Géo9I

Naked Science: Colliding Continents

1. When was the Earth created? How was it created? The Earth was created 4.6 billion years ago from the dust and debris that was leftover from the creation of the sun. The dust clumps together until they get large enough to create a gravitational pull – this is how our planet and moons were created
2. What two elements, because of their density, were pulled to the middle of the earth to create the core?

 Nickel and Lead

1. What two elements, because of their density, rose to the surface of the earth to help create molten rock? Oxygen and Silicon
2. Why was the earth’s surface so dynamic in the early stages of the Precambrian era? It was bombarded by asteroids that created a molten exterior – even when things began to cool, more asteroids would hit the Earth and change it more. This happened for millions of years until the number of asteroids decreased.
3. What was missing from the crust after its creation in the early stages? Water (oceans)
4. What type of igneous rock formed the nucleus of the continents? This rock was less dense and did not sink to the bowels of the earth. Granite



1. With what type of rock crystals can they determine the age of the rock? Zircon
2. What is a craton? A craton is part of a continent that is stable and forms the central

mass of the continent

1. How is plate tectonics driven? Where does it get its energy? Powered by heat from

convection currents

1. What creates convection currents? Heat being given off by the core and passed through the mantle (some heat escapes through volcanoes, cracks or faults and fractures in the Earth’s crust)
2. In what country can you actually see the Earth’s crust being pushed apart? Iceland
3. What is Vaalbara? The first supercontinent that existed 3.3 billion years ago



1. What is a rift valley? Where is the Great Rift Valley located? A valley formed

 by sinking of land between two faults (graben) The Great Rift Valley runs from

 northern Syria to Mozambique

1. What was the name of the last Supercontinent? Pangaea
2. Why was the climate of Pangaea so radically different throughout the seasons? One super land mass without the moderation of the ocean
3. What was the name of the largest mass extinction known to man? Why did it occur? Permo Triassic Mass Extinction – occurred partially due to the climate change when Pangaea was created. It wiped out about 90% of life on Earth.
4. When did Pangaea start to break up? 250 million years ago
5. Which European mountain range was created at a collision zone? Alps
6. Which Asian mountain range was created at a collision zone? Himalayas
7. What is the newest land created between North and South America? Central America created by small islands being built up with sediment
8. What happened when the Pacific and the Atlantic oceans were cut off from one another? Ocean currents had to find other routes. This changed the weather patterns, possibly creating an ice age
9. What natural disasters are created by tectonic plate movements? Volcanic eruptions, earthquakes, tsunamis
10. What will be the name of the final supercontinent? Pangaea ultima

