

Chapter 1 Notes Using Geography Skills

Section 1: Thinking Like a Geographer

Geography is used to interpret the past, understand the present, and plan for the future. Geography is the study of the Earth. It is used to analyze the Earth's physical and human features. People can use geographic information to plan, make decisions, and manage resources.

The Five Themes of Geography

Geographers use the Five Themes of Geography to help them study the Earth.

- **Geography** is the study of the Earth and its people, and people who study geography are geographers.
- *Location* is the position of a place on the Earth's surface.
 - **Absolute location** is the exact spot on Earth where a geographic feature, such as a city or mountain, is found.
 - **Relative location** describes where that feature is in relation to the features around it.
- *Place* describes the characteristics of a location that make it unique, or different.
 - A place can be defined by physical features, such as landforms, plants, animals, and weather patterns.
 - Other characteristics of a place, such as the language spoken there, describe the people.
- *Human-environment interaction* describes how people affect or change their **environment**, or natural surroundings, to meet their needs, and how their environment affects them through conditions they cannot control.
- *Movement* explains how and why people, ideas, and goods move from place to place.
- *Regions* refers to areas of the Earth's surface that have several common characteristics, such as land, natural resources, or population.

A Geographer's Tools

Geographers use many different tools to help them study and analyze Earth's people and places.

- Physical geographers study Earth's land areas, bodies of water, plant life, and other physical features.
- They also study an area's natural resources, such as water, forests, land, and wind, and help people decide how to manage the resources.
- Human geographers look at people's religions, languages, and ways of life; compare different places to see how they are similar and different; and help plan cities and aid in international business.
- Similarly, studying history helps geographers understand how places appeared in the past and changed over time.
- History is divided into blocks of time known as periods.
 - A period of 10 years is called a **decade**.

- A period of 100 years is known as a **century**.
- A period of 1,000 years is a **millennium**.
- Satellites circling the Earth provide information for maps in the form of detailed digital images, photographs, and measurements of temperatures and the amount of pollution in the air or land.
- Other satellites make up the **Global Positioning System (GPS)**, or a system using radio signals to determine the exact location of every place on Earth.
- **Geographic Information Systems (GIS)** are computer hardware and software that gather, store, and analyze geographic information and then display it on a screen.
- It can display maps and even show information such as types of soil and vegetation.
- Governments at all levels hire geographers for different kinds of tasks, such as helping decide how land and resources might be used and for analyzing population trends.
- In business, geographers often work as researchers and analysts, helping companies decide where to locate new buildings or providing information about other places and cultures where companies do business.
- As more schools recognize the importance of geography education, the demand for geography teachers is expected to grow.

Section 2: The Earth in Space

Physical processes shape Earth's surface. Earth has different seasons because of the way it tilts and the way it rotates around the sun. The warmth of the sun's rays makes life on Earth possible.

The Solar System

The Earth is one of eight planets in the solar system. It rotates on its axis every 24 hours and takes a year to orbit the sun.

- Earth, seven other major planets, thousands of smaller bodies, and the sun form our **solar system**.
 - The inner planets—Mercury, Venus, Earth, and Mars—are relatively small and solid.
 - The outer planets—Jupiter, Saturn, Uranus, and Neptune—are larger and composed mostly or entirely of gases.
- Pluto was once considered a major planet, but an international group of scientists in 2006 decided to call it a minor planet.
- Each planet follows its own path, or **orbit**, around the sun.
- Earth takes almost 365¼ days, or one year, to make one **revolution**, or a complete circuit, around the sun.
 - Every four years, the extra fourths of a day are combined and added to the calendar as February 29th.
 - A year that contains one of these extra days is called a **leap year**.
- As Earth orbits the sun, it **rotates**, or spins, on its axis.

- The **axis** is an imaginary line that passes through the center of Earth from the North Pole to the South Pole.
- Earth rotates in an easterly direction, making one complete rotation every 24 hours.
- As Earth turns, different parts of the planet are in sunlight or in darkness.
- The part facing the sun experiences daytime, and the part facing away has night.
- We do not feel Earth moving as it rotates because the **atmosphere**, the layer of oxygen and gases that surrounds Earth, moves with it.

Sun and Seasons

The tilt of Earth and its revolution around the sun lead to changing seasons during the year.

- Because Earth is tilted $23\frac{1}{2}$ degrees on its axis, seasons change as Earth makes its year-long orbit around the sun.
 - Sunlight falls directly on the northern or southern half of Earth at different times of the year.
 - Direct rays cause the warmth of summer in a hemisphere, and indirect rays allow the cold of winter.
- Four days in the year are significant because of the position of the sun in relation to Earth.
- These days mark the beginnings of the four seasons.
- On or about June 21, the North Pole is tilted toward the sun.
 - On noon of this day, the sun appears directly overhead at the Tropic of Cancer.
 - In the Northern Hemisphere, this day is the **summer solstice**—the day with the most hours of sunlight and the beginning of summer.
 - In the Southern Hemisphere, that same day is the day with the fewest hours of sunlight and marks the beginning of winter.
- Six months later—on or about December 22—the situation is reversed. The North Pole is tilted away from the sun.
 - At noon, the sun's direct rays strike the Tropic of Capricorn.
 - In the Northern Hemisphere, this day is the **winter solstice**—the day with the fewest hours of sunlight and the beginning of winter.
 - This same day marks the beginning of summer in the Southern Hemisphere.
- Spring and autumn each begin on a day that falls midway between the two solstices.
- These days are the **equinoxes**, when day and night are of identical length in both hemispheres.
- On or about March 21, the spring equinox occurs.
- On or about September 23, the fall equinox occurs.

- On both days, the noon sun shines directly over the Equator.
- Earth's temperatures also are affected by the sun.
- The sun's rays directly hit places in the **Tropics**, the low-latitude areas near the Equator between the Tropic of Cancer and the Tropic of Capricorn.
- As a result, temperatures in the Tropics tend to be very warm.
- At the high latitudes near the North and South Poles, the sun's rays hit indirectly, so temperatures in these regions are always cool or cold.

Maps, Charts, & Graphs

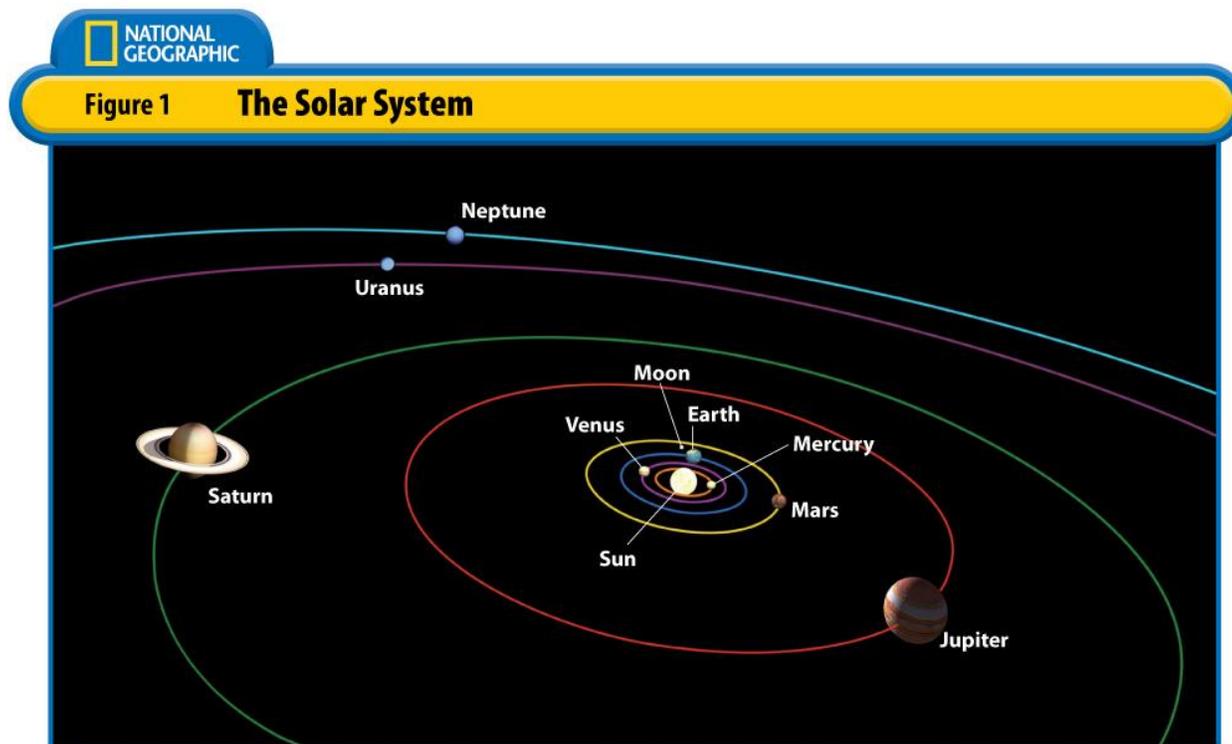


Figure 2 The Sun and Earth's Seasons

