

Physical Geography and Its Effect on Culture

Warm Up

- What is the absolute location of Madrid, Spain?
- What is geography?
- What is the location of the Atlantic Ocean relative to Africa?

Structures of the Earth

Standard

- **SSWG1 The student will explain the physical aspects of geography.**
- Describe the concept of place by explaining how physical characteristics such as landforms, bodies of water, climate, soils, natural vegetation, and animal life are used to describe a place.
- Explain how human characteristics, such as population settlement patterns, and human activities, such as agriculture and industry, can describe a place.
- Analyze the interrelationship between physical and human characteristics of a place.

Essential Question

- How does the relationship between physical and human characteristics of a place impact the environment?

Objective

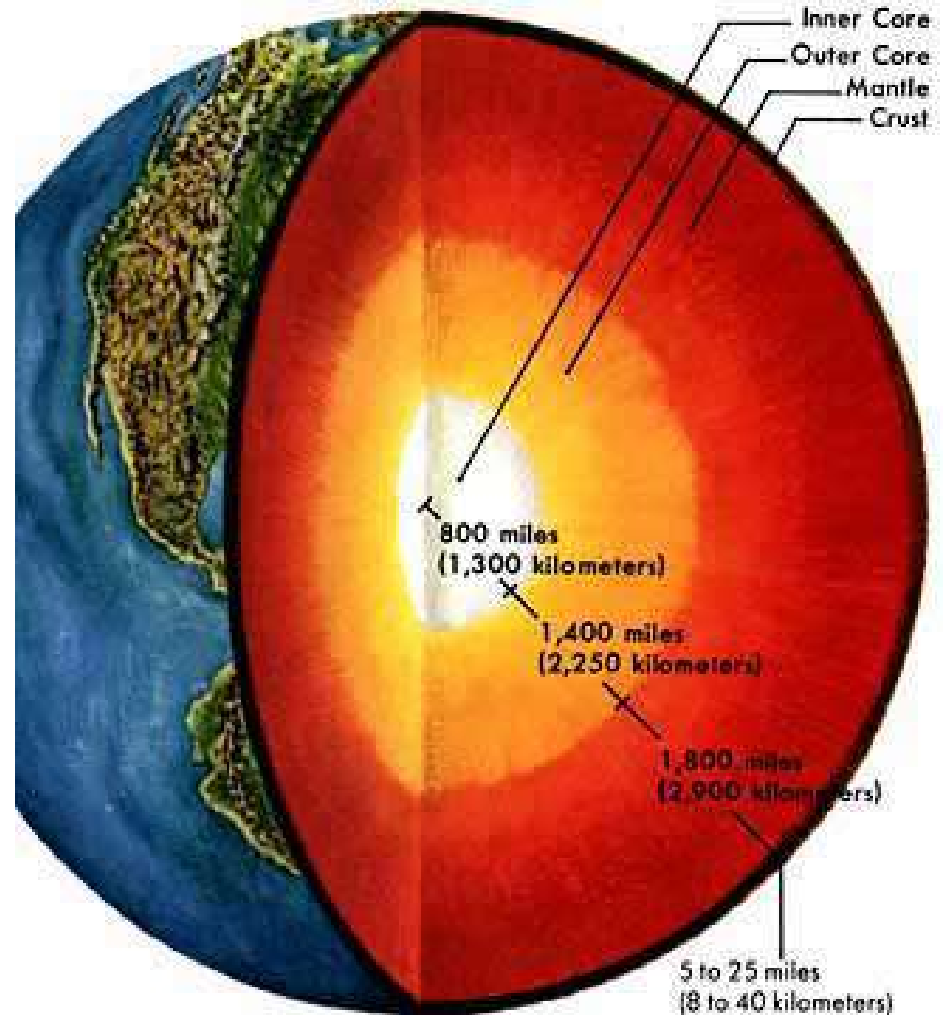
- Analyze the interrelationship between the physical and human characteristics of a place

Discuss/Answer

- How do human activities cause changes in climate?
- How are humans impacted by the physical characteristics of specific places?

Inside the Earth

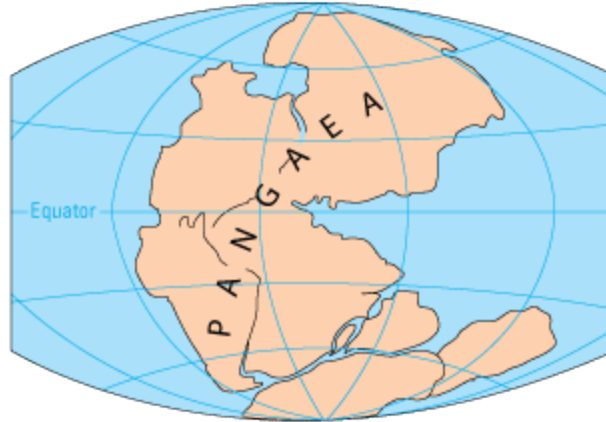
- Core is the center of the earth
 - Nickel and iron
 - Inner is solid, outer is liquid
- Mantle surrounds the core
 - Several layers
 - Most of earth's mass
- Crust is the thin layer of rock on the surface of the earth



Continental Drift

- Continental drift is the theory that the earth had a super continent on it called Pangaea
- Over the last 200 million years the super continent split into the current continents

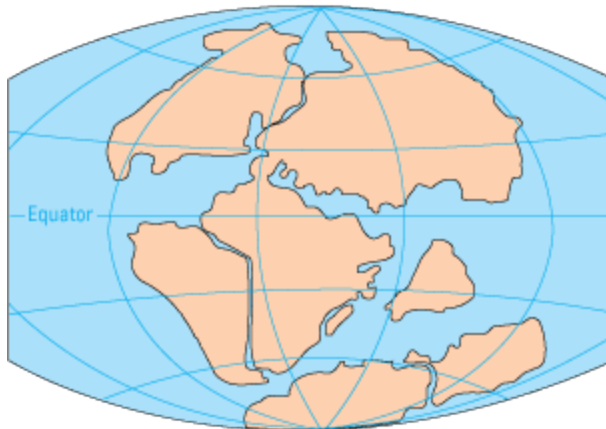
Continental Drift



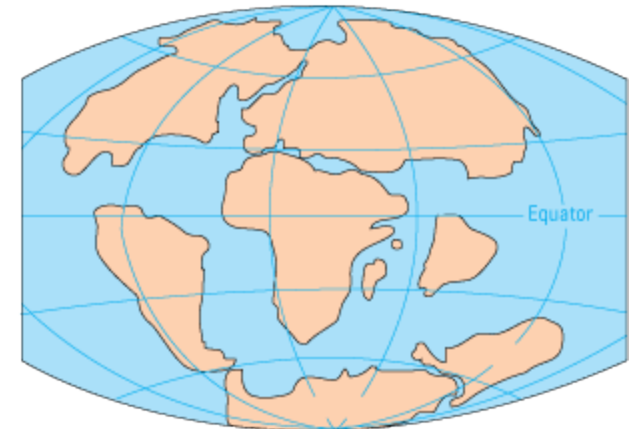
PERMIAN
225 million years ago



TRIASSIC
200 million years ago



JURASSIC
150 million years ago



CRETACEOUS
65 million years ago



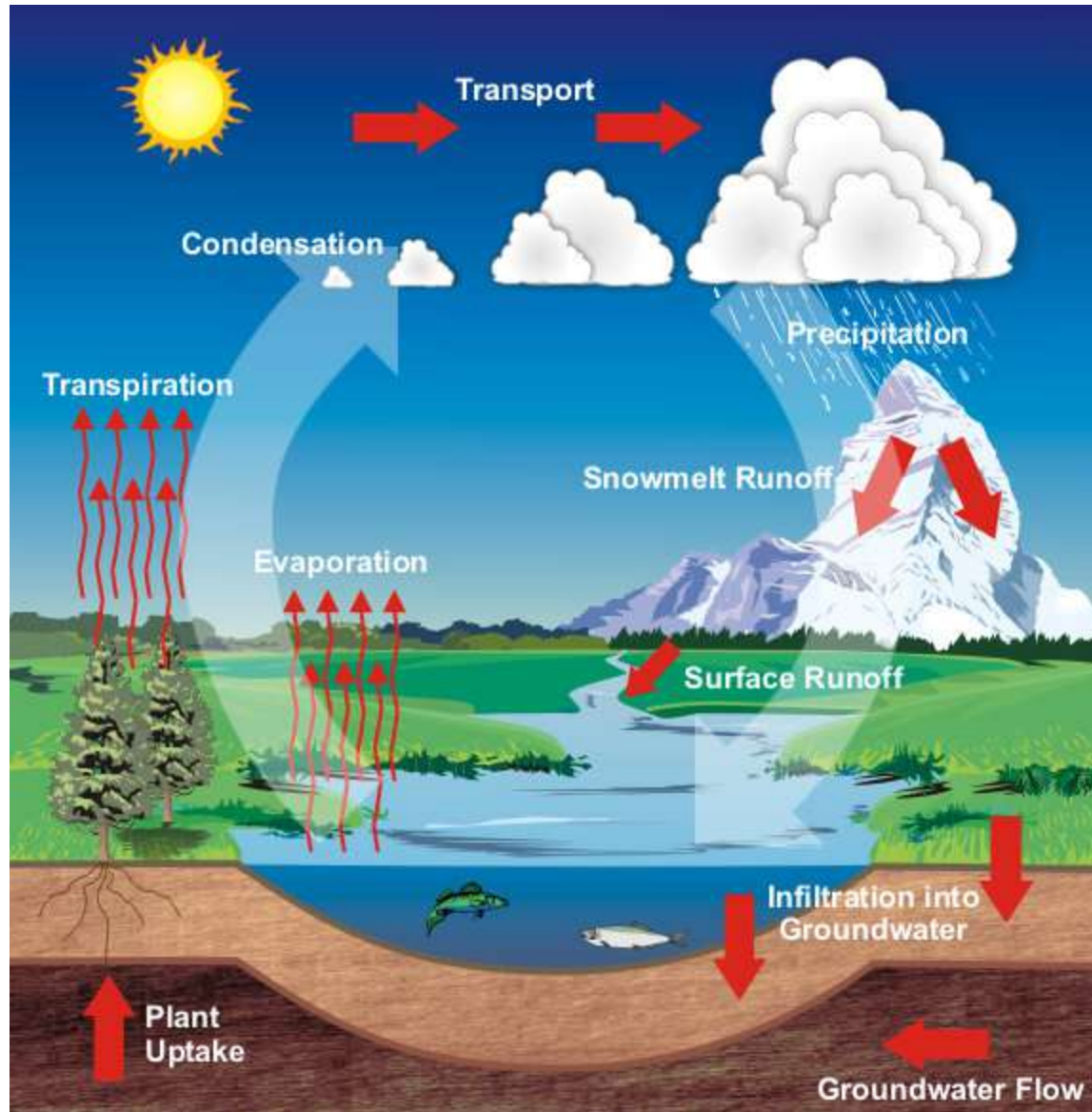
Bodies of Water

- Oceans and Seas are salt water that cover 71% of earth
 - Help distribute heat on the planet
- Tributaries like streams and creeks feed into rivers which feed into lakes
 - Lakes hold 95% of our fresh water supply
- Some of the water flows into the pores of rocks and is called ground water

Hydrologic Cycle

- Rain falls onto the land and in the ocean
- Water drains into the ground and rivers and flows into the ocean
- The water evaporates from the land and ocean into the atmosphere which eventually returns as rain
 - 85% of the water that evaporates comes from the ocean

Hydrologic Cycle



Directions for Project

- Groups of 2-3 students.
- Project based on standards
- You are “Reporters in the Field” for a local television network. You will work with a partner/team to research how humans are impacted by the physical aspects of geography of a place.
- You will critically analyze texts and other sources by identifying which details are important to note.

- You are going to see what it is like to be a news reporter and create a television news script based on how humans are impacted by the physical aspects of geography and place. Your assignment is to write a feature article about how humans are impacted by the physical aspects of geography and place. The purpose of the article will be to describe the impact of physical geography on people. Today each team will be assigned a specific site to research. Each team will write a script based on _____ (City assigned). You will use the Performance Task Rubric as your guide to prepare and write your script.

Cities and Countries for Project

- Accra, Ghana
- London, England
- Paris, France
- Addis Ababa, Ethiopia
- Miami, Florida
- Buenos Aires, Argentina
- Hong Kong, China
- Quebec, Canada

Warm Up 2

- What are the three parts of the earth?
- Describe the hydrologic cycle?
- What is the absolute location of Baghdad, Iraq?

Landforms

Standard

- **SSWG1 The student will explain the physical aspects of geography.**
- Describe the concept of place by explaining how physical characteristics such as landforms, bodies of water, climate, soils, natural vegetation, and animal life are used to describe a place.
- Explain how human characteristics, such as population settlement patterns, and human activities, such as agriculture and industry, can describe a place.
- Analyze the interrelationship between physical and human characteristics of a place.

Essential Question

- What is the impact of physical geography on human geography?

Objective

- Describe the concept of place by explaining how physical characteristics such as landforms, bodies of water, climate, soils, natural vegetation, and animal life are used to describe a place.

Activation

- What kind of physical features are around BEST Academy High School?

Landforms

- Complete the Landforms worksheet before you continue your research.

Exit ticket

- What is one aspect of physical geography that you found for your city? How do you anticipate that this aspect of physical geography will affect the humans that live there?

Next Time

- We will be discussing plate tectonics and weathering.

Warm Up

- Quickly sketch a plateau, peninsula, glacier
- What is the absolute location of Mexico City, Mexico?

Forces Shaping the Earth

Standard

- **SSWG1 The student will explain the physical aspects of geography.**
- Describe the concept of place by explaining how physical characteristics such as landforms, bodies of water, climate, soils, natural vegetation, and animal life are used to describe a place.
- Explain how human characteristics, such as population settlement patterns, and human activities, such as agriculture and industry, can describe a place.
- Analyze the interrelationship between physical and human characteristics of a place.

Essential Question

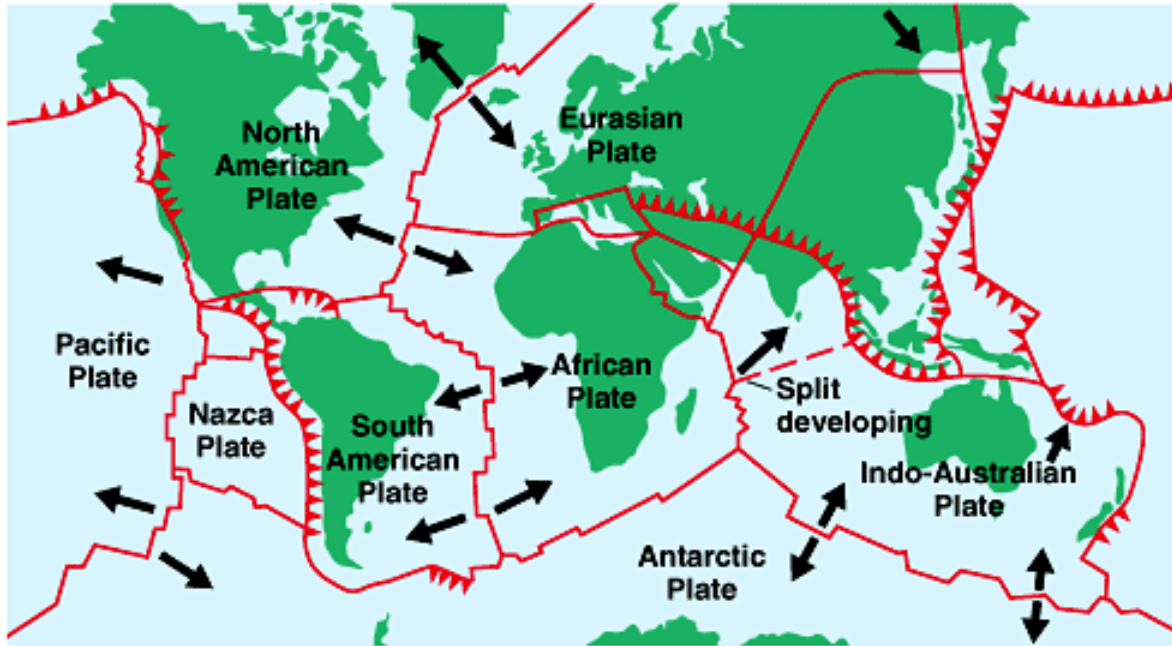
- How does the relationship between physical and human characteristics of a place impact the environment?

Objective

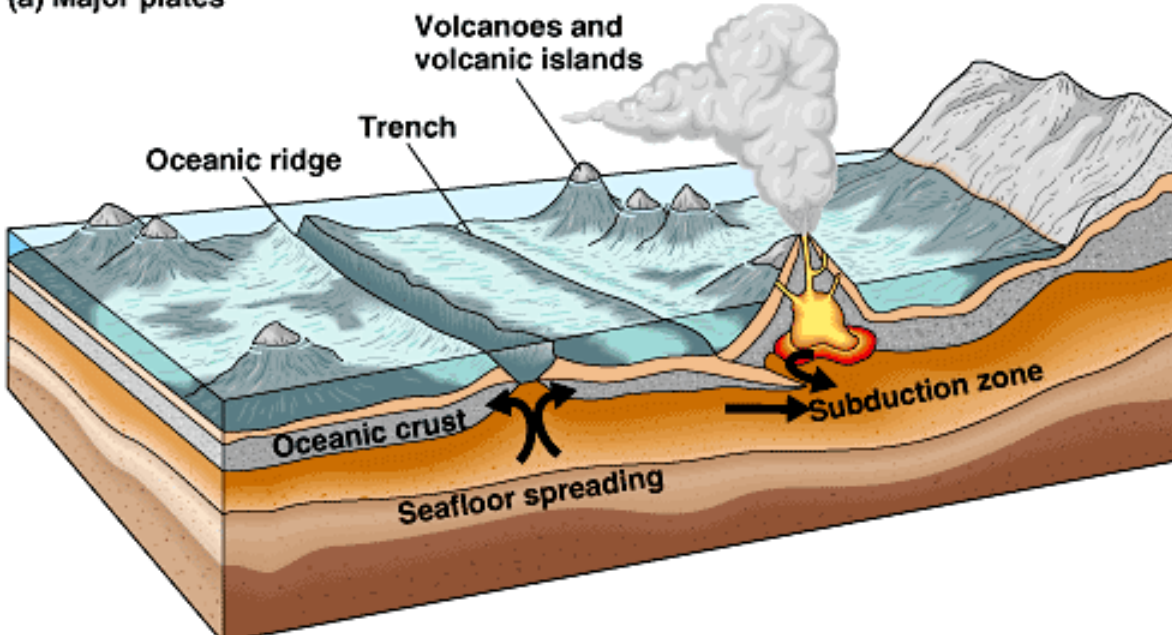
- Describe the concept of place by explaining how physical characteristics such as landforms, bodies of water, climate, soils, natural vegetation, and animal life are used to describe a place.

Plate Tectonics

- The earth is constantly moving underneath with the heating and cooling of rock
- On top of this are tectonic plates which are located in the top of the mantle and the crust of the earth
- These plates are constantly moving
- A fault is where these plates fracture the earth's crust
- Pg 37



(a) Major plates



(b) Events at plate boundaries

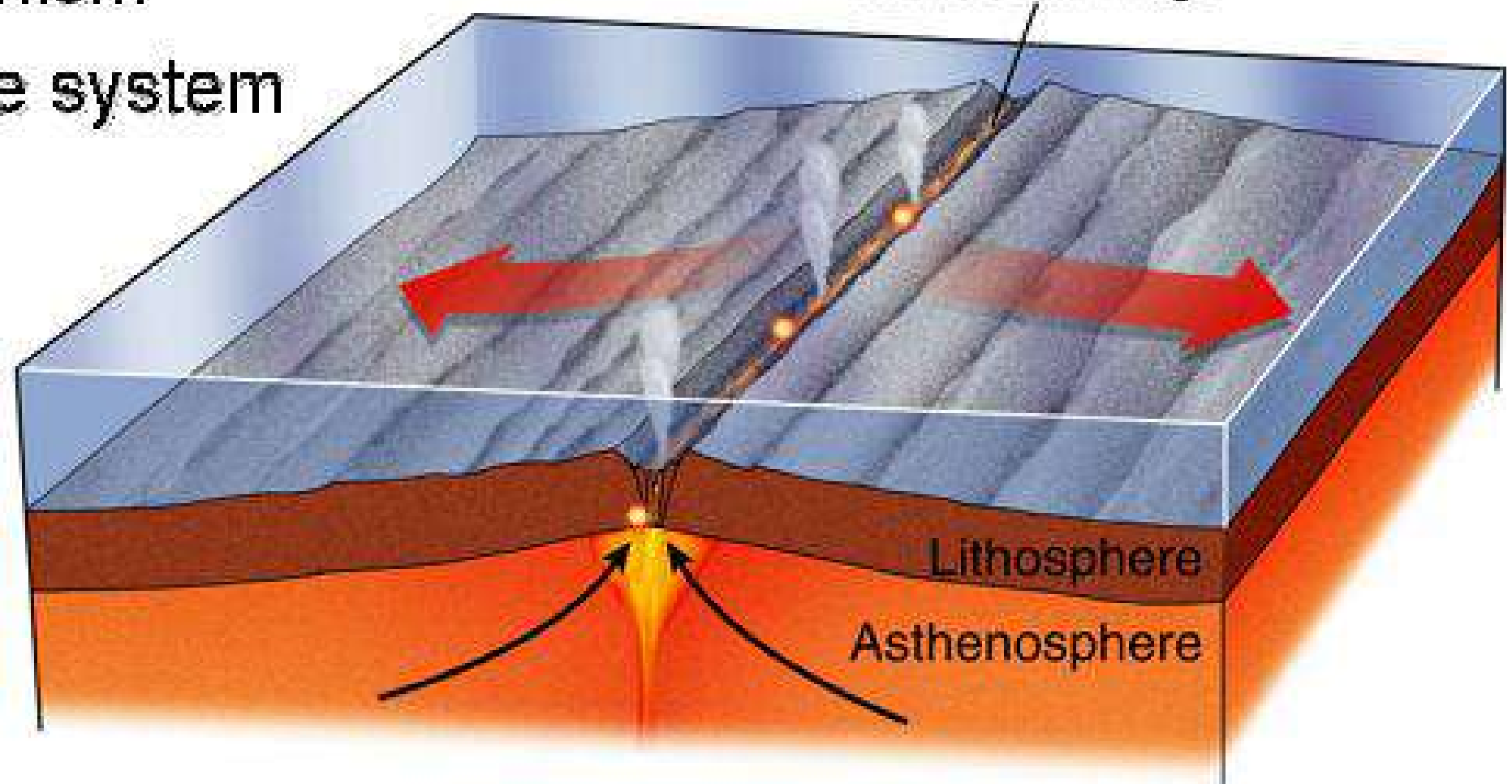
Plate Movement

- Ways plates move
 - Divergent Boundary: Spreading, moving apart
 - Saudi Arabia and Egypt
 - Convergent Boundary:
 - Subduction, diving under another plate
 - Collision
 - Himalayas
 - Transform Boundary: Sliding past each other

Divergent Boundary

nism
e system

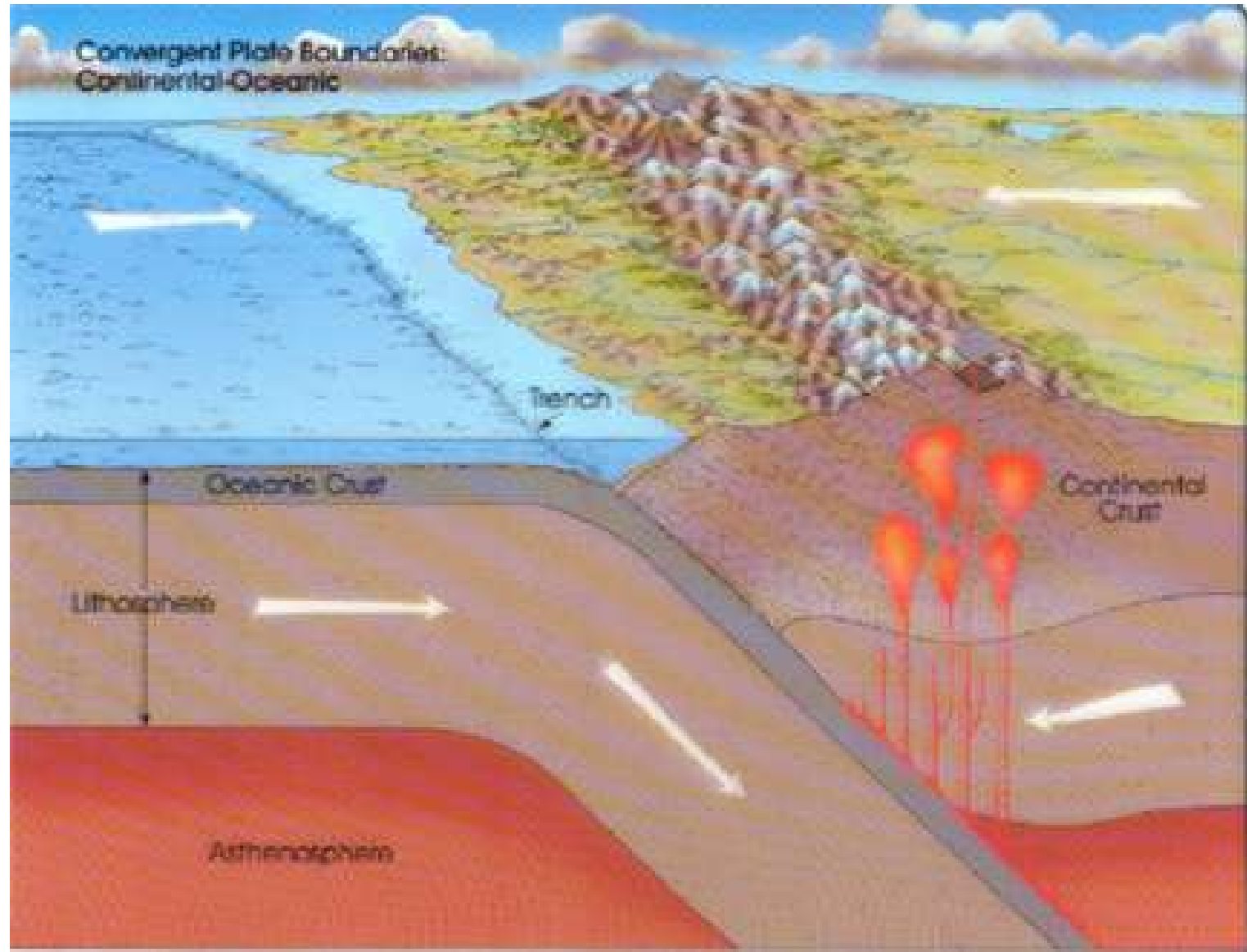
Mid-ocean ridge



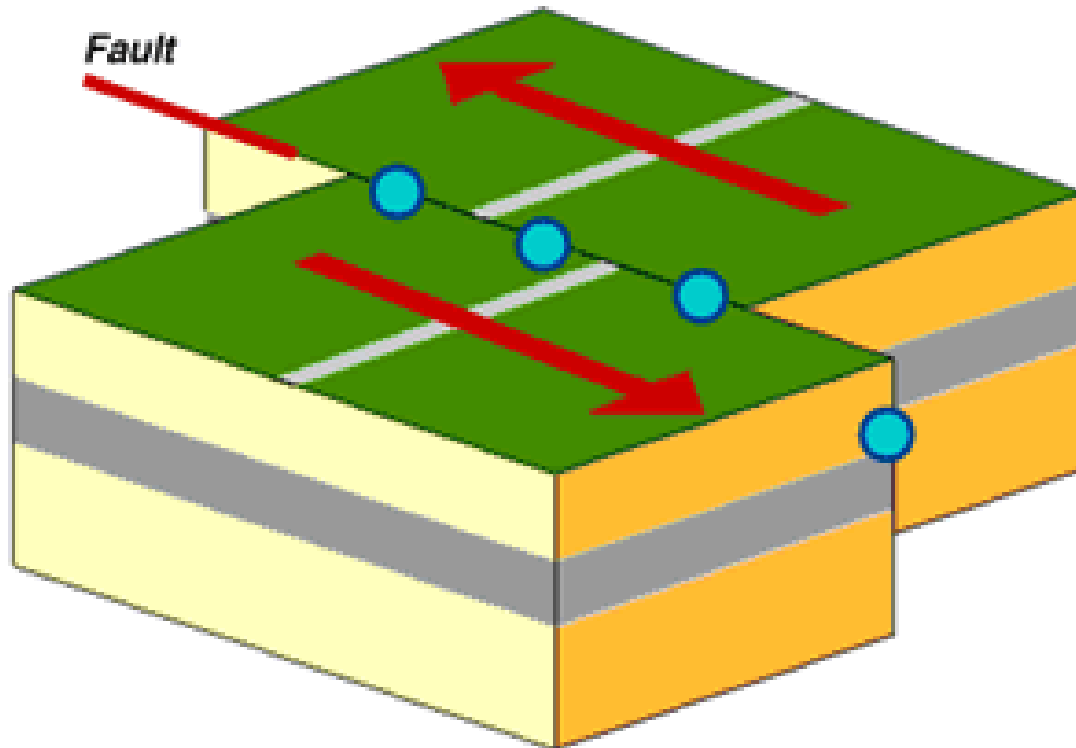
(a) Divergent boundary

Copyright © 2006 Pearson Prentice Hall, Inc.

Convergent Boundary




Transform Boundary



Conservative plate margin

earthquake foci ●

 relative movement of adjacent continental plates

 *actual movement in opposite directions*

 *actual movement in the same direction - but at different speeds*

Earthquakes

- Earthquake is a violent movement of the earth
- A seismograph records these movements
- A Richter scale uses this recording to determine the scale of the earthquake
- The epicenter is where the earthquake begins
- Earthquakes in the ocean can cause Tsunamis
 - Waves have been recorded as high as 238 ft

Volcanoes

- Volcanoes happen when there is a build up of magma, gases, and water and they are released through a split in the earth
 - Most are found along plate boundaries
- Lava can form hills, mountains, islands, volcanoes
- Ring of Fire is a zone around the Pacific Ocean where much of the volcano and earthquake activity is found- pg 37

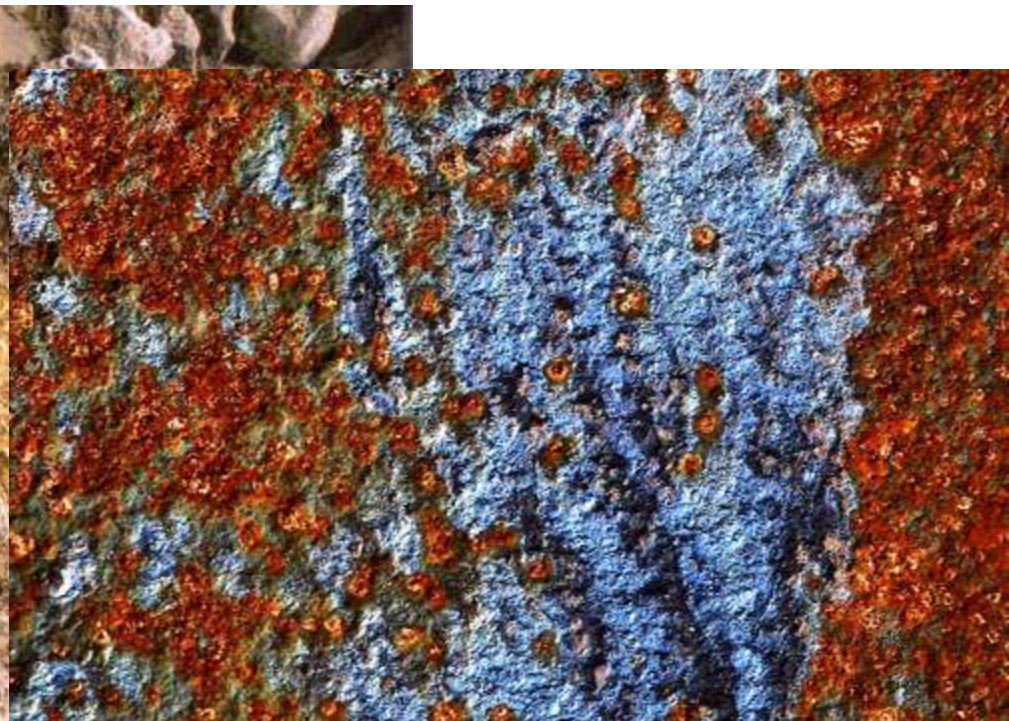
Weathering

- Weathering is the physical and chemical processes that change the characteristics of rocks on the surface
 - Creates smaller pieces of rock called sediment
- Mechanical weathering does not change the composition of the rock, only the size
- Chemical weathering changes rocks into new substances



P. Gore 1996

Pamela Gore 1996



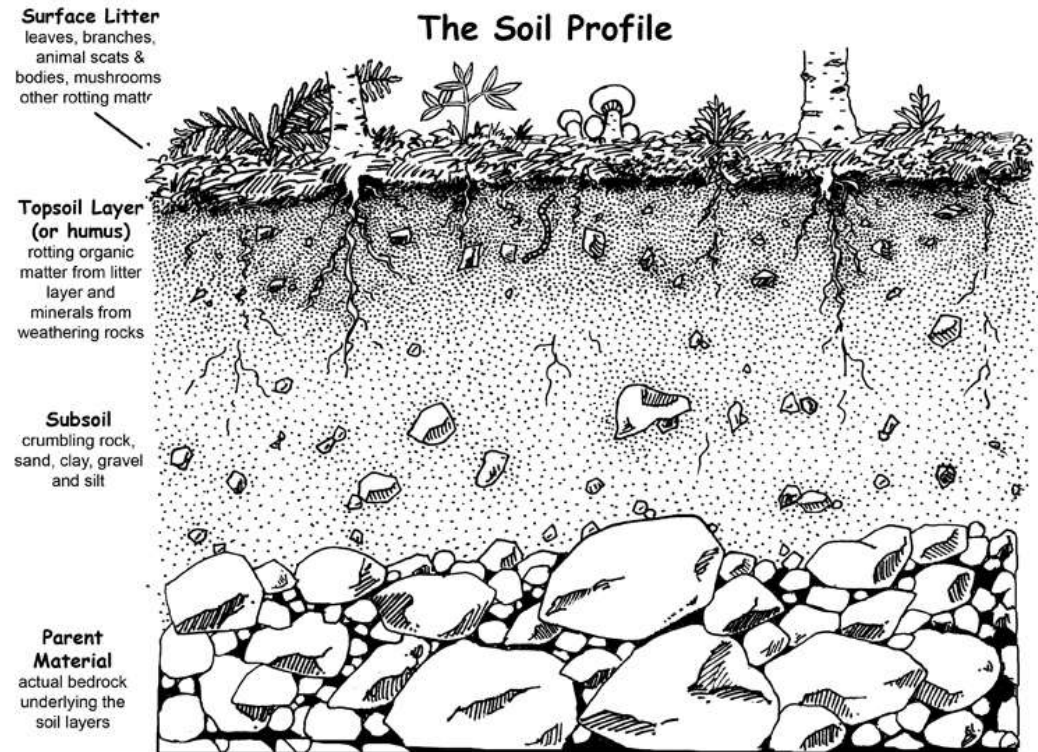
Erosion

- Erosion occurs when weathered material is moved by wind, water, ice, gravity
- Erosion can take away needed soil
- Erosion can also deposit needed soil



Soil

- Soil is a combination of sediment, organic material, chemicals, water, air that helps support the growth of plants



Warm Up

- Draw and label the three different types of boundaries.
- What is the absolute location of Hanoi, Vietnam?

Climate

Standard

- **SSWG1 The student will explain the physical aspects of geography.**
- Describe the concept of place by explaining how physical characteristics such as landforms, bodies of water, climate, soils, natural vegetation, and animal life are used to describe a place.
- Explain how human characteristics, such as population settlement patterns, and human activities, such as agriculture and industry, can describe a place.
- Analyze the interrelationship between physical and human characteristics of a place.

Essential Question

- How does the relationship between physical and human characteristics of a place impact the environment?

Objective

- Describe the concept of place by explaining how physical characteristics such as landforms, bodies of water, climate, soils, natural vegetation, and animal life are used to describe a place.

Climate

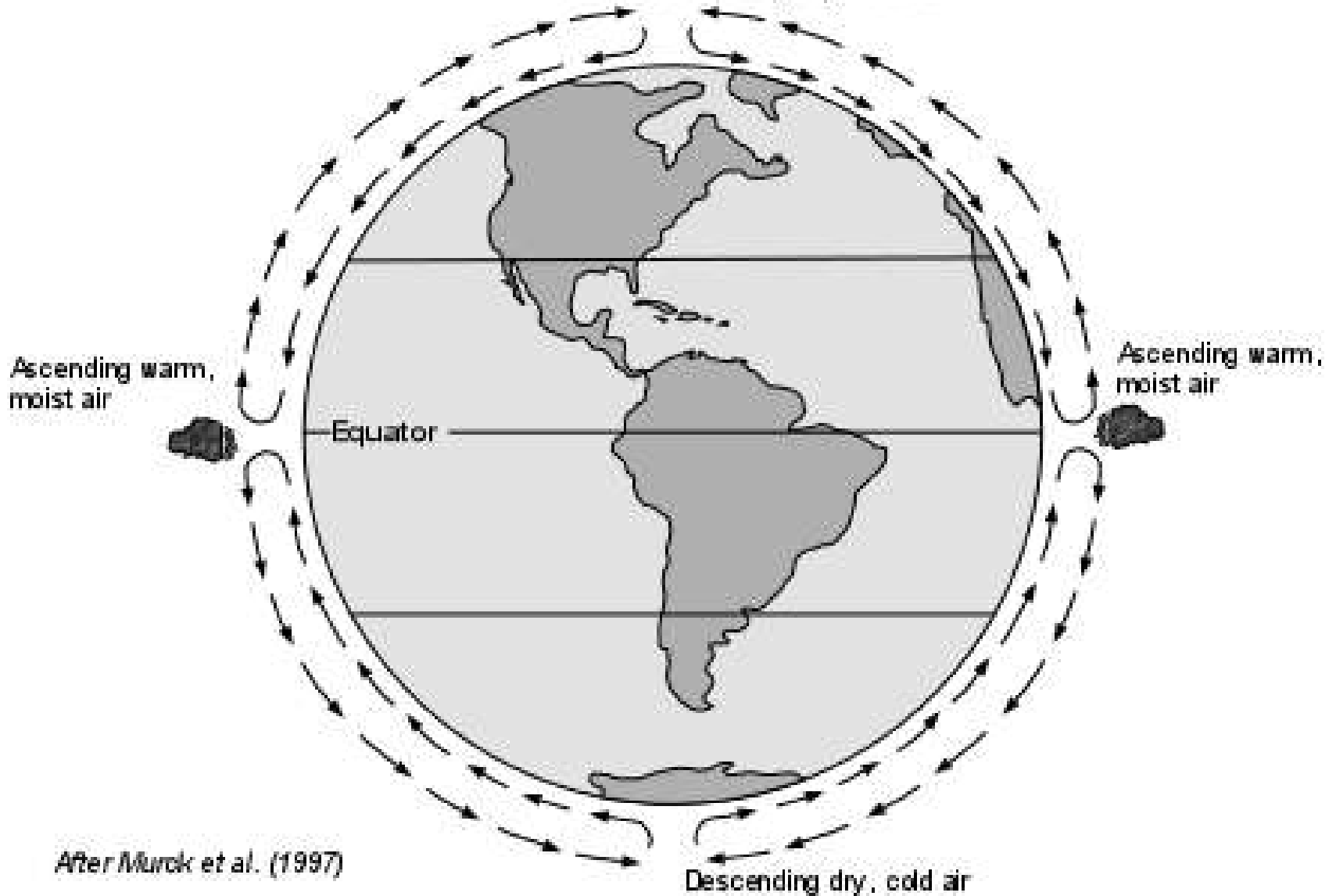
- Weather is the condition of the atmosphere at a particular location and time
- Climate is the weather conditions at a location over a long time

Factors Affecting Climate

- Wind currents- Cold air from the poles move towards the equator while hot air moves from the equator to the poles
- Ocean currents- pg 55- Moving in circular systems, cold water flows towards the equator and warm water flows towards the poles
 - These currents affect the temperature of an area and the precipitation
 - Europe vs Canada

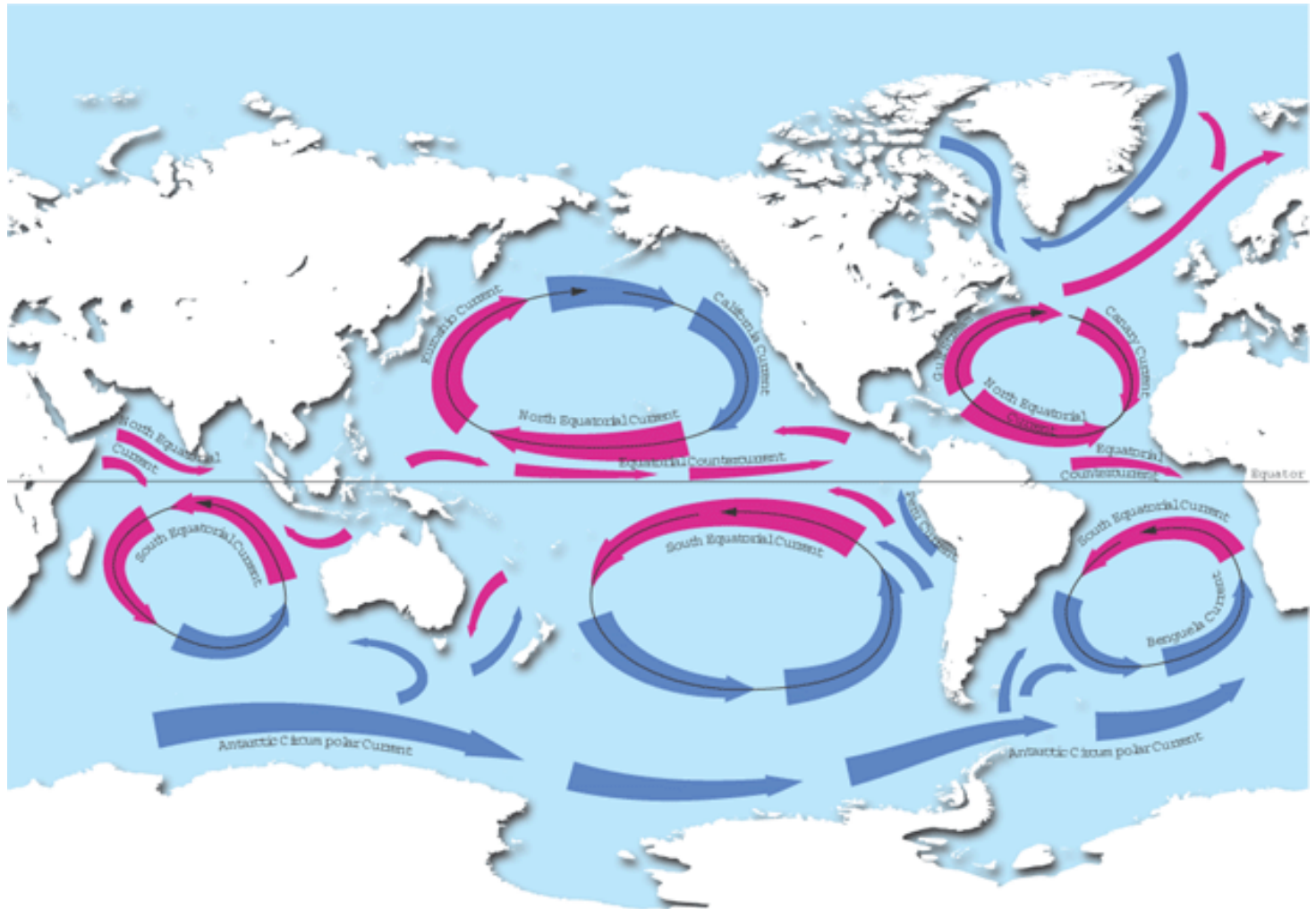
Wind Currents

Descending dry, cold air



After Murck et al. (1997)

Ocean Currents



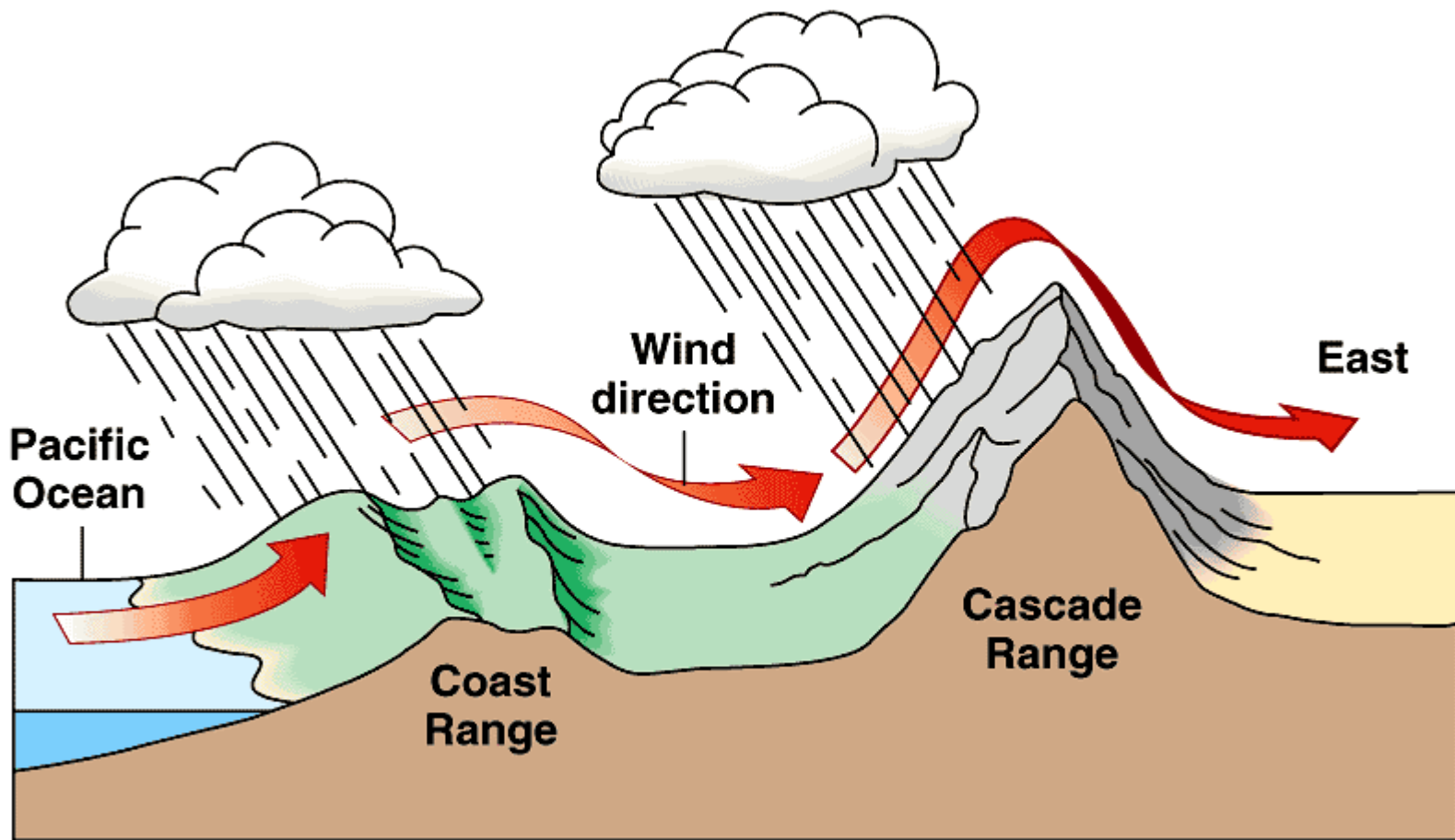
Surface Ocean Currents

Factors Affecting Climate

- Zones of Latitude
 - Low, Tropical- Tropic of Cancer to Tropic of Capricorn
 - Hot all year
 - Middle, temperate- Tropics to polar regions
 - Climates vary greatly
 - High, polar- cold all year

Factors Affecting Climate

- Elevation- distance above sea level affects climate
 - Air temperature drops about 3.5°F for every 1000 feet
- Topography- mountains affect climate, as wind travels up the mountain to the other side it cools and releases water, the wind is dry and warm as it travels down the other side



Copyright © Pearson Education, Inc., publishing as Benjamin Cummings.

Final Project Questionnaire

- What were you expected to do?
- In this assignment, what did you do well?
- If you were to do this task over, what would you do differently?
- What help do you need from the teacher?
- On a scale of 1-10 (10 is most) how helpful was your partner in completing the assignment?