Denser Down – Student Activity

When the Earth was younger it was hotter below the surface and more rocks were molten. The minerals, which come together to make rocks, could settle out according to density in the liquid magma. Even today, rock types can separate if there is some movement within the Earth.

Materials

- An empty clean and dry 2L clear cool drink bottle.
- A cup of Styrofoam bubbles or crumbs
- A handful of marbles
- Water

Method

1. Place the solids in the container and fill with water until it is 2/3 full.
2. Replace the cap and gently shake the materials in the bottle until they are well mixed (15 seconds).
3. Place container on a flat surface and allow everything to settle.

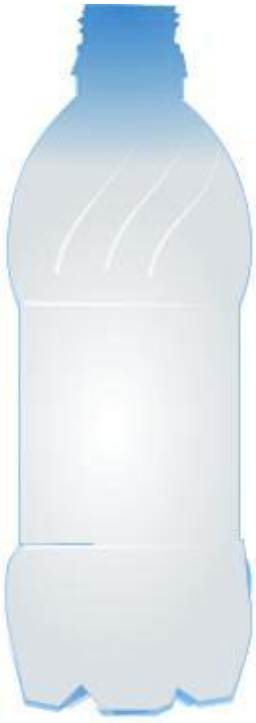
Observations

List the 4 substances in the bottle.

1. _____ 2. _____

3. _____ 4. _____

What did you observe when the materials in the bottle were allowed to settle.
Draw and label the four layers in the “bottle” provided.



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Explanation
Why do you think the materials formed layers? _____

_____

_____

Conclusion The layers of our planet are a result of the competing processes of:

1. _____

2. _____

The rock on the left is granite (density 2.5g/cm^3), a typical rock from our planet's crust. The rock on the right is gabbro (density 3.3g/cm^3) which comes from deeper down. Nickel which forms our planet's core has a density of 8.9g/cm^3.