

## Houston Affects the Earth



When Houston's mayor Bill White went to work in 2008, he knew the city needed to make some changes. The city of Houston, Texas, is home to over two-million people. It is the fourth most populous city in the United States and it takes up about six-hundred square miles of land. The city is located in the southeastern part of Texas. It sits on the Gulf of Mexico.

Houston is sometimes called the "Energy Capital of the World." This is because a lot of oil refineries, natural gas production, and other energy companies are in Houston. Energy runs Houston. It creates jobs and powers local businesses and homes. But energy also makes an

impact on the local environment. The ships that come to Houston to deliver petroleum disrupt local marine environments by producing waste emissions, noise and pollution. The processes that turn crude oil into gasoline and other petrochemicals release chemicals into the air. Too many chemicals in the air lead to air pollution. This affects people in Houston as well as the animals that live in or fly through the area.

In 2008 Mayor White started a campaign to reduce pollution in Houston. He made local factories and oil refineries reduce pollution. Mayor White worked to reduce the impact of energy consumption in Houston. In 2008, he increased the use of solar energy in the city. He put solar panels on several city buildings. The sun shines a lot in Houston, so capturing energy from the sun is easy. The energy it produces does not create the kind of pollution created by coal, gas and oil. It can be stored in batteries for use at night.

People in Houston were coming to understand their impact on the Earth's environment. People in Houston, like people all over the United States, need gasoline in order to drive their cars. They also need natural gas and electricity to run their homes and businesses. This energy consumption increases the amount of carbon dioxide released into the atmosphere and changes the air quality.

People also need water to drink, bathe, wash their clothes, and prepare their food.

People in Houston were starting to see that the water and food they used were taken out of the Houston-area environment. It was therefore not available for non-human use. These people started to ask themselves if they could use less. Could Houston have less impact on the environment?

In 2010 the people of Houston elected Annise Parker to be mayor. Mayor Parker wanted to build on the work Mayor White had done. She wanted Houston to be called the “Energy Conservation Capital of the World.” She started a “Bike to Work Day” to encourage people to drive less. Driving less means people use less gasoline. That means less carbon dioxide is released into the atmosphere.

Businesses worked with Mayor Parker to start “Lights Out Houston,” a program that gets office buildings downtown to turn off their lights at night. Turning off the lights helps conserve electricity. Turning off the lights is also good for wildlife. A city that is bright at night can affect the way birds migrate. At night a large, bright city like Houston is even visible from outer space!

The people of Houston have applied the ideas of energy conservation to other areas, including water use and farming. The water in Houston comes from Lake Houston. Lake Houston is a reservoir, a holding facility for water that was created by building a dam on the San Jacinto River. The reservoir was completed in 1953 when the city needed to guarantee more water for its growing population. (A dam stops the flow of water in a river and creates a lake or reservoir. The lake or reservoir must be managed to make sure it does not overflow, and to protect the wildlife that live in the river.)

As Houston grows in terms of population, so will its need for water. The city of Houston now sells rain barrels for rainwater collection. Rain barrels can be used to collect rainwater. This water can be used for watering gardens and lawns. Doing so will reduce the amount of water the city takes from Lake Houston.

The city has started community gardens. These gardens allow Houston residents to grow their vegetables in containers in the city. This way they do not have to rely as much on farms. Land that was used for farms might someday be allowed to rest. The animals that lived on the land before it was a farm could return. The water that was used to grow the plants on the farm would not be used.

Life in Houston has changed since 2008. The changes have been good for the environment.

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. What was the goal of the campaign Mayor White started in 2008?

- A** to produce more coal, gas, and oil in Houston
- B** to get people in Houston to drive less
- C** to reduce pollution in Houston
- D** to stop the ships from delivering petroleum to Houston

2. The city of Houston started more community gardens. What has been one effect of these gardens?

- A** Vegetables are readily available to people that live in the city.
- B** Animals are leaving the farms and going to the city gardens.
- C** More farm land is being used to grow fruits and vegetables.
- D** More water used on farms that grow fruits and vegetables is wasted.

3. Which of the following sentences provides evidence that the people of Houston took action to make their city a better place?

- A** People in Houston were coming to understand their impact on the Earth's environment.
- B** People in Houston, like people all over the United States, need gasoline in order to drive their cars.
- C** People in Houston were starting to see that the water and food they used were taken out of the Houston-area environment.
- D** The people of Houston have applied the ideas of energy conservation to other areas, including water use and farming.

4. What can be concluded about the way the recent mayors of Houston have viewed the issue of pollution?

- A** Pollution is an issue that should be actively addressed.
- B** Pollution is an issue which the people of Houston can do nothing about.
- C** Pollution is an issue which politicians do not have the resources to address.
- D** Pollution is an issue which can only be addressed at the state level.

5. What is the passage mostly about?

- A how the people of Houston are conserving water
- B how the people of Houston took steps to reduce their impact on the local environment
- C how the people of Houston elected Mayors that were focused on reducing pollution
- D how the people of Houston plan to deal with population growth

6. Read this sentence: "The ships that come to Houston to deliver petroleum **disrupt** local marine environments by producing waste emissions, noise, and pollution."

Which word could best replace the word **disrupt** as it is used in this sentence?

- A assist
- B upset
- C interfere
- D reduce

7. Choose the answer that best completes the sentence below.

Energy is good for Houston in that it creates jobs and powers homes and companies; \_\_\_\_\_, this same energy has a huge impact on the local environment.

- A particularly
- B thus
- C second
- D however

8. List at least two things Mayor White did to reduce pollution in Houston.

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9. Houston is sometimes called the “Energy Capital of the World”. Mayor Parker wanted Houston to be called the “Energy Conservation Capital of the World.”

Explain the meaning of both titles and how they are connected.

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10. Explain Mayor White’s role in the efforts to reduce pollution in Houston that started in 2008. What might have happened had he not been elected? Use evidence from the passage to support your answer.

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## Teacher Guide &amp; Answers

Passage Reading Level: Lexile 890

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- D **however**

8. List at least two things Mayor White did to reduce pollution in Houston.

**Suggested answer:** Answers should include at least two of the following:

- He made local factories and oil refineries reduce pollution.
- He worked to reduce the impact of energy consumption in Houston.
- He increased the use of solar energy in the city.

9. Houston is sometimes called the "Energy Capital of the World". Mayor Parker wanted Houston to be called the "Energy Conservation Capital of the World."

Explain the meaning of both titles and how they are connected.

**Suggested answer:** Houston is called the "Energy Capital of the World" because so much energy is produced there; there are lots of energy companies in Houston. Mayor Parker wanted Houston to be called the "Energy Conservation Capital of the World" because she wanted her city to make smart choices about how to conserve the energy they needed and how to reduce their environmental impact. This title highlights a transition as conservation became prioritized in the energy goals of the city whereas the previous title highlighted simply the level of energy production the city became known for.

10. Explain Mayor White's role in the efforts to reduce pollution in Houston that started in 2008. What might have happened had he not been elected? Use evidence from the passage to support your answer.

**Suggested answer:** Mayor White started the campaign to reduce pollution in Houston. This brought to people's attention the need to reduce pollution. This initiative made people realize that they could use less and have less of an impact on the environment. Mayor Parker built upon Mayor White's energy conservation work. If Mayor White had not been elected and started the campaign to reduce pollution, the people of Houston might not have invested effort in limiting their environmental impact and the trend of local politicians actively addressing pollution may not have started.