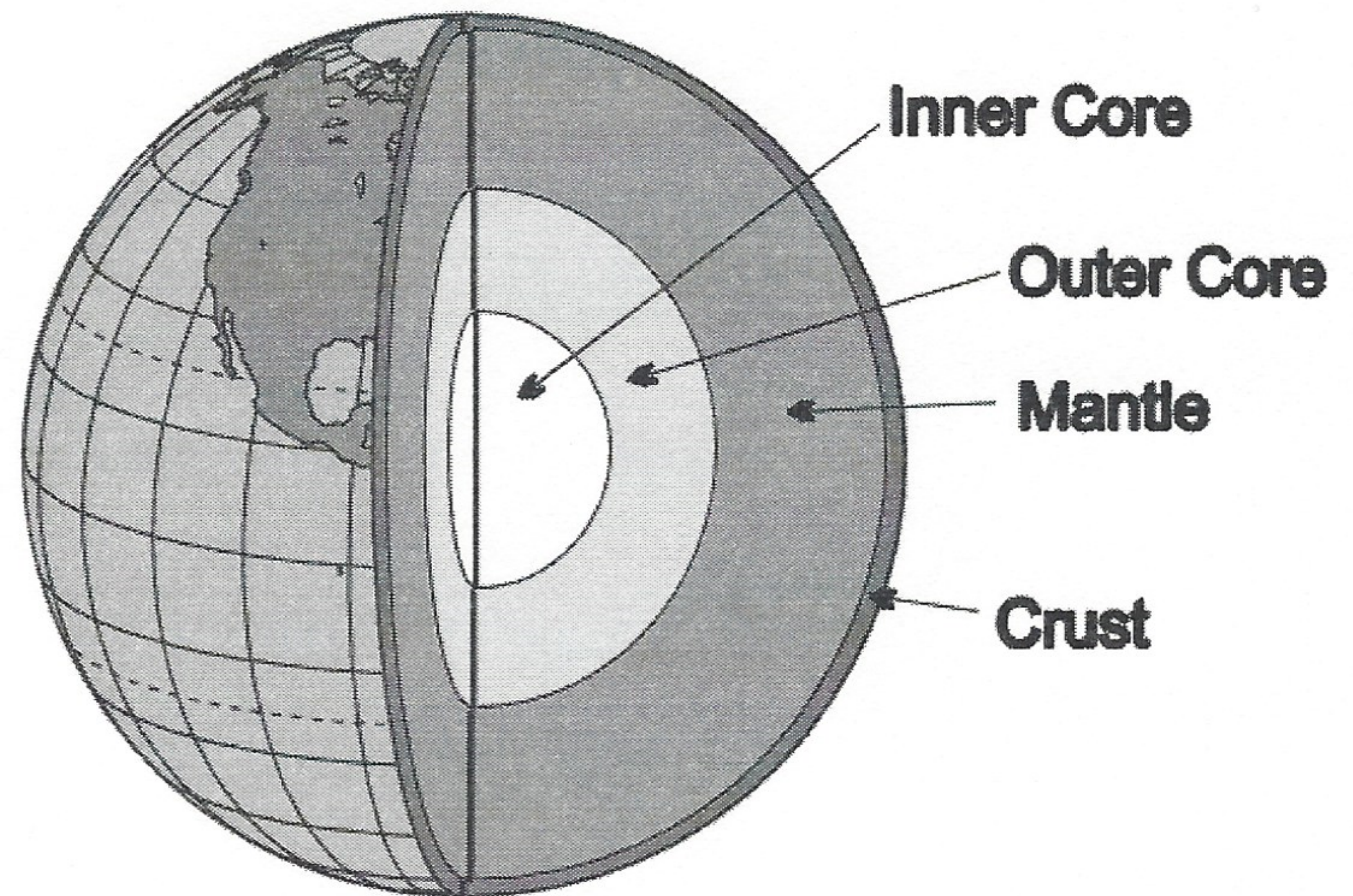


The Layers of the Earth

Scientists have never seen the inside of the Earth, but they think it is made of the following main layers: the *inner core*, *outer core*, *mantle* and *crust*.

The center of the Earth is called the *core*. It is divided into two parts: the *inner core* and the *outer core*. Both of these cores are made of the elements, iron and nickel. The inner core, at the very center of the Earth, is solid iron. The outer core, just outside the inner core, is molten iron and nickel. These two cores together are 3540 km (2200 miles) thick.

Surrounding the core is the largest region, which is called the *mantle*. The mantle is made of thick, solid rock that contains the following elements: silicon, oxygen, aluminum, iron and magnesium. It is 2900 km (1800 miles) thick. The mantle, the middle layer of the earth, is very hot and under a lot of pressure from the land and seas above it. Most geologists think that the top and bottom parts of the mantle are rigid rock, and between them there are red-hot rocks that sometimes act like a solid and sometimes flow like a thick liquid.



The part that we live on is called the *crust*. The crust, the thinnest layer of the Earth, varies in thickness from 8-40 km (5-25 miles), is mostly rock. It is located above the mantle and is the easiest to investigate. It is made of primarily oxygen, silicon and aluminum. It is made up of three major layers: topsoil, subsoil and bedrock. Since we live on the crust, we know more about it than the more interior areas of earth. Geologists have drilled into the crust to gain greater understandings.

If you compare the earth to an apple, the crust of the Earth is like the skin of the apple. It is very thin in comparison to the rest of the Earth. Even though the crust is thin, it is still thick enough that scientists cannot drill through it into the mantle. Though no one has yet drilled to the bottom of the crust, (about 40 km or 25 miles) the deeper people dig, the hotter it gets. Using the apple as a model, the seed area or core represents the inner core; the outer part of the apple's core is the outer core, the flesh of the apple is like the middle or the mantle; and the skin of the apple is the crust.

Answer the questions on the following page: