

Unit 2: Heat and Energy in the Earth's Systems

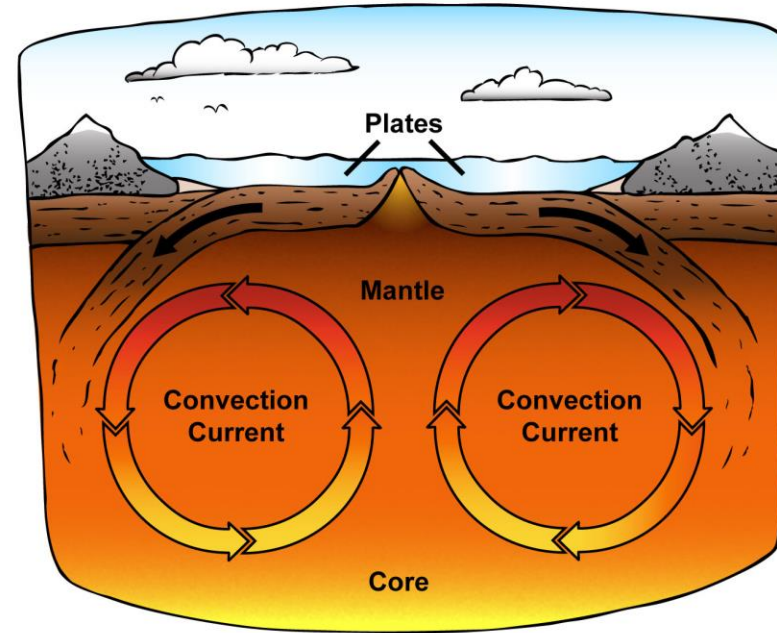
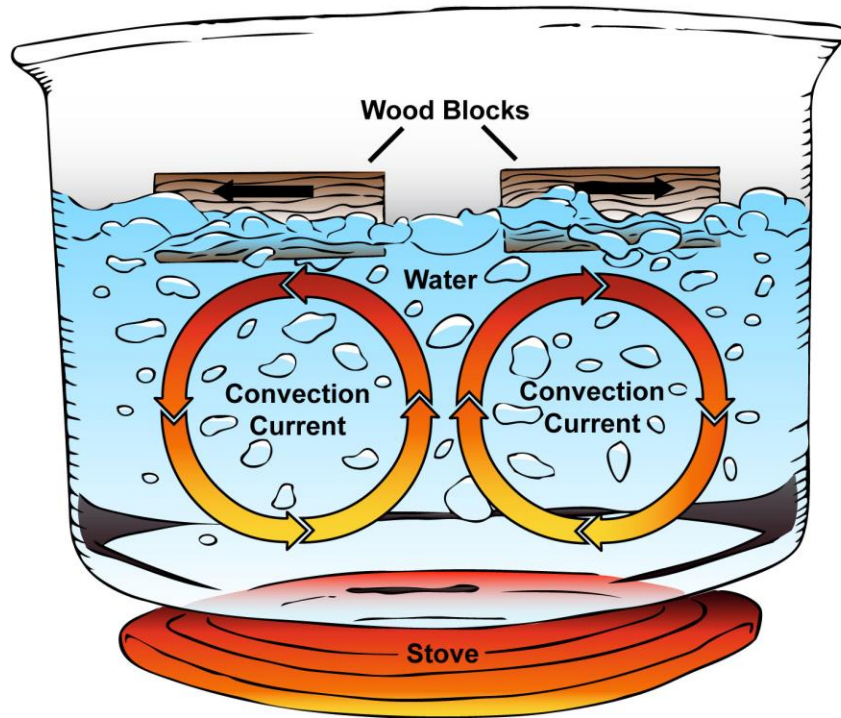
L10: Move, Hot Stuff

Guiding Question: How does temperature and density cause matter to cycle through Earth's layers?

- Do Now (page 14):

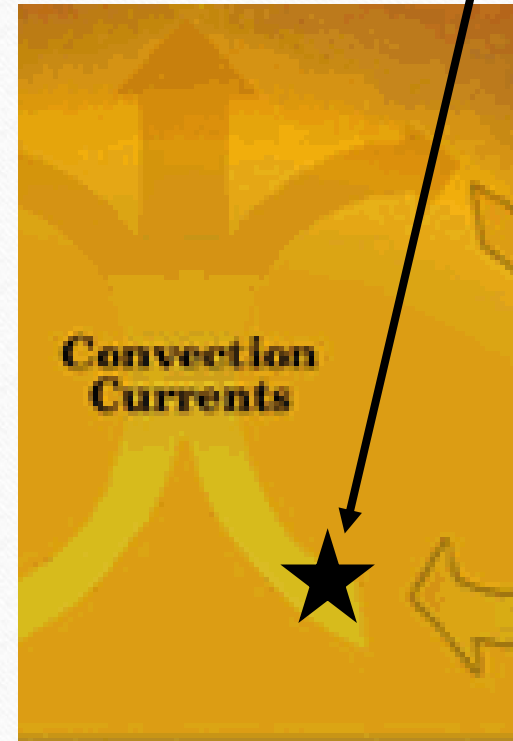
- As temperature increases, density decreases unless forces are acting outside of these two things.
- Draw a particle model of a substance that is at a cooler temperature and a particle model of a substance that is at a much warmer temperature (make sure to show how they are spaced differently and moving differently)

Notes



Notes

- Convection currents are caused by the high pressure and temperature at Earth's Core and the relatively lower temperature and pressure at Earth's surface.
- The material at Earth's core heats up and becomes less dense than the material surrounding it. This causes it to rise (or float).

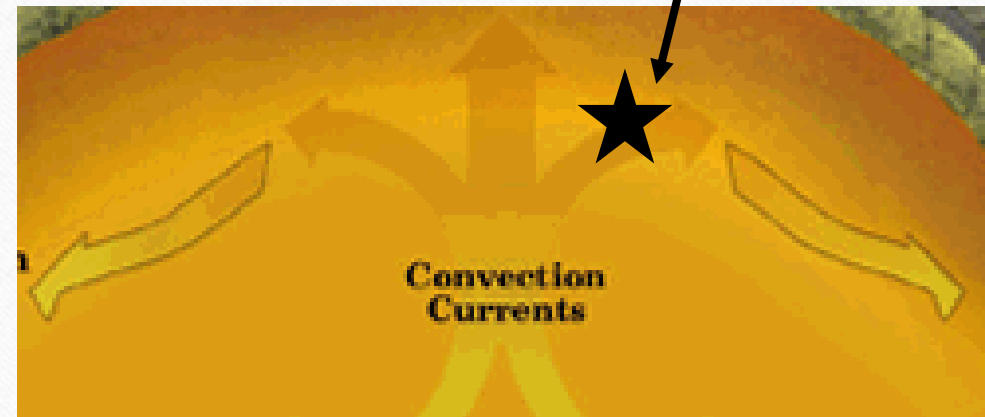


Hot material expands, becomes less dense and rises from Earth's core

Notes

Material cools, becomes more dense as it cools and will begin to sink

- However as the material rises towards Earth's surface it cools down and the particles become closer together. This makes them more dense.



Notes

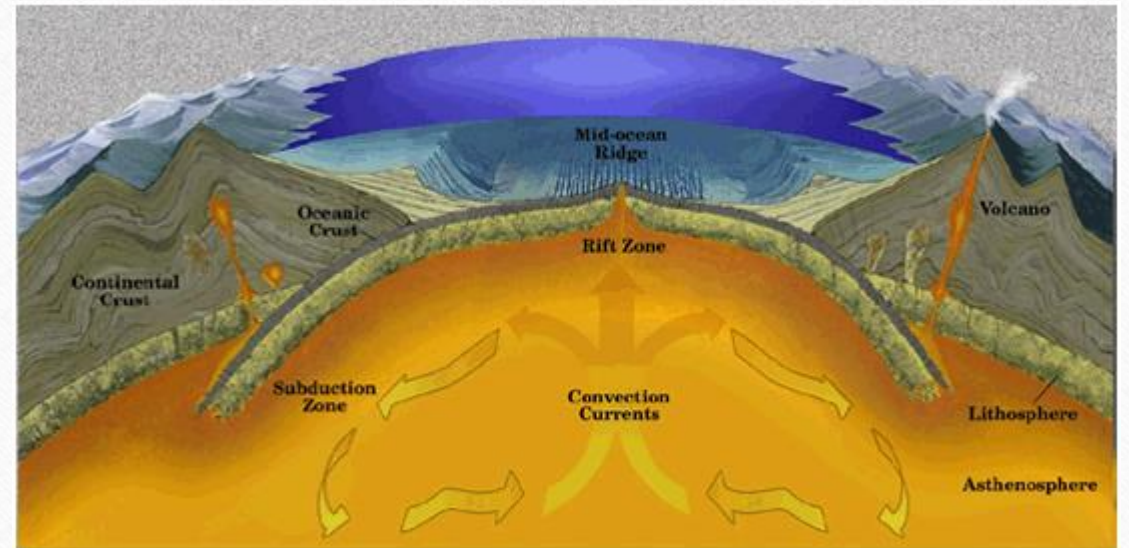
- Eventually this material will then again sink (not necessarily all of it) and descend back towards Earth's interior.

*Materials cools,
becomes more
dense and starts to
sink*



Notes

- This creates a cyclic pattern of matter movement within Earth's interior through the core, mantle, and just under the crust.
- This cyclic pattern results in the phenomenon of Plate Tectonics that we will investigate later.



Closure

- Homework #8 is due Friday 10/20
- Achieve 3000 article “To Warn the People” is due Friday 10/27 at 11:59pm