

# Chapter 5

## Lesson 1

### "Forces that Shape Earth"

#### Plate Motion

Rocky Mountains      newer/younger

jagged peaks

Appalachian Mountains      older

eroded rounded

Mountains from plate tectonics

#### Vertical Motion

Balance in the Mantle

crust      less dense than mantle

weighs less      floats on top

Crust changes over time

mountain mirrored under ground

#### Subsidence and Uplift

subsidence = downward vertical motion of Earth's surface

uplift = upward vertical motion of Earth's surface

#### Horizontal Motion

#### Types of Stress

force acting on surface

## Types of Stress

1. compression = squeezing



2. tension = pulling



3. shear = opposite directions



## Types of Strain

stress changes rock shape = strain

1. elastic = no permanent change

2. plastic = permanent

weak or hot rocks

## Deformation in the Crust

hotter rock changes

thicken → compression

thins → tension

colder rock breaks = fault

## Plate Tectonics and the Rock Cycle

plates move

causes rocks to change