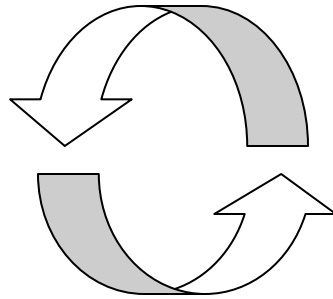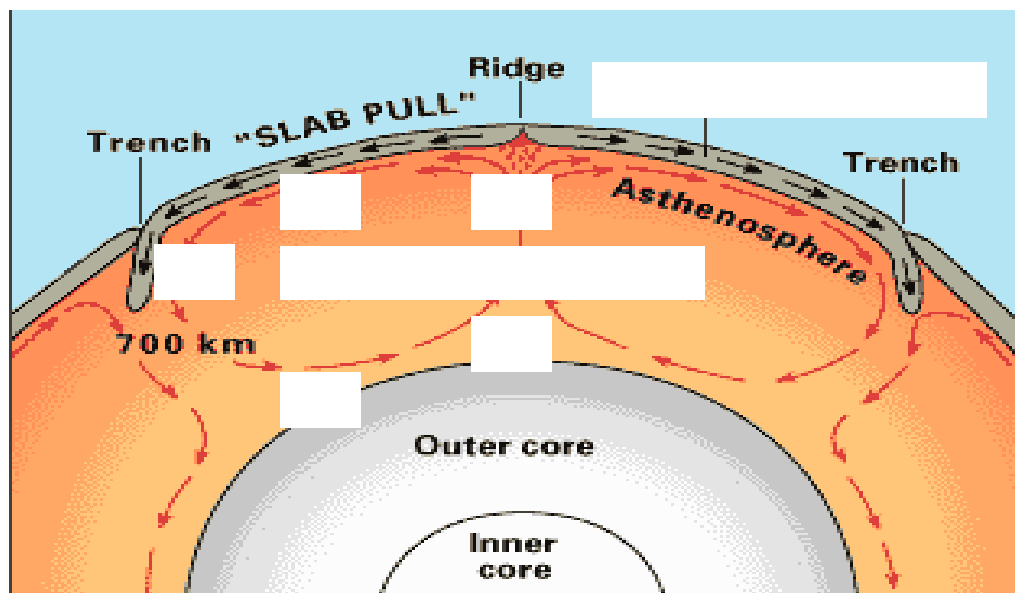# Convection in the Mantle

√ <u>Convection</u> <u>Currents</u> are the reasons that the plates move.

Label the parts of the diagram showing Convection in the Mantle.

Ridge

Trench   "SLAB PULL"

Trench

Asthenosphere

700 km

Outer core

Inner core

√ Steps to Convection in the Mantle:

1. Melted <u>rock</u> in <u>asthenosphere</u> rises to the <u>lithosphere</u> because it's <u>less</u> dense.
2. Once it reaches the <u>lithosphere</u>, it <u>cools</u> and <u>hardens</u>.
3. <u>Cooler</u> rock moves <u>horizontally</u> along the <u>lithosphere</u>.
4. Rock reaches the <u>edge</u> of a plate and sinks <u>back</u> into the mantle.
5. <u>Rock</u> sinks back to the <u>mantle</u> because it is more <u>dense</u>, melts and process <u>repeats</u>.

How does a pot of boiling water and a lava lamp show convection in the mantle?

LITHOSPHERE

ASTHENOSPERE
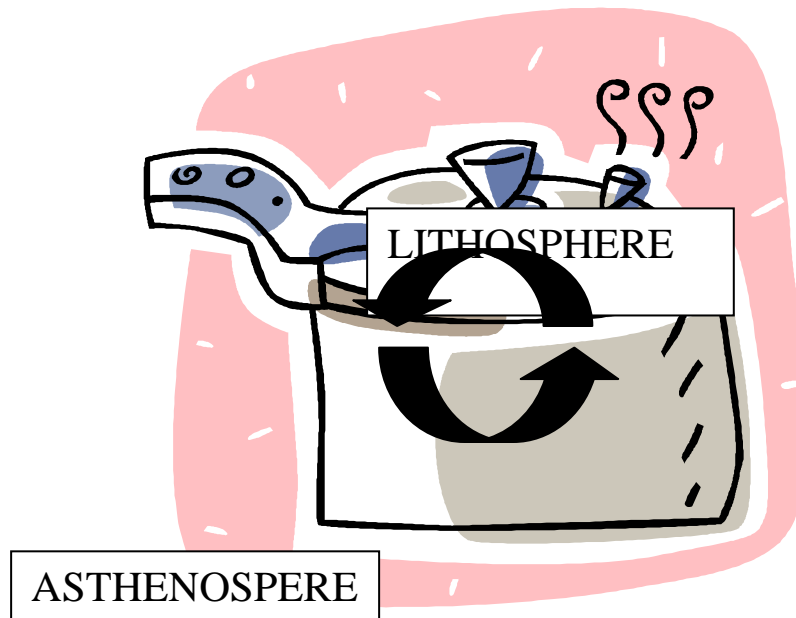
√ Steps:

1. Water is **heated**.

2. Heated <u>water</u> rises to the top because it's **less** dense.

3. At the top, water begins to **cool**.

4. As **cooled** fluid becomes **more** dense, it begins to **sink**.

5. Water flows back **down** to bottom of **pot** to have process **repeat**.

√ Steps:

1. Wax is ==heated.==

2. <u>Wax</u> rises to the <u>top</u> because it is ==<u>less dense</u>==.

3. Wax reaches the ==<u>top</u>== of globe and wax begins to ==<u>cool.</u>==

4. As it ==<u>cools,</u>== wax becomes ==<u>more</u>== dense and ==<u>sinks</u>.==

5. ==Wax== ==<u>sinks</u>== back ==<u>down</u>== to the bottom and the ==<u>process repeats.</u>==