

ANSWERS

LAYERS OF EARTH PUZZLE

CLASS COPY

About how deep would you have to drill down, or travel in Kilometers (and miles), to reach this layer?

Approximately how thick is the layer in Kilometers (and miles)?

What is the layer made of? Give specific names of rocks and elements found in the layer.

What is the approximate temperature of the layer in Celsius and Fahrenheit?

Describe the layer in terms of firmness (ie- solid, liquid, "plasticky"-semi-solid)

Crust

You would have to travel downward:
0 km or **0 miles** ✓
 to reach this layer
 -we are standing on this layer

5 -70 kilometers thick
 (3.1 -43.5 miles thick)
 (includes oceanic floor and mountains)

-**Oceanic crust** is made of **Basalt** (dark gray, dense rock comes up at mid ocean ridges as lava; then solidifies)
 -the most common ✓
continental crust rock is **Granite** (has coarse grain)

Temperature of this layer depends upon location on earth and season.
 The coldest this layer has ever been was in Antarctica at **-93 ° C** which is **-135 ° F** ✓
 The hottest this layer has ever been is = Tuscon, Arizona: **71.5 ° C = 160.7 ° F**

This layer of the earth is by far the **thinnest layer** and is solid. ✓

Mantle

You would have to travel downward:
70 km or **(43.5 miles)** ✓
 before reaching this layer

2,867 km thick
 (1,777 miles thick)

This layer has 3 sections:
 Top section is solid rock;
 Middle section is hot, "plasticky" rock that moves in convection currents and
 bottom section is extremely hot, solid rock. ✓

Temperature is about **2,200 ° C** which is **3,992 ° F**

This layer is really 3 layers (this layer is divided into 3 parts)
 First part is part of lithosphere and is solid; middle part is plasticky and has slow moving convection currents (hot rock) in it; lower third part is solid but extremely hot
 (Overall, this layer is best known for its "plasticky" rock that moves in convection currents)

Outer Core

You would have to travel downward:
2,937 km or **(1,860 miles)** ✓
 Before reaching this layer

2,266 km thick
 (1,400 miles thick)

This layer is made of:
molten iron (Fe) and molten nickel (Ni)
 (molten = melted, liquid metals & minerals)

Temperature is about **4,500° Celsius**
 (8,132 ° F) ✓

Most Liquid layer with molten Iron and Nickel moving in convection currents ✓

Inner Core

You would have to travel downward about:
5,000 km or **3,100 miles** ✓
 to reach this layer

1,216 km thick
 (753 miles thick)

Mostly made of solid Iron (Fe); some solid Nickel

Temperature is about **5,500 ° Celsius**
 (10,000 ° F) ✓

Most solid layer and most dense layer due to the weight of all other layers on top of it; exposed to extreme pressure which makes it solid and dense. ✓