

I HAVE tectonics, the art and science of construction, especially of large buildings.

In geology, tectonics refers to the processes that change the Earth's crust.

WHO HAS the outer layer of the Earth?

I HAVE the **crust**. The crust is the outer layer of the Earth. It's the familiar rock and soil we walk on, and it's what the oceans rest upon.

Ocean crust is thinner, but denser (heavier) than continental crust.

WHO HAS the layer of the Earth below the crust?

I HAVE the **mantle**. The mantle is the layer of the Earth below the crust. The upper mantle is gooey, like Silly Putty or caramel. The deeper mantle is solid.

WHO HAS the layer of the Earth below the mantle?

I HAVE the **outer core**. The outer core is the layer of the Earth below the mantle. The outer core is made of molten (liquid) iron.

WHO HAS the layer at the center of the Earth?

I HAVE the inner core, the layer at the center of the Earth.

The inner core is solid and made of iron. The core of the Earth is very, very hot, about 10,000° F!

WHO HAS the name for a type of heat transfer?

I HAVE convection. Convection is a type of heat transfer during which hot material rises and cooler material sinks, as in a pot of boiling water.

Convection currents in the Earth's mantle move pieces of the Earth's crust.

WHO HAS the name for a piece of the Earth's crust?

I HAVE a tectonic plate. A tectonic plate is a piece of the Earth's crust. Tectonic plates slowly move over the gooey upper mantle. Our tectonic plate moves about as fast as our fingernails grow.

The crust of the Earth is broken into about 12 tectonic plates, which fit together like the pieces of a gigantic jigsaw puzzle.

WHO HAS the name for the edges of tectonic plates?

I HAVE tectonic plate boundaries. Plate boundaries are the edges of tectonic plates. Earthquakes, volcanoes and mountain-building often occur along plate boundaries.

WHO HAS the longest geographic feature on Earth?

I HAVE a seafloor spreading center, the longest geographic feature on Earth. We have about 72,000 km of seafloor spreading centers around the world.

New seafloor is created at seafloor spreading centers.

WHO HAS a type of plate boundary where two tectonic plates move apart?

I HAVE a divergent plate boundary, where two tectonic plates move apart. The most common type of divergent plate boundary is a seafloor spreading center.

WHO HAS a type of plate boundary where two tectonic plates collide?

I HAVE a convergent plate boundary, where two tectonic plates collide. The Earth's crust is folded, compressed, or consumed at convergent plate boundaries.

WHO HAS the process in which an oceanic plate sinks beneath another tectonic plate?

I HAVE subduction, the process in which a tectonic plate sinks beneath another tectonic plate.

Subduction occurs at some convergent plate boundaries, especially along the Pacific Ring of Fire. The Earth's crust is consumed at subduction zones.

WHO HAS a plate boundary where two tectonic plates slide by one another?

I HAVE a transform plate boundary, where two tectonic plates slide by one another.

The San Andreas Fault is a very famous example of a transform plate boundary.

WHO HAS the name for a sequence of crumpled seafloor rocks?

I HAVE the Franciscan Complex. The Franciscan Complex is the name applied to all of the crumpled and mashed seafloor rocks that form much of the Coast Ranges of California.

The Franciscan rocks include pillow lavas, radiolarites (radio-LAR-ites), sandstones, and serpentinites (ser-PEN-tin-ites).

WHO HAS the most common lava rock on the planet?

I HAVE basalt, the most common lava rock on the planet. Basalt is a black igneous rock.

The Hawaiian Islands are made of basalt. The volcanoes at seafloor spreading centers erupt basalt.

WHO HAS the name for basalt that erupted underwater?

I HAVE pillow basalt. Pillow basalt is lava that erupted underwater.

When **HOT** lava contacts **COLD** seawater, it hardens into blobs (or “pillows”) that look like giant jelly beans.

Most of the pillow basalt in the Bay Area formed at seafloor spreading centers.

WHO HAS the name for a class of microscopic plankton that thrive in tropical oceans?

I HAVE radiolarian (radio-LAR-ia). Radiolaria are microscopic zooplankton that thrive in tropical oceans.

Radiolaria are single-celled and have beautiful skeletons made of silica.

WHO HAS the rock that is full of radiolarian fossils?

I HAVE radiolarian chert, a hard, blocky sedimentary rock that is made of silica. It is full of radiolarian fossils.

Radiolarian chert is like Jolly Rancher candy. In the Bay Area, chert is colorful and is often found in layers a few inches thick.

Radiolarian chert forms on the deep ocean floor.

WHO HAS the gritty rock with a funny name?

I HAVE graywacke (GRAY-wak-ee) sandstone, a gritty sandstone that is made of different-colored and different-sized angular sand grains and rock pieces. It is rough, like a gumdrop.

Graywacke sandstone forms near subduction zones.

WHO HAS the state rock of California?

I HAVE serpentine (or serpentinite), the state rock of California. It is a gray, green, or blue rock that feels soapy.

Serpentine is altered by seawater. It comes from the upper mantle and is squeezed into the crust like toothpaste.

Serpentine usually forms at subduction zones.

WHO HAS THE SANDWICH COOKIES??