

## *Land and Climate*

1. Land and Water
  - a. 12 states: Michigan, Missouri, Iowa, S. Dakota, Kansas, Nebraska, Wisconsin, Minnesota, Indiana, N. Dakota, Illinois, Ohio
  - b. The Midwest is in the middle of the United States
    - i. Canada: northern border
    - ii. Rocky Mountains: western border
    - iii. Appalachian Mountains: eastern border
  - c. Eastern Midwest
    - i. 5 Great Lakes: Huron, Ontario, Michigan, Erie, Superior
    - ii. The land: mostly flat with some hills; deep forests (pine, others)
    - iii. Climate: harsh: can be very hot and very cold
  - d. Western Midwest
    - i. Great Plains: wide open prairie areas with few trees
    - ii. The land: mostly flat grasslands; prairie (much has been turned into farmland)
    - iii. The climate: drier than the eastern Midwest; can be very hot or cold
    - iv. Most of the nation's corn and wheat is grown here.
2. Water Resources
  - a. The Midwest has two major waterways
    - i. The Great Lakes
      1. Lakes were created by glaciers
      2. World's largest body of fresh water
      3. Connect to Atlantic Ocean and the Gulf of Mexico by rivers and canals.
    - ii. The Mississippi River
      1. Two main tributaries: Ohio and Missouri Rivers
        - a. The Mississippi, Missouri, and Ohio Rivers form the largest river system in the U.S.
      2. Dams and levees help stop floods on these rivers
    - iii. Before railroads: travel on waterways was faster and cheaper than on land
      1. Towns along water routes became trading centers
      2. Some towns became big cities, like Chicago, Illinois, and Milwaukee, Wisconsin
    - iv. Waterfalls: make river travel difficult
      1. Lock: part of a waterway closed off by gates
        - a. Ship enters the lock
        - b. Water is pumped in or out
        - c. Ship rises or falls with the water level
        - d. Ship exits the lock

3. Review: Major regions and waterways of the Midwest? Plains States and Great Lakes States (regions); Great Lakes and Mississippi River (waterways)
  
4. Climate, Plants and Animals
  - a. The location of the Midwest affects its climate
  - b. There is no ocean nearby
    - i. So, the climate varies more than the coastal regions, where the ocean keeps land warmer in winter and cooler in summer.
  - c. In some areas, the temperature can change by as much as 100° between winter and summer
5. The Great Lakes affect climate by adding moisture to the air
  - a. In winter, this moisture causes lake effect snow
    - i. Lake Effect Snow: snow created when warm, moist air rises from the lake and meets cold dry air. The moisture freezes and drops as snow
    - ii. How does lake effect snow affect people? Clothing, travel (driving, flying), covered walkways, winter sports, festivals
6. Tornadoes: spinning wind storm (funnel-shaped); happen in warmer weather
7. Midwestern Plants and Animals
  - a. Midwestern Plants and Animals have adapted to the harsh climate
    - i. Prairie Grasses: grow deep roots to find water
  - b. Pine Trees: keep needles to save energy
  - c. Birds: migrate to warmer areas in winter
  - d. Prairie Dogs: rodents; dig holes underground to stay warm
  - e. Bison/American Buffalo: have thick coats of fur to keep warm; very important to some Native Americans
    - i. By 1885, Eastern hunters had killed all but a few hundred
    - ii. Today, the buffalo have come back

Review: How have people and wildlife adapted to the climate of the Midwest? Prairie dogs dig underground dens, people wear heavy clothing in winter, activities, bison have thick coats, birds migrate