



# Texas in the Twenty-First Century

## 2000–2020

**SECTION 1** Population Growth and Natural Resources

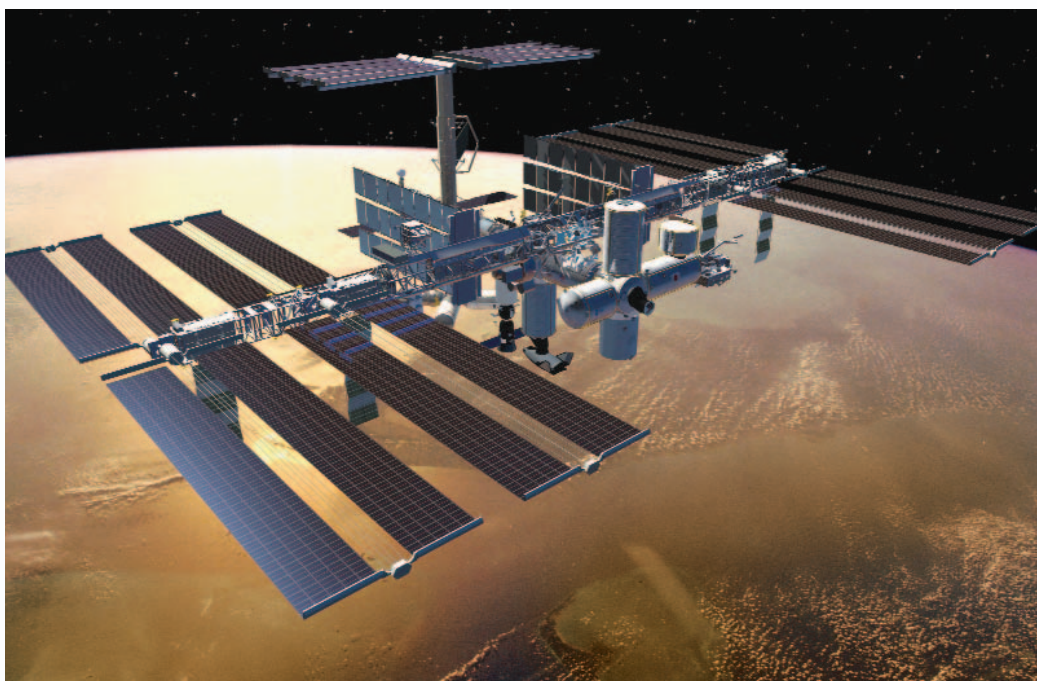
**SECTION 2** Texans' Quality of Life

**SECTION 3** Texans Meet the Future

 VIEW THE **Texas on Tape** CHAPTER 31 VIDEO LESSON.

*What Texans can dream, Texans can do.*

**George W. Bush**



*International Space Station*

2000



*Urban mass transit train*



*High-tech worker in "clean" room*



*Car powered by combined battery and gasoline energy*



*Windmills generating electricity*

2020



# SKILL BUILDER

# Reading Social Studies



*Dallas skyline*

## Before You Read

Have you ever thought about what life in Texas will be like in the future? Do you think Texans will continue to face such challenges as crowded roads, high student dropout rates, and unemployment? Perhaps the state's citizens and leaders will work together to meet these challenges. What changes would you like to see take place in Texas over the next 10 to 20 years? Future leaders of the state will need to consider these issues.

### Think about

- new forms of transportation that you would like to use in the future
- changes to schools that you would like to see in the future
- new laws that you would like to be passed in the future

## As You Read



The population of the state of Texas grew by about 4 million people during the last ten years of the twentieth century. In the future, as the state continues to grow, citizens will be faced with many challenges. Controlling traffic, improving schools, and funding economic development programs are just a few of the issues facing Texas residents. Completing this graphic organizer for Chapter 31 will help you to understand some of the facts and opinions surrounding these issues.

- Copy the chart in your Texas Notebook.
- As you read, list the issues that Texans face in the first column.
- Then list the effects those issues have on Texas in the second column.

## Organizing Information

ISSUES	EFFECTS



# Population Growth and Natural Resources

## Why It Matters Now

Texans will have to alter their lifestyles during the twenty-first century to conserve our limited resources.

### TERMS & NAMES

suburb, light-rail system, **nonrenewable resource**, **renewable resource**, **regulate**, **deregulate**, global warming

### OBJECTIVES

1. Analyze the effects of human factors, such as irrigation and transportation, on conditions in Texas.
2. Identify ways Texans have altered the environment.
3. Analyze the effects of Texans' actions on the environment.

### MAIN IDEA

Texas's growing population has had a major effect on natural resources. Continued population growth and future climate changes may seriously affect the environment.

### WHAT Would You Do?

Write your response to *Interact with History* in your *Texas Notebook*.



## INTERACT WITH HISTORY

Imagine that you have been asked to serve on a state panel to predict what will happen to Texas's natural resources by the time you are 20 years old. What issues will the panel need to think about? What do you think will be the most important change in Texas's natural resources by 2010? by 2020?

## Rapid Population Growth

Between 1990 and 2000 the population of Texas grew by almost 20 percent. In just ten years, the number of Texans increased by more than 3 million, bringing it to more than 20 million people. This is the largest population increase for any decade in Texas history.

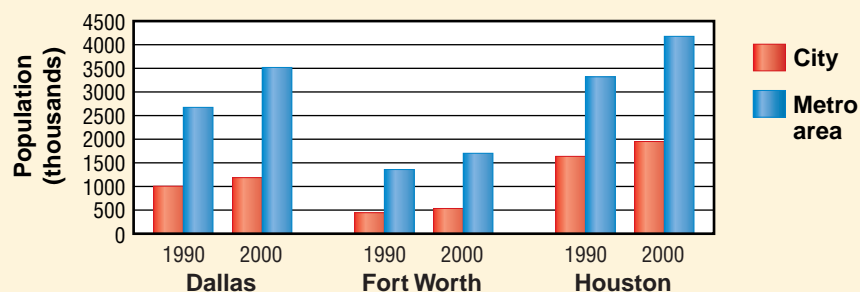
Interestingly, almost all of this growth occurred in Texas cities and suburbs. The state's metropolitan areas added more than 3.5 million people between 1990 and 2000. This growth had a large impact on communities in these areas. They have had to change their earlier estimates of future demands on city services. Sewers, roads, schools, and other services have had to be expanded to meet the needs of citizens.

- As the population of Texas grows, so does the number of cultures represented in every metropolitan area. ● **How do you think the growing population has affected Texans' knowledge of other cultures? Explain.**





### GROWTH OF METROPOLITAN AREAS AND CITIES, 1990 & 2000



▲ Over the last decade of the twentieth century, the metropolitan areas around Texas's two largest cities grew at a faster rate than the cities themselves. ● How do you think this growth will affect cities?

## Changes in Metropolitan Areas

In recent years, metropolitan areas in Texas have grown a great deal. More and more Texans have moved from major cities to homes in the suburbs and surrounding communities. As a result, the largest cities in Texas have grown more slowly than the areas surrounding them. The graph on this page compares the rates of population growth for the cities of Dallas, Fort Worth, and Houston with the rates for their surrounding areas. It is easy to see that the suburbs grew more quickly than the central cities.

When many people move to suburbs, cities are affected. The suburban areas often attract people with higher incomes who can afford to build new homes. Some homes and apartments in the central city aren't worth as much, so the city collects less in property taxes. The city therefore has less money to spend on improvements and important city services. Today's city managers work hard to attract people and businesses to their cities so that the cities continue to thrive.

## Transporting Texans

Texas's population growth affects transportation as well. Today many Texas highways are overcrowded. However, building new highways is only one solution. Highways are costly and leave many traffic problems unsolved. Also, they allow more cars on the road, increasing air pollution. Vehicles that use other sources of power, such as electric cars, are being developed.

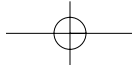
Another possible solution is shared transportation. Mass transit is a term for forms of transportation that move large numbers of people. Buses, trains, and subways are all types of mass transit. Dallas has a mass transit bus and light-rail system called the Dallas Area Rapid Transit System, or DART. Houston is planning a similar light-rail system and is also looking for other mass-transit solutions.



▲ Elzie Delano Odom began serving in 1998 as mayor of Arlington, a city in the Dallas metropolitan area that had more than 300,000 residents in 2001. ● Why do you think metropolitan areas have grown so much?

▼ In the center of the urban community of Las Colinas outside Dallas is a plaza the size of two football fields paved in pink granite. Sculptor Robert Glen created a striking statue of wild mustangs galloping across a series of pools. ● Why do you think Glen chose mustangs as the subject of a major Texas sculpture?





▲ New forms of transportation will be needed that use less energy or new fuels. This experimental car is covered with solar panels that collect energy. ● **What kinds of problems are caused when Texans mainly use individual cars fueled by gasoline?**

### TEXAS VOICES

We really can't improve our congestion the way we used to. We've got to find more creative, smarter ways to manage transportation. Rail is a small part of the overall mobility issue, but it's a critical part.

Richard Everett, Houston civic leader

In the future, some Texas cities may choose to build more rail systems. Houston and Dallas probably will need to expand their light-rail lines to reduce traffic on their crowded freeways. Austin, San Antonio, and other rapidly growing Texas cities also may consider rail systems, new types of buses, or other mass-transit solutions to reduce traffic.

## Conserving Water in Texas


Water is our most important natural resource. Without water, there could be no farms or cities—or life on earth! People often take water for granted, but water has played an important role in the history of our state. Most settlements, towns, and cities were located near rivers or other sources of water.

As the state's population increases, demands on our water supplies also will increase. The graphs on this page show how water was used in Texas in 2000 and how it will probably be used in 2020.

Irrigation is the only type of water use that is predicted to decrease in the future. There are three reasons this decrease is expected to occur. First, growth of suburban areas will turn farmland into residential areas. Second, growing cities and towns will buy up rights to water that farmers now use to water their crops. Finally, farmers are likely to find more efficient ways to grow and water their crops.

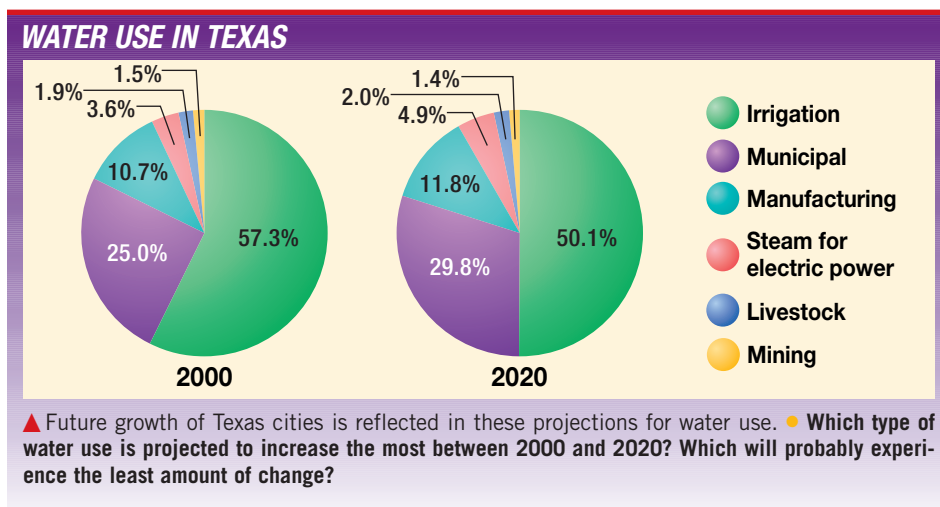
Municipal water is used for many different purposes. However, most of this water goes into people's homes for drinking, cooking, showering, watering lawns, and other uses.

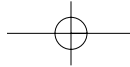
Because water is used by everyone, some Texas cities are already experiencing water shortages. Laredo, Brownsville, Edinburg, and other



TEXAS WATER DEVELOPMENT BOARD

In 1957 an amendment to the Texas Constitution created the Texas Water Development Board. The board's six members are appointed by the governor to represent different parts of the state. The board's main goal is to provide loans to local governments for flood- and pollution-control projects. The board also gives loans to people in low-income areas so they can make plumbing improvements to their homes. In addition, board members study ways to conserve water in Texas, and they keep a database of the state's water resources.





fast-growing cities in the Rio Grande Valley need to find new water sources to meet growing demands.

In 1997 the Texas legislature passed a bill to create a state water plan. Through this plan, the state will set rules for water use. Local governments will receive state help in conserving existing water resources and in developing new water resources.

## Using Energy Resources Wisely

Fifty years ago, it would have been hard to imagine Texans facing an energy shortage. But today, many people are concerned about the state's **nonrenewable resources**. Once fossil fuels such as oil, natural gas, and coal are used up, they cannot be replaced. It takes the earth many thousands of years to create these resources from the fossils of plants and animals.

Texas oil production peaked in 1972 and has been falling ever since. Texas oil supplies are decreasing, and what is left is deep in the earth and expensive to locate and pump to the surface. New technologies are being developed to make this easier. Some scientists are researching alternate forms of energy and ways to preserve our fossil fuels. Some forms of energy, such as electricity generated from the sun or the wind, are **renewable resources**. In Texas, where there is plenty of sunlight, solar energy is a possibility. But new equipment is needed to use new types of energy.

From 1995 to 2000, 27 new plants were built in the state to generate electric power. In 2001, another 27 plants were under construction, with 31 more in the planning stages. It is unknown how long these, along with the many existing plants in the state, will meet electricity needs in Texas in the future.

Until 1998 the state government **regulated** electric companies to make sure customers were charged reasonable rates. In 1998 the state legislature passed a bill that **deregulated** electric service. The legislature hoped that deregulation would increase competition, reduce the cost of electricity to consumers, and make the system more efficient. It is still too early to predict whether this plan will be successful.



### Carol Eggert Dinkins

Houston lawyer Carol Eggert Dinkins has spent much of her career focusing on the environment and natural resources. In 1981 President Ronald Reagan appointed Dinkins as assistant attorney general of the Environment and Natural Resources Division of the U.S. Justice Department. Later, Dinkins was the first woman to be named deputy attorney general of that division. In 1997 Governor Bush appointed

Dinkins to the Conservation Committee of the Texas Parks and Wildlife Commission.

● **Why is it important to have someone with experience in national conservation issues serve on a Texas commission?**

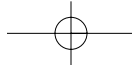
**nonrenewable resource** *a natural resource that cannot be replaced once it is used*

**renewable resource** *a natural resource that can easily be replaced after it is used*

**regulate** *to place government controls on a utility or other industry*

**deregulate** *to remove government controls on a utility or other industry*

◀ New plants that generate electric power using solar and wind energy are being built to handle the state's growing energy needs. Austin incorporated solar panels when it built a new airport in 1999. ● **What is another way that Texans can avoid an energy crisis?**



### To Science

Satellite information shows that from 1970 to 1997, less and less heat was able to escape the earth's atmosphere. This is evidence of a condition known as the greenhouse effect. The greenhouse effect occurs when gases from cars, factories, and other sources build up in the earth's atmosphere and trap heat close to the ground. • **Why do scientists call this condition the greenhouse effect? Be specific.**

## Texas's Changing Climate

Texas weather changes all the time. The summer of 2000 set records for heat and dryness, while the winter was one of the coldest ever. This cold winter followed some of the warmest winters Texas has seen. The summer of 2001 was even hotter than the year before. Some wonder whether Texas is experiencing a change in climate.

Many scientists believe that pollution is causing global warming. That is, they believe the earth's overall climate is getting warmer. If this is true, what does it mean for Texas? A warmer climate will place greater demands on resources. If summers are hotter, farmers will have to water their crops more. More irrigation means that farmers will run their water pumps longer. As a result, they will use more water and more energy.

A warmer climate means people will use their air conditioners more. More water will be needed to water lawns. Of course, if winters are milder, the demand for home heating will decrease. This would balance higher energy demands in summer to some degree, but not entirely.

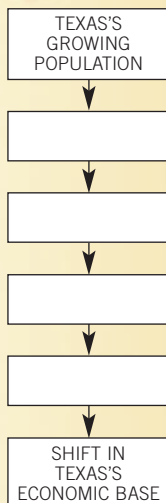
Overall, a warmer and drier climate will place even more pressure on Texas's limited water and energy resources. Some farming areas may be abandoned if there is not enough water for irrigation. As a result, agricultural production may decrease. The growth of urban areas also places extra demands on Texas's water and energy resources. Because of the increase in paved surfaces, urban areas also tend to be hotter than green spaces, which in turn increases the use of resources. Overcoming these challenges will require the creative energy of all Texans.

## SECTION 1 ASSESSMENT

### Terms & Names

#### Identify:

- suburb
- light-rail system
- nonrenewable resource
- renewable resource
- regulate
- deregulate
- global warming



### Organizing Information

Use a flowchart like the one shown to explain how Texas's growing population and the economy are related. What part(s) of this flowchart would be most affected by the invention of cleaner, more widely used forms of mass transit?

### Critical Thinking

1. What actions can ordinary citizens take to respond to issues our state faces, such as conserving resources, solving traffic problems, and protecting the environment?
2. How have Texans altered their environment to meet the needs of the growing population?
3. How do you think an increasing population and decreasing natural

resources will affect Texans' lives in the future?

### Interact with History

Review your answer to *Interact with History* in your Texas Notebook. If you could pass one new conservation law that all Texans would have to follow, what would it be? Explain your reasoning.

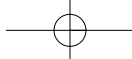
## ACTIVITY

### Science, Technology & Society

Research ways of generating electricity that do not use fossil fuels. Which seem most realistic? How do you think these new forms of technology might affect the economy, society, and environment of Texas?



Go to [www.celebratingtexas.com](http://www.celebratingtexas.com) to research the Activity topic.



# CHAPTER 31 ASSESSMENT



## VISUAL Summary

### TEXAS IN THE 21ST CENTURY

Warmer Climate  
 Population  
 % Older Texans  
 % Poor Texans  
 % Wealthy Texans  
 Cities & Suburbs  
 Education Standards

Texas will face many challenges in the decades to come. As the population continues to grow, all Texans will have to find new ways to conserve our natural resources and use our human resources to the fullest.

Water Supply  
 % Middle-Class Texans  
 Rural Areas  
 Nonrenewable Resources

### TERMS & NAMES

Explain the significance of each of the following:

1. light-rail system
2. global warming
3. per capita income
4. TAKS test
5. globalization

### REVIEW QUESTIONS

#### *Population Growth and Natural Resources* (pages 640–644)

1. During what time period did the greatest population increase in Texas history occur?
2. How is population growth in Texas affecting our most important natural resource?

#### *Texans' Quality of Life*

(pages 646–650)

3. What is Texas doing to improve public education?
4. What is one of the greatest effects of rural unemployment and lower wages?

#### *Texans Meet the Future*

(pages 652–654)

5. How has the Texas economy changed in the past 100 years?
6. What are Texas's major public university systems?

### READING SOCIAL STUDIES

#### *After You Read*

Review your completed chart with a partner. Did you list the same issues and effects? Go back through the chapter to find possible solutions to the concerns you listed, or identify solutions of your own. Add this information in a third column in your chart. As a class, discuss what Texans can do in the twenty-first century to improve the quality of life in their state.

ISSUES	EFFECTS	POSSIBLE SOLUTIONS

### CRITICAL THINKING

#### *Making Predictions*

1. Which do you think will have more of an effect on Texas's water resources in the future, population growth or global warming? Explain your answer.

#### *Drawing Conclusions*

2. What types of jobs are eliminated and what types of jobs are created when Texans migrate from rural to urban areas of the state?

#### *Identifying Cause and Effect*

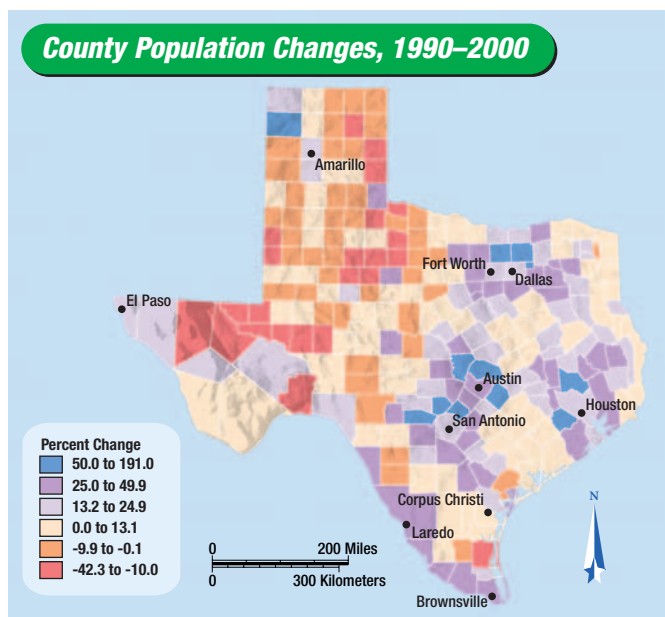
3. Why do you think that people with less education tend to have lower incomes?





## MAP & GEOGRAPHY SKILLS

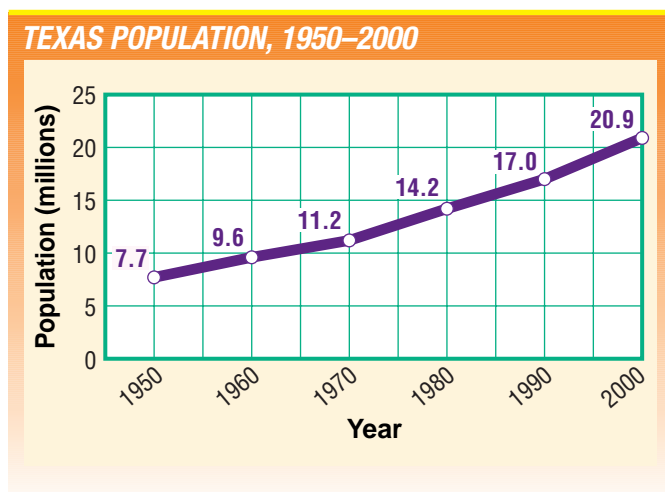
### Applying Skills



1. What do you think happened to the economy in West Texas from 1990 to 2000? Explain.
2. Why do you think so many residents left counties in West Texas during this time period?

## SOCIAL STUDIES SKILLBUILDER

### Making Predictions



1. Do you predict that the 2010 census will show an increase or a decrease in the Texas population? Why?
2. By about what percentage do you expect the Texas population to change between 2000 and 2010? Explain your reasoning.



## CHAPTER PROJECT

### Projecting Population Growth

Use the Internet and other resources to find the current populations for five of the following ten cities: Houston, Dallas, San Antonio, Austin, El Paso, Fort Worth, Corpus Christi, Waco, Abilene, and Amarillo. Create a bar graph that shows these cities' populations today. Then imagine that each city's population will grow by an average of 13 percent each decade for the next century. Add bars to the graph that show the projected growth for each city. At the end of this century, what challenges do you think Texans will face regarding transportation and natural resources? What can Texas citizens and government leaders do to meet these challenges?



Go to [www.celebratingtexas.com](http://www.celebratingtexas.com) to research this topic.



## SCIENCE, TECHNOLOGY & SOCIETY ACTIVITY

### Developing New Forms of Mass Transit

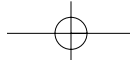
As metropolitan areas expand, workers live farther from their jobs in the central cities. The result is increased traffic, fuel use, and pollution. In groups of two or three, design a clean, efficient mass-transit system to help get suburban Texans to and from their jobs. You may improve on a current form of transportation or describe one for the future. Share your designs as a class.



## CITIZENSHIP ACTIVITY

### Creating a Public Service Announcement

Working in a small group, produce a public service announcement that persuades Texans to be active citizens in the twenty-first century. Focus your message on a specific topic discussed in the chapter, such as conserving water or using energy resources wisely. Work together to do the following: research your topic, create a slogan or jingle, and write and edit your script. Be sure to practice before performing your work. If possible, use a video camera or tape recorder to record your announcement. Share your work with the class for constructive criticism. Finally, submit your finished product to a local cable or radio station.



## Interpreting Political Cartoons

### LEARNING *the Skill*

A political cartoon uses an illustration to comment on current events ranging from state and local politics, the president, and the federal government to international issues. The cartoonist is trying to influence public opinion through a humorous representation.

Cartoonists often use symbols. Two of the most recognized symbols are the elephant representing the Republican Party and the donkey representing the Democratic Party. Although political cartoons are humorous, they have messages to deliver.

The purpose of a political cartoon is to present a topic and an opinion on it with few or no words. The characters, the topic, and the relationship between the characters and the symbols are all clues to the opposing viewpoints and the cartoonist's bias.

### Interpreting Political Cartoons

- 1 Identify the topic and characters.
- 2 Note the relationship between the symbols.
- 3 Study the labels and messages and try to identify any bias.

### PRACTICING *the Skill*

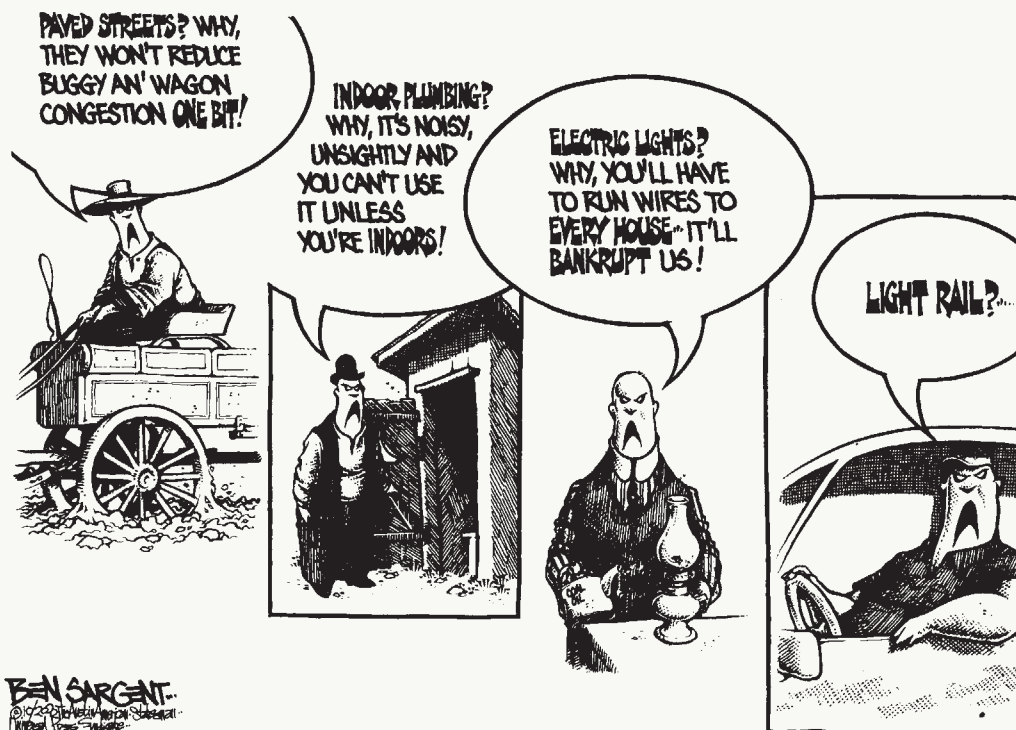
Use your knowledge of political cartoons and your knowledge of social studies to answer the question. **Read the question and answer explanations that follow to help you answer the TAKS practice questions on the following page.**

- 1 Why does the cartoon show the Republican Party drawing the Texas border with the Democratic Party sitting outside Texas?
 

<p><b>A</b> The Democratic Party is withdrawing from Texas.</p> <p><b>B</b> The Republican Party is redrawing the Texas border to make the state bigger.</p> <p><b>C</b> The Republicans are redrawing the legislative districts so they will be in the majority throughout Texas.</p> <p><b>D</b> The Democrats are closing parts of the United States to the Republicans.</p>	<p><b>A</b> Incorrect. Many political parties are active in all states.</p> <p><b>B</b> Incorrect. State boundaries are not redrawn to take land from neighboring states.</p> <p><b>C</b> <b>Correct.</b> The legislative Republican majority drew new, largely Republican congressional districts.</p> <p><b>D</b> Incorrect. Political parties cannot close parts of the United States to other political parties.</p>
---	--

**APPLYING** *the Skill*

Use your understanding of political cartoons and your knowledge of social studies to answer the questions on this page.



- Which is the most appropriate title for this cartoon?
  - Electricity Will Never Replace Oil Lamps
  - Impractical Modern Conveniences
  - People Resist Change
  - Transportation Improvements
- Why doesn't the cartoon character want light rail?
  - He believes it will be noisy and unsightly.
  - He doesn't like any new idea.
  - He thinks he won't be able to drive his wagon on it.
  - He won't be able to afford it because the electricity costs so much.
- What is the point of view of the cartoonist?
  - in favor of light rail
  - in favor of better cars
  - opposed to change
  - opposed to higher taxes
- The cartoonist is trying to influence people who are about to —
  - buy a car.
  - remodel a house.
  - decide on an issue.
  - borrow money.

On your own paper, write brief answer explanations for the correct and incorrect answer choices on this page.