



Planet Apple

Investigation Activity

We live on a big round ball floating in space. That ball is called the Earth. We know it is ball-shaped because we have satellite pictures from way above the Earth that shows its roundness. We know there are oceans, animals, and plants on the surface of the Earth. But have you ever thought about what is inside the Earth? What do you think? Is it solid, hollow or melted? Geologists, who are scientists that study the Earth, have done a lot of testing, drilling and have made many observations that give them ideas about what is inside the Earth.

What you need:

- Apple
- Knife



What you'll do:

Cut an apple in half vertically, then cut one of the halves in half again horizontally. The apple has three main parts, much like our Earth.

1. There is the thin peel on the apple. The Earth has a thin crust.
2. Check out the core of the cut apple. The Earth has a core, too.
3. Look at the white flesh of the apple, the thick part between the core and the skin. The Earth also has a thick layer called the mantle.

- Look again at the very thin skin. The crust of the Earth, just like the skin on the apple, is very thin compared to the other two layers. Earth's crust ranges between 3 and 40 miles thick. The ocean crust is the thinnest, only 3 to 6 miles thick. The continental crust is much thicker, up to 40 miles. Humans have drilled about 7.5 miles into the Earth's continental crust and about 2 miles into the Earth's oceanic crust. The crust is mostly composed of igneous, metamorphic and sedimentary rocks.
- Look at the white flesh or pulp of the apple. In our model, that is the Earth's mantle. The mantle is divided into two parts. The upper mantle is mainly composed of soft plastic rocks, meaning it can flow slowly in response to deformation, sort of like Silly Putty. The lower mantle is a semi-solid layer near the core. The mantle has a lot of iron and magnesium. It is a thick layer of the Earth, measuring about 1800 miles in thickness. The deeper you go into the Earth, the greater the heat and the pressure.
- Now look closely at the core of the apple. You should see the seeds in the core. About 1/4 inch around the seeds is a slightly harder covering, so the core of the apple has two parts. The Earth's core has two parts as well: an inner core and an outer core. Both the inner and the outer cores of the Earth are made of the same thing, nickel and iron, but a difference is that the outer core is molten or liquid, and the inner core is solid. The outer core is about 1300 miles thick and the inner core is about 770 miles thick.
- Can you think of ways the apple is different from the Earth?

- Size
- Color
- Age
- Stem and no stem
- The core of the Earth is about the same thickness as the mantle, whereas the core of the apple is smaller than the white pulp of the apple.
- Earth's crust is broken up into plates that move slowly around on the surface of the Earth. The apple skin is one whole layer that is not broken.

CUT

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