**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Activity: Journey to the Centre of the Earth**

The distance from the Earth’s centre to its surface is about 6400km. Jules Verne’s science fiction novel published in 1864, describes the fantastic journey into the Earth’s interior from a volcano in Iceland. In the real world, the deepest mine is only 4km, while the deepest hole ever drilled into the earth reached about 14km.

What has been found is that the temperature increases as we go deeper into the Earth. The following table shows measurements of temperature at different depths in a drill hole.

|  |  |
| --- | --- |
| Depth (km) | Temperature (°C) |
| 0 | 14 |
| 1 | 43 |
| 2 | 72 |
| 3 | 101 |
| 4 | 129 |
| 5 | 157 |
| 6 | 186 |
| 7 | 214 |
| 8 | 241 |

1. Plot a graph on the following page to show how the temperature changes with the depth into the Earth’s interior. (Make sure you plot each variable on the correct axis.)

1. From the graph, predict the temperature you would expect to measure at depths of :
   1. 4.5 km

1. 12 km

1. Work out how many degrees the temperature increases for each kilometre below the Earth’s surface.

1. Use your answer to question 3 to work out what the temperature might be at the Earth’s centre.

1. Scientists calculate the temperature at the Earth’s centre to be about 7000°C. Why might there be a difference between your calculation and theirs?