to the right showing the direction of increasingly **YOUNGER** sea mounts in the Hawaiian chain.



 J Tuzo Wilson was struck by the fact that:

* The Hawaiian Islands & sea mounts formed a **(semi circle or straight line)** which are incredibly **(common or rare)** in nature.
* The further the islands were from the big island the **(blacker or greener**) they appeared. Greener equals **(younger or older).**

Wilson used evidence to come up with the theory that Hawaii was created by a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Wilson’s theory also helped to confirm the Theory of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why is ***olivine*** unusual to see on the surface of Hawaii? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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\_\_\_\_\_\_\_\_ ***Mantle plumes*** were the answer to explain:

A. Icelandic volcanoes B. Galapagos islands C. Yellowstone super volcano D. All of these

Explain why the Hawaiian islands are “sinking” below the surface?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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What force contributes to the “shrinking” of the Hawaiian Islands. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_ What happened over 1 million years ago to create the long thin shape of Molokai?

A. a meteor impact B. a giant landslide C. a tsunami

D. an earthquake E. an alien landing

**A**.

**B**.

\_\_\_\_\_\_\_\_ What will be the next island in the Hawaiian Island Chain?

A. Luigi B. Lo’ihi

C. Mario D. Lahaina

**C**.

\_\_\_\_\_\_ Which letter on the map best shows the location of the next Hawaiian Island?

**E**.

**D**.