TEXT 1 Earthquakes

Pre_read

1. Have you ever experienced an earthquake or seen an active volcano?
2. Do you know why such events occur?
3. Is the earth really just a very large ball of hard rock?
4. If you drilled a hole in the ground and went on drilling deeper and deeper, what would you find?

Text

Para 1

The planet earth seems to us a very stable and unmoving place — continents of solid rock surrounded by the oceans. In one sense, of course, it is stable, or our kind of life would be impossible. But when we experience or hear about violent natural events like earthquakes and volcanoes, we also get some idea of the great forces at work under its surface.

P2

In fact the earth is a very complex object, made up of many layers. What we are familiar with is only the upper surface of the 'skin', or crust. This crust is altogether rather more than 100 km deep. The outer crust, of a depth of approximately 8 km, is made mostly of very hard rock, a kind of granite. This makes up the continents or major land masses. Below it is a much thicker layer, the inner crust, also made of a hard but different kind of rock, basalt. Beneath this lies the upper mantle, a semi-fluid layer about 600 km deep, where temperatures reach 1,500°C. The lower mantle is more rigid, because of the great pressures at those depths. It extends a further 2,900 km towards the centre of the earth and has a temperature twice that of the layer immediately above it.

P3

Within the mantle is the core. This again is divided into two layers, the outer and the inner. The former consists of molten nickel and iron and has a temperature of 3,900°C. The latter, of the same constituents, is, however, relatively solid, again because of the great pressure at those depths. The temperature of the inner core is about 900°C higher than that of the outer core and its diameter is approximately 4,300 km.

TEXT Study 1

A. Content skim :

What is the topic of the passage? ..... General description of planet earth and its different constituents .....

.....

What does it list in detail? ..... it lists the different layers of the planet earth .....

.....

How many of these does it mention? ..... Six layers .....

.....

What is the topic of each paragraph?

Para 1	General description of planet earth
Para 2	Description of the crust and the mantle
Para 3	Description of the core

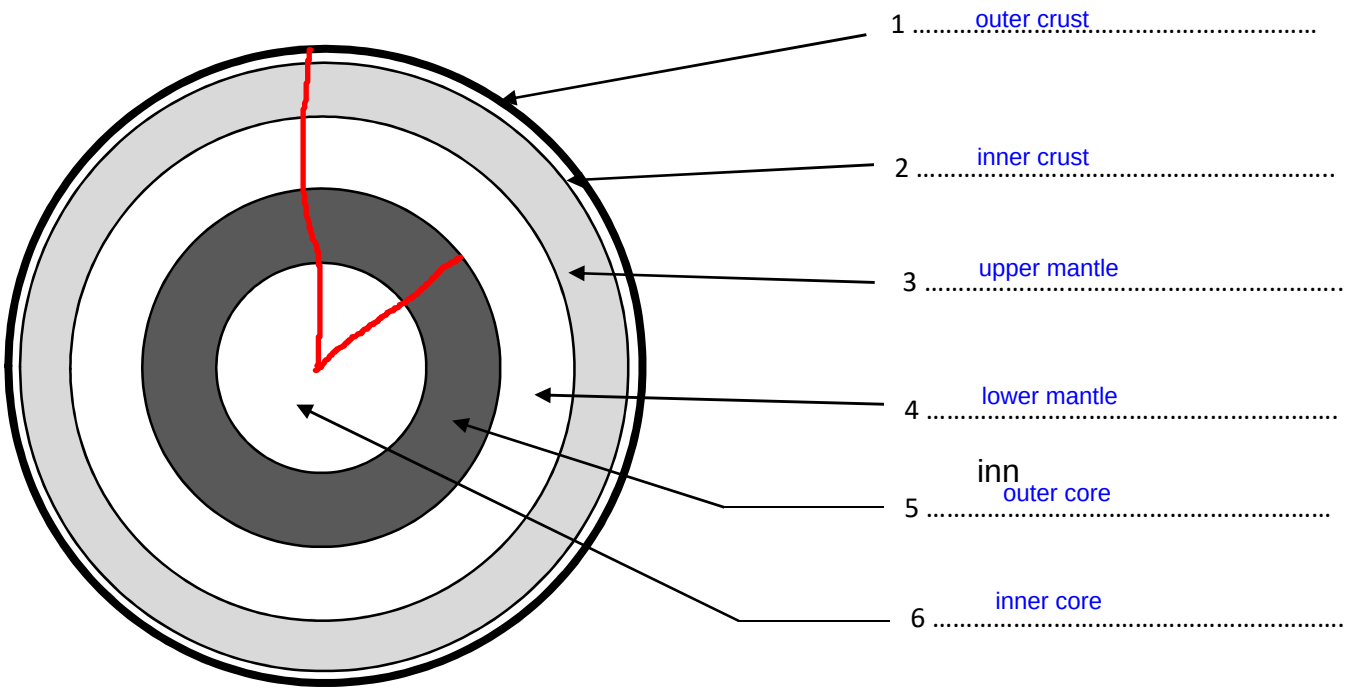
B. Comprehension Scan

Para 1 Line 2	What does **"it"** refer to?	planet earth
Para 1 Line 5	What does **"its"** refer to	planet earth
Para 2 Line 5	What does " **This** " refer to	hard rock (granite)
Para 2 Line 5	What does "**it**" refer to	**outer crust**
Para 2 Line 7	What does "**this**" refer to	inner crust
Para 2 Line 8	"**more rigid**" than what	lower mantle
Para 2 Line 10	What temperature	3000°C
Para 2 Line 11	What does "**it**" refer to	upper mantle

Para 3 Line 1	What do "**This**" refer to	the core
Para 3 Line 2	What does "**the former**" refer to	the outer core
Para 3 Line 2	What layer consists of "**molten nickel and iron**"	the outer core
Para 3 Line 3	What does "**the latter**" refer to	the inner core
Para 3 Line 3	"**relatively solid**" than what	the outer core
Para 3 Line 6	What does "**its**" refer to	the inner core

A. Identifying and describing

Label the diagram and complete the table below it.



Layer	Contituents/Consistency	Temperature	Depth
1	hard rock (granite)	/	8 km
2	hard rock (basalt)	/	92 km
3	semi fluid	1500°C	600 km
4	more rigid	2*1500°C = 3000°C	600+2900 = 3500 km
5	molten Nickel and Iron	3900°C	6368-4300/2 = 4218 km
6	solid Nickel and Iron	3900+900 = 4800°C	mean (12756,12713)/2 = 6368 km

100km