

Review Questions Topic 3: From Core to Crust

Explain how a dynamo creates electricity

How is a dynamo different from the Earth's so-called "geodynamo"?

What is a solenoid?

Explain how the Earth produces its magnetic field?

What name do we give to the region that is "bathed" in the Earth's magnetic field?

What is the solar wind and how does the Earth's magnetism protect us from this wind?

Why is the Earth's magnetism essential to life on Earth? Explain.

How are the aurora borealis and the aurora australis evidence of the solar wind?

What are the three main gases found in the Earth's atmosphere?

What is the ratio of land versus ocean surface on our planet? Is this constant?

What are the four major layers of the Earth and what are their relative thicknesses?

Define "lithosphere"

What defines the difference between the lithospheric mantle and the asthenospheric mantle?

What are the two primary forms of Earth's crust?

How do the two types of Earth crust differ in composition and average and maximum thickness?

What is the boundary between the crust and the mantle called?

Why is the term "crustal plate" so misleading and outright incorrect?

Which layers of the Earth are solid and which are liquid?

Of the layers of the Earth that are SOLID, which are brittle and which are ductile? Why?

What is the deepest cave on Earth and what country is it located in?

What superlative does the Kennecott Copper Mine in Utah hold?

Which country sports the deepest mine(s) and what ore was/is being mined there?

What remote peninsula, in which country, is home to the deepest drill hole on our planet?

The boundaries between the layers of the Earth are primarily studied using this

Explain how this approach was used to discover the liquid outer core and its size

Explain whether you think the layers of the Earth are a fact, hypothesis, or inference

How are lava and mantle xenoliths used to reconstruct what different layers of the Earth are made up of?

How are laboratory experiments, using diamond anvil cells, used to reconstruct what the mantle is likely made up of?

Explain how scientists justify their explanation that the core consists of mostly iron and nickel