



## 46 Convection Currents



# Issues and Earth Science

## Plate Tectonics

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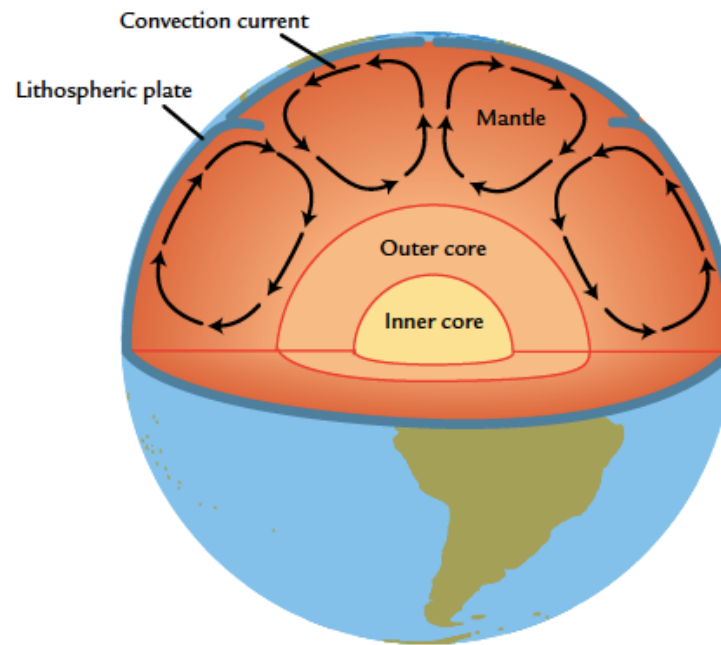
## Key Vocabulary

- **convection current**
- magma
- mantle



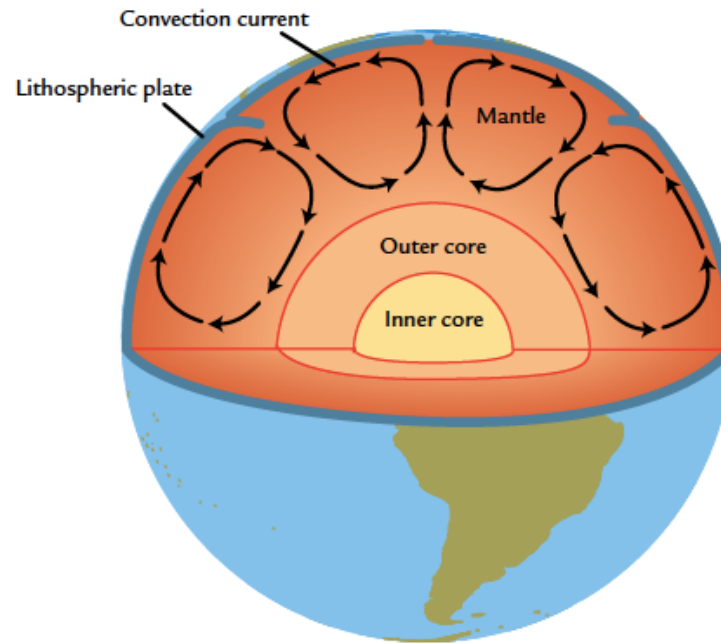
## Introduction

Read the introduction and look for key ideas



## Challenge

How do differences in temperature cause a convection current?



## Procedure

Complete the procedure and record your data



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## Analysis

### Analysis question 1

- a. Did both trials result in the movement of water? Why or why not? Discuss your ideas with your group.
- b. What do you think is necessary for a convection current to form?

## Analysis

### Analysis question 2

Compare the results of your two trials. When warm and cold water are mixed, what happens:

- a. to the warm water?
- b. to the cold water?



## Analysis

### Analysis question 3

Imagine that hotter magma is lying beneath an area of cooler magma deep in the mantle. What do you predict will happen? Be as specific as you can and explain your reasoning.

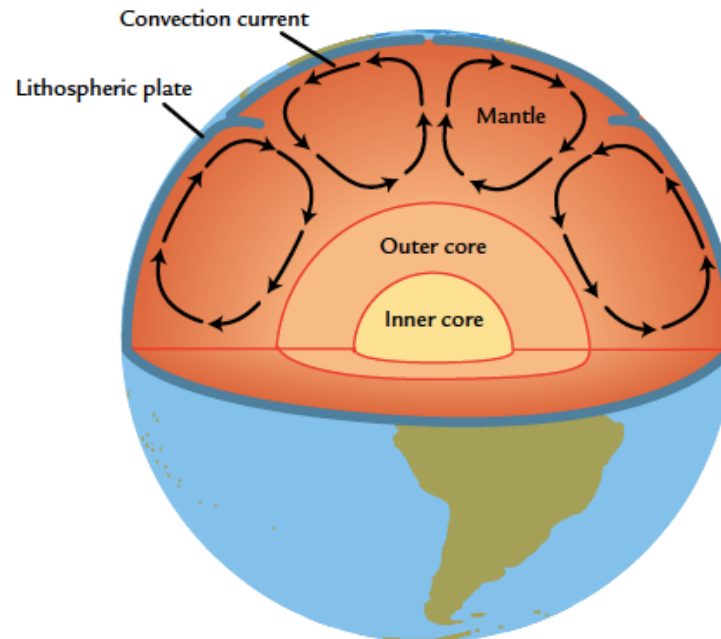
## Analysis

### Analysis question 4

What do scientists believe causes plates to move?

## Revisit the Challenge

How do differences in temperature cause a convection current?



## Review

### Key vocabulary definitions

**Convection current** - A flow of material (such as magma in the earth's mantle) caused by a temperature difference.

**Magma** - Molten rock found beneath the earth's surface.



## Review

### Key vocabulary definitions

Mantle - The “layer” of the earth between the outer crust and inner core.