CHAPTER 1

# The Geographer's Tools

*This Texas snowman was made in Dallas.*

*The Rio Grande winds through the Big Bend region.*

**TEXAS**

**Coldest Spot** The lowest recorded temperature in Texas was a chilly –23°F, occurring in 1899 at Tulia and in 1933 at Seminole.

**Hottest Spot** The highest recorded temperature in Texas was a blistering 120°F, occurring in 1936 at Seymour and in 1994 at Monahans.

**Longest River** The Rio Grande, which begins in Colorado and flows along the Texas-Mexico border, runs 1,896 miles.

**U.S. and WORLD**

**Coldest Spot** Vostok, Antarctica, had a record low of –129°F in 1983.

**Hottest Spot** El Azizia, Libya, had a record high of 136°F in 1922.

**Longest River** The Nile River flows some 4,160 miles through northeast Africa.

*Penguins live in many areas including the cold climate of Antarctica.*

## Build on What You Know

Have you heard that everything is bigger in Texas? The state is second in the nation in size—behind Alaska. This large area offers a variety of terrain and natural scenery. To understand this large state, geographers use a variety of tools including maps and charts.

*Horned lizards enjoy the dry climate of West Texas.*



*Guadalupe Peak is in West Texas.*

**Driest Place** Wink received just 1.76 inches of rain in 1956.

**Wettest Place** In 1873 Clarksville received 109.4 inches of rain.

**Highest Point** Guadalupe Peak is the highest point in the state, at 8,749 feet above sea level.

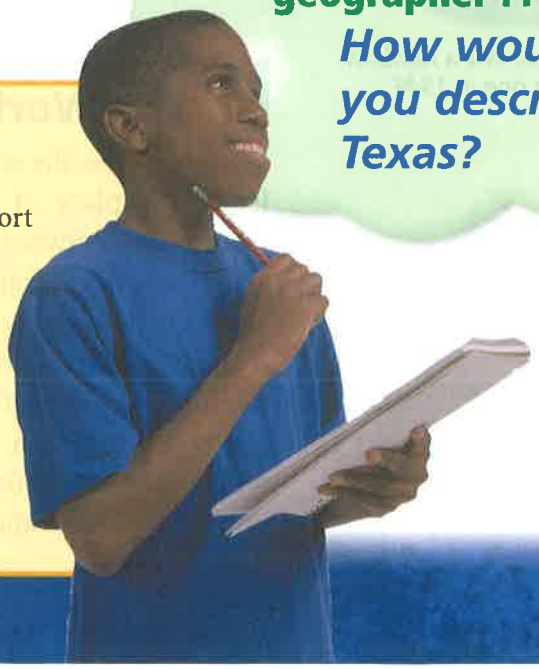
**Driest Place** Arica, Chile, receives an average of just 0.03 inches of rain per year.

**Wettest Place** Lloro, Colombia, receives an average of 523.6 inches of rain per year.

**Highest Point** Mount Everest is the highest point in the world, at 29,035 feet above sea level.

**If you were a geographer . . .**

***How would you describe Texas?***



## You Be the Geographer

Themes Journal

**What's Your Opinion?** Do you **agree** or **disagree** with the following statements? Support your point of view in your journal.

- **Geography** Larger states have more geographic variety than smaller ones.
- **Culture** Geographers are not interested in human activity or cultures.
- **Economics** The economy of a region is directly dependent on its geography.

Section 1

# The Six Essential Elements of Geography

## Read to Discover

1. What types of information do geographers study?
2. What do each of the six essential elements of geography address?

## Why It Matters Today

People have lived in Texas and influenced its environment for thousands of years. Use CNNfyi.com and other **current events** sources to find information about the Texas landscape today. Record your findings in your journal.

## Define

- **geography**
- **environment**
- **culture**
- **geographic information systems**
- **ecosystem**
- **migration**
- **urbanization**

## Identify

- **Roy Bedichek**

*Roy Bedichek saw a rainbow like this one in 1946.*

## *The Geographer's World*

Educator Roy Bedichek moved to a ranch near Austin in 1946. Writing to a friend, he described the natural beauty of the Hill Country. "A gentle rain started on the corrugated [grooved] iron roof a moment ago and I pulled the curtain of the southwest window to take a peep. . . . Suddenly as a flash on a motion-picture screen an *upright* rainbow in full and vivid [bright] colors appeared. . . . [I] stood there transfixed [motionless], a witness to a miracle."

## The World in Spatial Terms

**Geography** is the study of the special physical and human characteristics of a place or region. An important part of geography is the relationship between humans and their **environment**, or physical surroundings. A geographer might also study **culture**, a learned system of shared beliefs, traits, and values. A geographer could describe Texas in many ways. Texas is big—it covers about 267,000 square miles and has a population of more than 20 million. It is the second largest state in both size and population. Most Texans live in cities rather than in rural, or agricultural, areas. Yet Texas has about 200,000 farms and some 130 million acres of farm and ranch land—more than any other state.

Geographers look at where things are on Earth's surface. For example, geographers studying Texas cities might find that they are typically located near sources of water, transportation centers, or other important cities. Changes in settlement patterns over time are also important.

Geographers use many tools in their studies, including maps, charts, and graphs. They also use field notes, interviews, photographs, reference books, and videos. High-tech tools such as satellites provide detailed images of Earth. Computer databases, like **geographic information systems** (GIS), store huge amounts of data, or information. Geography helps in future planning, including where new dams or roads should be built in Texas.

✔**Reading Check** **Finding the Main Idea** Why is geographic knowledge useful?

CONNECTING TO SCIENCE AND TECHNOLOGY

### GIS

Geographic information systems (GIS) are among the newest tools used by geographers. A GIS is a computer system that gathers, stores, and organizes geographic information. This data can be used to create maps, provide information, and perform complex models for analyzing information about a place or region. **How do you think a GIS database helps students?** TEKS

## Places and Regions

People's culture and experiences affect their ideas of places and regions. A place has physical and human characteristics that make it special. Physical characteristics include animal and plant life, sources of water, climate and weather, landforms, and soils. Landforms are the natural shapes on Earth's surface, such as mountains, hills, and valleys. Human characteristics include ethnicity, language, political and economic systems, population distribution, religion, and standards of living.

A region is an area with common characteristics that make it different from surrounding areas. People define regions to organize the world. Regions can be as large as Texas, or as small as a neighborhood. A *formal* region has one or more shared characteristics. A formal region might be based on physical features such as plant life. Formal regions could also be cultural, economic, or political. Countries, states, and cities are examples of formal political regions. A *functional* region is made up of

**Interpreting the Visual Record**

***Landscapes.*** *The Texas landscape is diverse with deserts, forests, plains, mountains, and swamps.* ***What does this image of Guadalupe Mountains National Park tell you about some of the landscape?***

different places that function together as a unit. A newspaper's subscription area and a metropolitan area such as Dallas–Fort Worth are examples of functional regions. A *perceptual* region is defined by people's shared attitudes, culture, and feelings about an area. Perceptual regions, such as Central Texas or the Panhandle, often have vague borders. Geographers try to learn what defines a place or region and what makes it special.

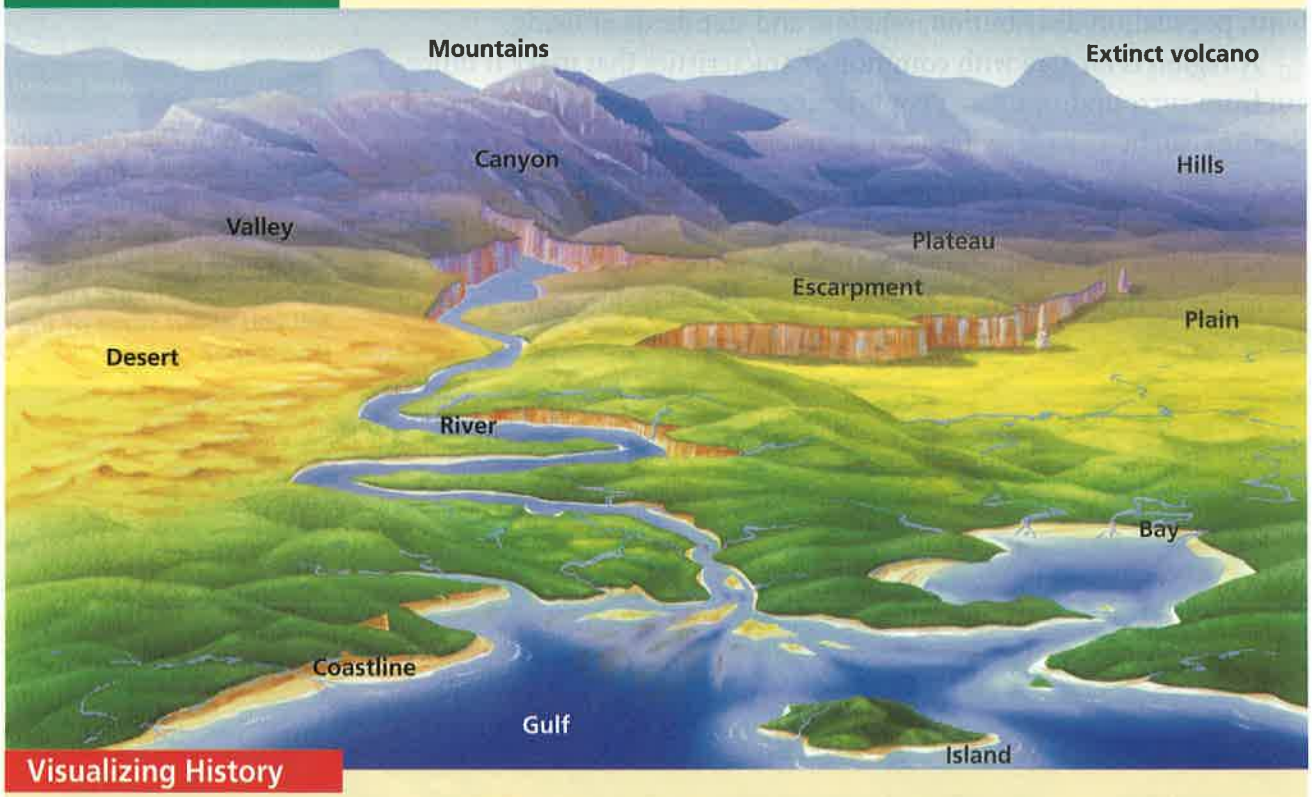
✔**Reading Check Categorizing** Choose a place or region and list three of its physical features and three of its human features.

## Physical Systems and Human Systems

Geographers study the physical processes and interactions among four physical systems—Earth's atmosphere, land, water, and life. Physical processes shape and change Earth's physical features and environments. For example, Padre Island's coastline changes as tides from the Gulf of Mexico move beach sand. Climate and weather affect humans. For example, people might choose to live in an area that has a mild climate. In some

### Texas Landforms

**The Texas landscape is diverse. Traveling across the state, you could find plains, rivers, hills, deserts, and even mountains. Each of the landforms and waterways in this diagram can be found in Texas.**




**Visualizing History**

1. **Geography** What can be learned about Texas geography from this diagram? TEKS

2. **Connecting to Today** What geographic features can you find near your school?

Central and North Texas areas the clay soil shrinks or swells depending on the weather. This knowledge affects building construction.

An **ecosystem** is all of an area's plants and animals together with the nonliving parts of their environment. A beach, an island, and a pond are ecosystems. Earth is the largest ecosystem. Natural events and human activity can change ecosystems. For example, in the 1930s drought and overgrazing led to the loss of topsoil and plant life in parts of North and West Texas. This hurt farming and ranching in the area. Studying physical processes and ecosystems is important because the environment is the setting for all life on Earth.

Studying human systems such as population distribution, growth, and movement helps in understanding human events and geography. Population growth is affected by a population's age, birthrate, death rate, and life expectancy. Changes in human activity such as advances in medical care and food production have led to population growth. Geographers also look at where people live and how crowded a region or place is when they study population density. They also study **migration**, or the movement of people. One specific type of migration is known as **urbanization**, which is an increase in people living or working in cities. Texas, like many places, is part of this trend.

Many geographers study the features of cultural groups. People often create groups that separate, organize, or unify areas. Geographers also consider human systems of communication, trade, and transportation in the global economy. Such human activities help explain how humans interact with one another and with the environment.

TEKS **Reading Check** **Identifying Cause and Effect** How did the weather change in the 1930s? How did this change affect the Texas economy?

## Environment and Society

One of the most important topics in geography is how people interact with the environment. Human activities can have positive effects on the environment. For example, people help restore the environment by planting trees in areas that have been deforested. However, human activities can also affect the environment negatively. As Houston's industry and population have grown, air pollution there has greatly increased. Some Texans have tried to limit the harm humans do to the environment. Texas naturalist **Roy Bedichek** warned of the dangers of pollution some 50 years ago.

**Texas Voices**

**"The gentle gardener poisons his soil to kill pillbugs and in so doing annihilates [wipes out] great numbers of beneficial creatures, including the lowly and lovely earthworm."**

—Roy Bedichek, quoted in *Three Men in Texas,* by Ronnie Dugger.

**Biography**

### Roy Bedichek

**(1878–1959)**

Roy Bedichek was an educator, folklorist, and journalist who moved to Texas from Illinois when he was about six years old. He attended the University of Texas, earning a bachelor of science and a master's degree. After college he taught high school. Bedichek was a strong promoter of higher education. For many years he served as director of the University Interscholastic League (UIL). Bedichek was a gifted storyteller and wrote several books, including *Adventures with a Texas Naturalist, Karánkaway Country,* and a history of the UIL. **In what ways was Bedichek a leader in natural sciences and education?** TEKS

**Analyzing Primary Sources** TEKS

**Identifying Cause and Effect** According to Bedichek, why do some gardeners change the environment, and to what effect?

## That's Interesting!

### Miles and Miles of Texas

Getting around Texas can take a while. Distances within the state are huge. Texas spans more than 800 miles from its northwest corner to its southern tip. El Paso, in far West Texas, is closer to Los Angeles, California, than to Orange in East Texas.

The environment affects humans as well. Physical features such as landforms and rivers can influence where people live, and people depend on the environment for survival. Human life requires three basic resources—air, water, and land. Other natural materials, such as wood and coal, are also important resources. As the world population grows, demands on resources increase. Geographers study the location, quality, and quantity of Earth's resources and the effect of human activity on these resources. Historians use geography to understand history. They not only look at when things happened but where and why they happened. For example, suppose you need to know when, where, and why the first settlement in San Antonio was built. You would need to know that water sources such as the San Antonio River influenced the settlement's location.

Geography helps people understand the present as well as the past. For example, the growing population of Texas has placed greater demands on the environment. In response, many communities in Texas have created water-conservation programs to help preserve this important natural resource. These programs are one way that Texans are using their knowledge of geography to plan for the future. Many geographers use the six essential elements to organize their studies and to help them understand the geography of Texas.

1. The World in Spatial Terms
2. Places and Regions
3. Physical Systems
4. Human Systems
5. Environment and Society
6. The Uses of Geography

TEKS **Reading Check Analyzing Information** How might human actions cause water pollution?

## Section 1 Review

TEKS Questions 2, 4b

go.hrw.com Homework Practice Online keyword: ST3 HP1

**1 Define and explain:**

- geography
- environment
- culture
- geographic information systems
- ecosystem
- migration
- urbanization

**2 Identify and explain:**

Roy Bedichek

**3 Categorizing**

Copy the table below. List the six essential elements of geography. Then describe each element.

| Essential Element | Purpose |
|---|---|
| | |
| | |
| | |
| | |
| | |
| | |

**4 Finding the Main Idea**

**a.** Describe the types of information geographers study.

**b.** How do humans adapt to and modify the physical environment?

**5 Writing and Critical Thinking** TAKS

**Analyzing Information** Imagine that you are a geographer scheduled to speak to a classroom. Write a speech describing geography and what you do. Consider the following:

- the definition of geography
- the importance of geography

Section 2

# Using Maps

## Read to Discover

1. Why are maps useful?
2. What are the main parts of a map, and what information does each part provide?
3. How does a geographer decide what type of map to create?

## Define

- relative location
- absolute location
- latitude
- longitude
- equator
- prime meridian
- compass rose
- scale
- legend
- reference maps
- thematic maps
- map projections

### Why It Matters Today

Maps are essential tools for geographers and many other professionals. Use CNNfyi.com and other **current events** sources to find a news article that uses a map to explain a subject. Record your findings in your journal.

## *The Geographer's World*

Harm de Blij, a world-famous geographer, was born in the Netherlands shortly before World War II. During the war, de Blij and his family had to stay inside much of the time for safety. He spent countless hours reading geography books that told of interesting, faraway lands. He later made geography his career. The work, he says, has brought him "a lifetime of discovery and fascination."

*Harm de Blij is now a professor of geography and has written numerous geography books.*

## Map Grids

Maps are important tools for geographers and historians. A map is a graphic representation of a place or an area that illustrates the land, the seas, and even space. Maps may also show information about the physical and human features of a place. With maps, many types of information can be organized visually.

Most people use maps to locate places. Geographers describe location in two ways. **Relative location** is where a place is in relation to other places. The relative location of a place is described by its distance and direction from another place. For example, Dallas is 225 miles northwest of Houston. Dallas could also be described as being 33 miles east of Fort Worth. **Absolute location** is the exact position of a place on Earth. The absolute location of the Texas Governor's Mansion is the corner of Eleventh and Colorado Streets in Austin.

How do you find a place on a map? One common method is the grid system. If you look at a road map you might notice a grid made of lines that typically run east-west and north-south. Mapmakers—or cartographers—may place letters of the alphabet across the top or bottom of this grid. Numbers may run along one or both sides. These letters and numbers make it easier to find a specific place on a map.

✔**Reading Check** **Finding the Main Idea** Why do people use maps?

## Latitude and Longitude

To locate an exact spot on Earth, people use a more complex grid system. This system uses **latitude** and **longitude**, which are imaginary lines circling the globe. While latitude lines run east-west, longitude lines run north-south. Lines of latitude and longitude measure distance in degrees—360 of which circle Earth. Each degree is divided into 60 minutes, and each minute is divided into 60 seconds. The symbol for degree is °. Minute is ′ and second is ″. Latitude lines measure distance north and south of the **equator**. The equator is an imaginary line circling the globe exactly halfway between the North and South Poles. Latitudes north of the equator are labeled *N* on maps. Those south of the equator are labeled *S*. Lines of latitude range from 0° at the equator to 90°N at the North Pole and 90°S at the South Pole.

Longitude lines measure distance east and west of the **prime meridian**. The prime meridian is an imaginary line that runs around the globe from the North Pole, through Greenwich, England, to the South Pole. Longitude lines range from 0° at the prime meridian to 180° at a line exactly halfway around the globe from the prime meridian. On maps, lines of longitude west of the prime meridian to 180° are labeled *W*. Those east of the prime meridian to 180° are labeled *E*.

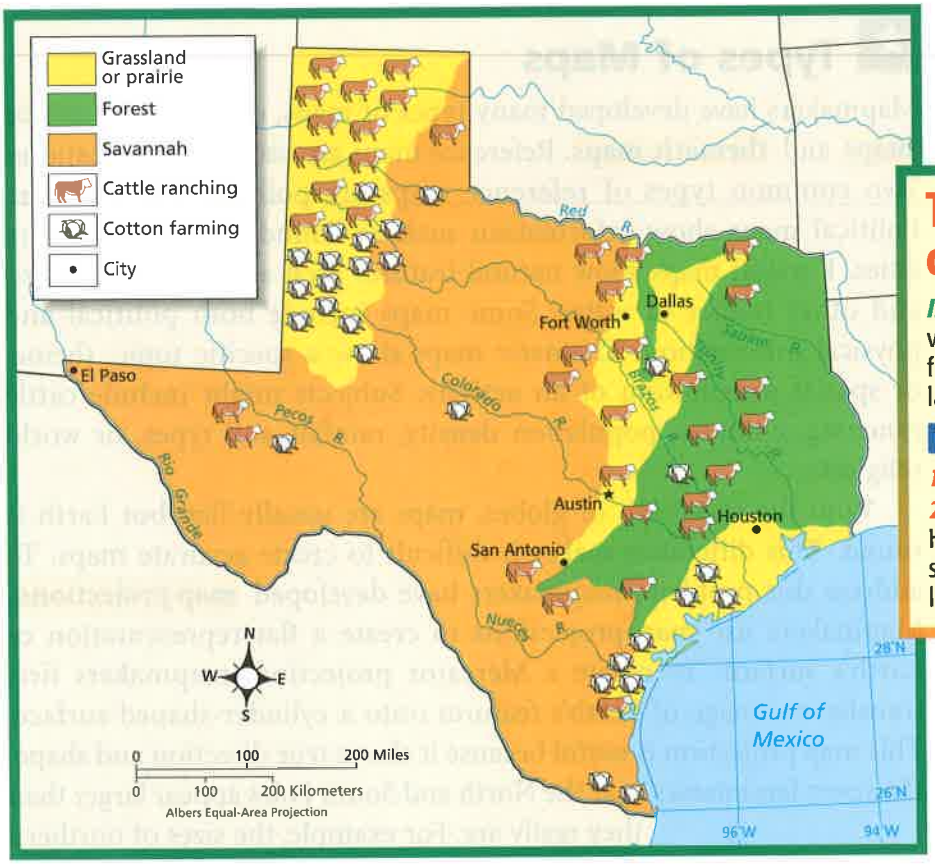
The exact location of any place on Earth can be given as a combination of latitude and longitude. For example, the latitude of San Antonio, Texas, is 29°25′N. The city's longitude is 98°30′W. Because Texas is such a large state, it covers several degrees of latitude and longitude. From north to south, Texas stretches from latitude 36°30′N to 25°50′N. From east to west, the state extends from longitude 93°31′W to 106°36′W.

✔**Reading Check** **Contrasting** How do longitude and latitude differ?


**Latitude and Longitude**

***Interpreting Maps*** Lines of latitude run east and west, while lines of longitude run north and south.

**TAKS Skills** ***Locate*** What major line of latitude runs through Texas?




## The Environment of Texas, 2000

***Interpreting Maps*** Texas has a variety of vegetation, and Texas farmers have been able to use the land in many different ways.

**TAKS *Skills***

1. ***Locate*** Where is cotton grown?
2. ***Comparing and Contrasting*** How is plant life in East Texas similar to and different from plant life in West Texas? TEKS

## The Parts of a Map

In some ways, maps are like coded messages. To decode them, mapmakers provide elements that make maps easier to read, such as a map's title. The title for the map above tells you that the map shows the state's environmental regions. A map's directional indicator shows which directions are north, south, east, and west. North is usually at the top of a map. To show direction, some maps have a **compass rose** that points to all four cardinal points—north, south, east, and west.

A map's **scale** is the relationship between a measurement on the map and the actual distance on Earth's surface. Perhaps the most useful part of a map is the **legend**, or key. The legend explains the meaning of all the symbols on a map. This information typically appears in a box near the edge of the map. Map symbols may include colors, numbers, patterns, or small drawings.

Some maps include additional inset maps or locator maps, which are smaller maps set inside or next to the main map. Inset maps show more detail than the main map. For example, a map of Houston might have an inset map showing downtown Houston. Locator maps place the area in a map in its larger geographic surroundings.

✔**Reading Check** **Summarizing** List the parts of a map and what they do.

*Texas students use maps to find locations and to learn about the characteristics of places and regions.*

## Types of Maps

Mapmakers have developed many types of maps, including **reference maps** and **thematic maps**. Reference maps are used to find locations. Two common types of reference maps are political and physical. Political maps show information such as boundaries, capitals, and cities. Physical maps show natural features such as landforms, rivers, and other bodies of water. Some maps include both political and physical information. Thematic maps show a specific topic, theme, or spatial distribution of an activity. Subjects might include cattle ranching, climates, population density, rainfall, soil types, or world religions.

With the exception of globes, maps are usually flat, but Earth is round. This difference makes it difficult to create accurate maps. To address this problem, mapmakers have developed **map projections**. Mapmakers use map projections to create a flat representation of Earth's surface. To create a Mercator projection, mapmakers first transfer an image of Earth's features onto a cylinder-shaped surface. This map projection is useful because it shows true direction and shape. However, landmasses near the North and South Poles appear larger than they really are. For example, the sizes of northern areas like Greenland, Canada, and Europe are enlarged while the sizes of tropical areas are diminished. Other types of projections show the sizes of landmasses more accurately but distort their shapes. The many types of map projections each have specific advantages and disadvantages.

**Interpreting the Visual Record**

***Cartography.*** *Imagine you were peeling Earth like an orange. If you were to flatten Earth on a table, it would split and create gaps.* ***How does the shape of Earth affect mapmaking?***

✔ **Reading Check** **Contrasting** How do reference maps and thematic maps differ?

## Section 2 Review

go.hrw.com Homework Practice Online keyword: ST3 HP1

**1 Define and explain:**

- relative location
- absolute location
- latitude
- longitude
- equator
- prime meridian
- compass rose
- scale
- legend
- reference maps
- thematic maps
- map projections

**2 Summarizing**

Copy the graphic organizer below. Use it to describe how different map parts help decode a map.

Latitude and Longitude lines | Compass rose

Scale | Legend

**3 Finding the Main Idea**

**a.** Why do people make maps?

**b.** How do map grids differ from latitude and longitude, and when might a mapmaker use each?

**4 Writing and Critical Thinking** TAKS

**Evaluating** Imagine that you are preparing a report on farming in Texas. Describe some maps you might use. Consider the following:

- physical, political, and thematic maps
- titles and dates of possible maps
- the information you want to show

Section 3

# Using Graphs, Charts, and Tables

## Read to Discover

1. What types of information do bar graphs, line graphs, pie charts, and tables show, and why are they useful?
2. What are three types of charts, and when might you use each type?

## Define

- statistics
- bar graph
- horizontal axis
- vertical axis
- line graph
- pie chart
- time line
- flowchart
- causation chart

## Why It Matters Today

Lists of names, facts, and statistics are often clearest when presented visually. Use CNNfyi.com and other **current events** sources to find a news article that includes a chart or graph. What is the visual's purpose? Record your findings in your journal.

## *The Geographer's World*

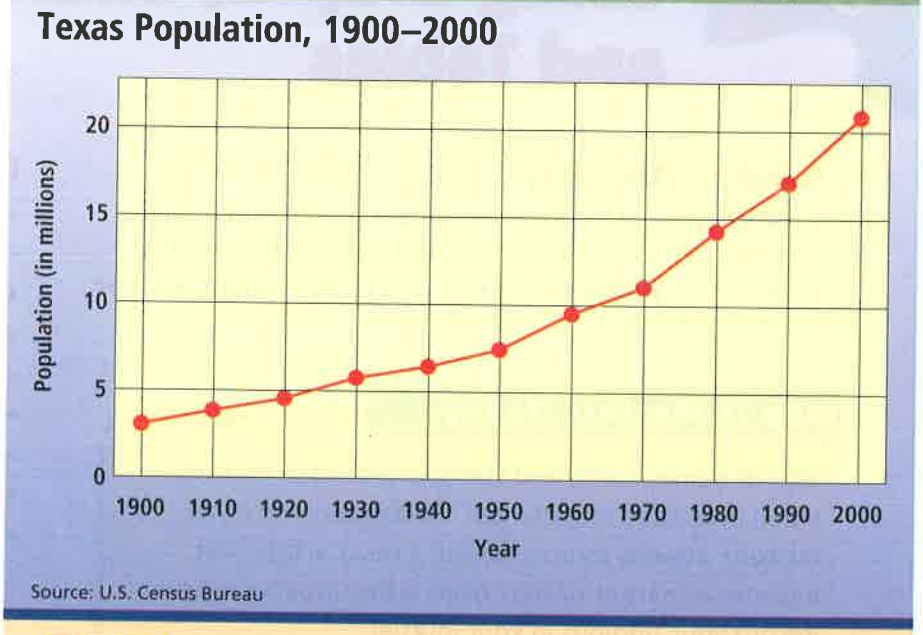
In the spring of 2000, the U.S. government began taking a census—a count of each person in a specific area. To ensure that everyone was counted, the government hired census takers. Josephine Jones of Dallas was one Texan who eagerly signed up. Jones and the other census takers collected a huge amount of data. The government then organized all this information for research and public use.


*The census measures the growth of the Texas population.*

## Using Graphs

Sometimes the best way to convey an idea or information is graphically, or with pictures. Geographers and historians have many tools for presenting information visually. For example, graphs make it easier to compare facts and see the relationships between them. They are also useful for showing **statistics**—information in the form of numbers.

A **bar graph**, or bar chart, is useful in comparing information about different places or different time periods. Bar graphs use bars of different lengths to represent numbers and percentages. The bars may extend sideways or stand on end. Most bar graphs have a **horizontal axis** and a **vertical axis**. The horizontal axis is the line across the bottom of the




**TAKS Skills** ***Interpreting Graphs*** The population of Texas has grown every 10 years since 1900. How have Texas population patterns changed since 1960? TEKS

## Texas Population Growth, 1990–2000

| Texas Counties | Population Growth |
|---|---|
| Harris | 20.7% |
| Dallas | 19.8% |
| Bexar | 17.5% |
| Tarrant | 23.6% |
| Travis | 40.9% |
| Collin | 86.2% |

**TAKS Skills** ***Interpreting Tables*** During the 1990s many Texas counties experienced large population growth. What was the difference in population growth between Collin and Dallas Counties? TEKS

graph. The vertical axis is the line along the side. One axis usually has a number scale giving the measure or value shown by the bars. The other axis may represent another variable, such as a time period. Colors sometimes define the bars instead of labels. A legend then explains what each color means. The bar graph in the chapter review makes it easy to see which Texas city has the largest population.

A **line graph** indicates a trend, or pattern. It may show if something is increasing, decreasing, or staying about the same over time. Like bar graphs, line graphs have a horizontal and a vertical axis. The line graph above provides a simple visual record of population changes in Texas.

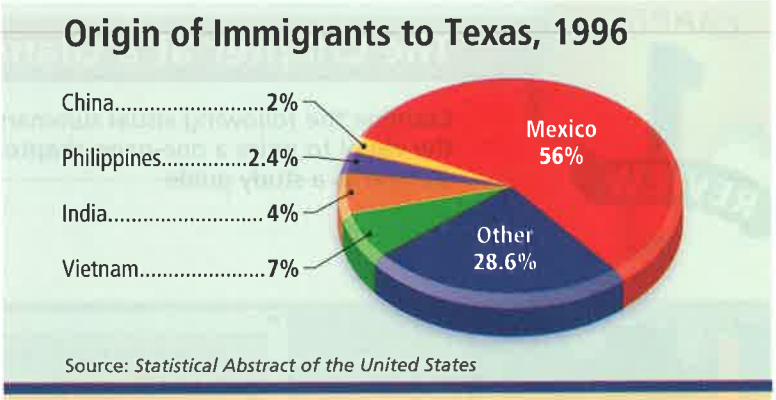
✔ **Reading Check Finding the Main Idea** How are graphs useful to geographers and historians?

## Using Charts and Tables

A **pie chart**—or circle graph—shows how the parts of a whole are divided. The pie—or circle—represents the whole item or total amount. The pie pieces—or segments of the pie—represent a percentage of the whole. To make pie charts easier to read, segments are often colored. A legend may be used to define each color. The pie chart on the next page shows the origins of immigrants to Texas in 1996. The circle represents the total number of immigrants. Each segment represents the percentage

of immigrants from one part of the world. A pie chart clearly summarizes a large amount of information.

Tables help organize and categorize information. Tables are particularly useful when information is both descriptive and statistical. The table on the previous page lists names and statistical information. Tables use grids with columns and rows of boxes. Each box is called a cell. Labels often appear at the top of each column and at the left of each row.




**TAKS Skills** ***Interpreting Charts*** New immigrants from Asian and Latin American countries have added to the diversity of Texas. What percentage of immigrants to Texas came from Asian countries? TEKS

Charts show the relationship between different subjects. A **time line** shows the sequence of events. Time lines are useful for studying how one event may have led to or caused later events. A **flowchart** uses boxes, arrows, and sometimes images to show a series of activities or steps. For example, a flowchart could describe the steps it takes to turn trees into paper. Although it is similar to a flowchart, a **causation chart** focuses on cause and effect. These charts can take several forms. They may use pictures or diagrams to show the causes and effects of events. Some causation charts have boxes and arrows pointing out the effects of an event or idea. Others show events as steps or as a ladder. When an event has many causes or effects, a web diagram is useful. In a web, an event appears in the center. Its causes or effects surround it. In general, most charts contain information that is difficult to show in graphs or tables or to describe in text.

✔ **Reading Check** **Analyzing Information** When might a geographer or historian choose to use a pie chart or a table instead of a line or bar graph?

## Section 3 Review

TEKS Question 4

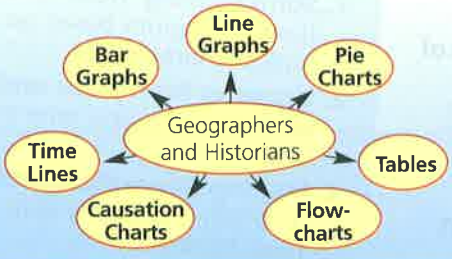
go.hrw.com Homework Practice Online keyword: ST3 HP1

**1 Define and explain:**

- statistics
- bar graph
- horizontal axis
- vertical axis
- line graph
- pie chart
- time line
- flowchart
- causation chart

**2 Categorizing**

Copy the web diagram below. Use it to explain how different charts, graphs, and tables help geographers and historians.




**3 Finding the Main Idea**

**a.** Why do people use graphs?

**b.** Describe three types of charts and explain their primary uses.

**4 Writing and Critical Thinking** TAKS

**Drawing Inferences and Conclusions**

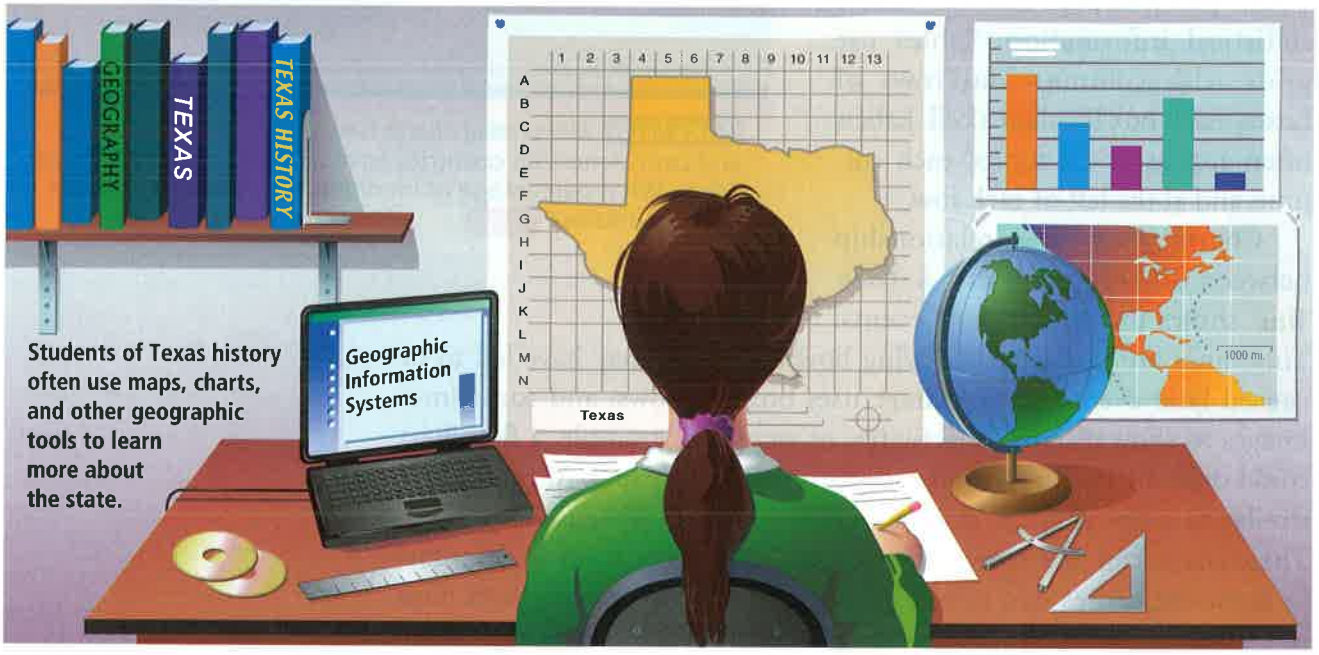
Imagine that you are writing a newspaper article about a drought. Create a thematic chart or table for your article. Consider the following:

- the causes, events, and results
- the farmers, crops, and geography

CHAPTER 1 REVIEW

# The Chapter at a Glance

Examine the following visual summary of the chapter. Then use the visual to write a one-page chapter summary that a classmate can use as a study guide.




## Identifying People and Ideas

TEKS

Use the following terms or people in sentences.

1. geography
2. Roy Bedichek
3. longitude
4. equator
5. compass rose
6. legend
7. thematic maps
8. vertical axis
9. pie chart
10. causation chart

## Understanding Main Ideas

TEKS

**Section 1** (pages 4–8)

1. What are the six essential elements of geography?
2. In what ways do humans modify the environment, and what are some results of those modifications?

**Section 2** (pages 9–12)

3. Why do geographers find map grids and lines of longitude and latitude useful?
4. What are the parts of a map?

**Section 3** (pages 13–15)

5. Why are graphs useful?
6. Why might a geographer choose to use a chart rather than a graph?

## You Be the Geographer

TEKS

### Reviewing Themes

1. **Geography** How is the size of Texas related to its geographic diversity?
2. **Culture** How do geographers learn about human activities and cultures?
3. **Economics** How might geography affect the type of businesses and industries that develop in an area?

## TAKS Practice: Thinking Critically

TEKS

1. **Summarizing** Describe an idea for a Texas map showing regions based on one physical and one human characteristic.
2. **Drawing Inferences and Conclusions** Why are flowcharts and time lines often used by historians?
3. **Making Generalizations and Predictions** How will geography help in understanding Texas history?

## Social Studies Skills Workshop

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### Interpreting Graphs TEKS

Study the graph below. Then use the information in the graph to help you answer the questions that follow.


1. Approximately how much larger is Houston's population than that of the next largest city?
   - **a.** 750,000 people
   - **b.** .75 people
   - **c.** 1,500,000 people
   - **d.** 1.5 people

2. What advantages does a bar graph have in presenting the information on population distribution?

### Analyzing Primary Sources TEKS

Read the following quote from early Texas settler Noah Smithwick. Then answer the questions.

**"[Growing corn] was no very difficult matter near the coast, where there were vast canebrakes all along the rivers. The soil was rich and loose from the . . . crops of [wild] cane that had decayed on it. In the fall, when the cane died down, it was burned off clean. The ground was then ready for planting, which was done in a very primitive manner, a sharpened stick being all the implement [tool] necessary. With this they made holes in the moist loam [soil] and dropped in grains of corn. . . . The only water obtainable was that of the sluggish river, which crept along between low banks thickly set with tall trees, from branches of which . . . [hung] long streamers of Spanish moss swarming with mosquitoes and malaria."**

3. Which of the following statements would be least important to a geographer?
   - **a.** The quote describes the arrangement of things in the landscape of an area.
   - **b.** The quote describes a relationship between environment and society.
   - **c.** The quote offers clues to the physical and human systems operating in Texas.
   - **d.** The quote is of historical value.

4. Based on this quote, what conclusions could be drawn about where pioneers settled and why?

## Alternative Assessment


### Linking to Community TEKS

Think about some of the physical and human characteristics that help define an area in your community. Physical characteristics might include the plant life, landforms, or climate of your community. The human characteristics might include the types of industry, location of roads, or where people live. Create a map of the area and label some of the characteristics you have included.

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Access the Internet through the HRW Go site to research how maps are made, what maps can illustrate, and how maps are formatted. Then apply what you have learned by creating a map that illustrates the relative and absolute location of your school. Make sure your map has a directional indicator, a legend, and a scale.