



TEACHER GUIDE

• Assessment Rubric	4
• How is Our Resource Organized?	5
• Bloom's Taxonomy for Reading Comprehension	6
• Vocabulary	6



STUDENT HANDOUTS

READING COMPREHENSION

• <i>Climate is Changing, and So Must We</i>	
• <i>The Transportation Footprint of a Community</i>	
• <i>Greener Vegetables</i>	
• <i>Very Green Houses</i>	
• <i>Reduce, Reuse, Recycle, and Plant</i>	
• <i>Some Green Towns and Cities</i>	

• <i>Is the Future Green or Grim?</i>	7
• Graphic Organizer	12
• Carbon Footprint Calculator	14
• Calculating Your Community's New, Improved Carbon Footprint	16
• Crossword	18
• Word Search	19
• Comprehension Quiz	20



EASY MARKING™ ANSWER KEY

22

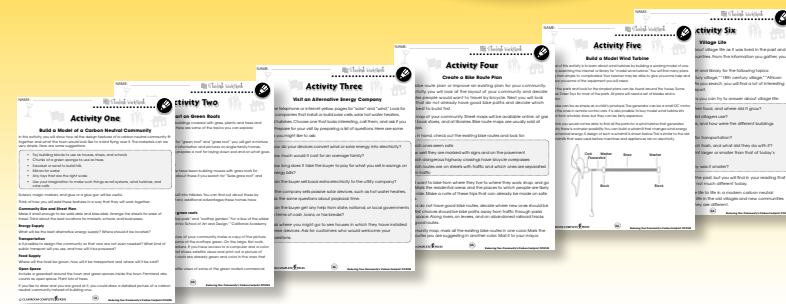
MINI POSTERS

24

✓ **6 BONUS Activity Pages!** Additional worksheets for your students

FREE!

- Go to our website: www.classroomcompletepress.com/bonus
- Enter item CC5780
- Enter pass code CC5780D for Activity Pages





Is the Future Green or Grim?

1. **Circle** the word **TRUE** if the statement is TRUE or **Circle** the word **FALSE** if it is FALSE.
- a) When polar ice caps melt, sea levels drop.
TRUE FALSE
 - b) Humans have no control over the amount of CO₂ in the atmosphere.
TRUE FALSE
 - c) The food footprint of a community depends partly on where its food is grown.
TRUE FALSE
 - d) Making bicycle travel safer can reduce the carbon footprint of a community.
TRUE FALSE
 - e) Any community could use hydroelectric power as an alternative energy source.
TRUE FALSE
 - f) If people speak out, it can change how governments act on climate change.
TRUE FALSE

2. Put a check mark (✓) next to the answer that is most correct.
- a) If all communities suddenly became carbon neutral, global temperature would
 - A slowly drop.
 - B drop rapidly.
 - C no longer change.
 - D increase more slowly.
 - b) Which alternative power source would work best for most desert communities?
 - A solar cells
 - B wind turbines
 - C geothermal power
 - D hydroelectric power
 - c) If a community is carbon neutral, it means that it
 - A does not use energy.
 - B uses only natural gas as fuel.
 - C absorbs as much CO₂ as it emits.
 - D gets all its energy from electricity.



Is the Future Green or Grim?

Joe in a green future:

Joe wakes up and shuffles to the bathroom. He takes a long hot shower with water from the solar heat collectors on the roof. In the kitchen, he puts water in a bowl and adds a scoop of oatmeal bought in bulk at the local farmers market. He puts the bowl in the microwave powered by photovoltaic cells. While the cereal cooks, he goes to the back yard and picks some fresh fruit to add to his cereal. He chops up the fruit and puts the fruit peels and pits on the compost pile. After breakfast, he takes the electric bus to school.



Green or not-so-green?

Joe in a grim future:

Joe wakes up and shuffles to the bathroom. He takes a quick semi-hot shower because his parents have been complaining about the utility bills. In the kitchen, he has a breakfast of eggs from a distant chicken farm, fruit from South America, and Chinese bacon. After breakfast, Joe gets into the family station wagon to be driven to school by his father. As they back out of the driveway, they pass their snow blower, snow mobile, and skis, sitting on their front lawn with a FOR SALE sign. Across the street, a refugee from the Maldives holds up another sign:



Why was Joe's family selling their snow blower, snow mobile, and skis?



Is the Future Green or Grim?

1. **Circle** the word **TRUE** if the statement is TRUE or **Circle** the word **FALSE** if it is FALSE.
- a) It is easier to design a new carbon neutral town than to redesign an old town to be carbon neutral.
TRUE FALSE
 - b) Most carbon neutral communities being planned are large, spread out cities.
TRUE FALSE
 - c) In a carbon neutral future, we will have fresh fruits shipped in from all over the world.
TRUE FALSE
 - d) Wind turbines can power a public transportation system.
TRUE FALSE
 - e) Public opinion can influence the people in government who make decisions affecting the community footprint.
TRUE FALSE
 - f) Fortunately, we have plenty of time to do something about global climate change.
TRUE FALSE

2. Cross out the words and phrases that belong to a future where climate change will be a big problem. Circle the words and phrases that belong to a carbon neutral future.

solar hot water	green roofs	natural gas	better highways
photovoltaic cells	fossil fuels	bike paths	rising sea level
melting ice caps	wind turbines	community gardens	recycling waste

Is the Future Green or Grim?

3. Answer the questions in complete sentences.

a) Explain the sign the Maldives refugee was holding: "My country is under water. Please help." Explain it in terms of climate change.

b) Describe the main difference between the food Joe ate in the green future and the food Joe ate in the grim future.

Extensions & Applications

1. Describe one way you can take action to reduce the home energy footprint of your community.

2. Describe one way you can take action to reduce the food footprint of your community.

3. Describe one way you can take action to increase the amount of CO₂ absorbed in and around your community.



CALCULATING YOUR COMMUNITY'S NEW, IMPROVED CARBON FOOTPRINT

Like the community carbon footprint, the amounts of these carbon reductions are not perfectly accurate, but they will be close enough to give you a good idea of the results of people's efforts. When you think about each of the community changes below, think of the change spread over a period of ten years. Be sure to ask for help with the math if you need it.

Government Incentives

Governments often try to reduce the community footprint by encouraging and helping people reduce their personal footprints. For example:

- The government might pay part of the price of energy saving devices.
- The government might not tax money spent on footprint reduction.
- The government might offer low interest loans to people buying energy saving devices.
- The government might offer free advice on how to reduce personal footprints.

Look at each of these energy saving devices and take a guess at the number of households in your community that would buy the device if they got some help from the government.

GOVERNMENT HELP REDUCING HOME FOOTPRINT

Light Bulbs:

How many people would replace their old-style light bulbs if they were able to buy energy efficient fluorescent bulbs at the same price? Each household that replaces bulbs would reduce the carbon footprint by about 1 ton per year.

(number of households likely to replace bulbs) × (1 ton) = _____ Tons

Double pane windows:

How many people would replace single pane windows with double pane windows if they got some help from the government? Each household that replaces windows would reduce the carbon footprint by about 1.5 tons.

(number of households likely to replace windows) × (1.5 tons) = _____ Tons

Solar hot water:

How many people would install a solar hot water heater if they got some help from the government? Each household that installs a solar hot water heater would reduce the carbon footprint by about 1.5 tons.

(number of households likely to install solar hot water) × (1.5 tons) = _____ Tons

Photovoltaic cells:

How many people would install enough photovoltaic cells to produce all their own electricity if they got some help from the government? Each household that installs photovoltaic cells would reduce the carbon footprint by about 2 tons.

(number of households likely to install photovoltaic cells) × (2 tons) = _____ Tons

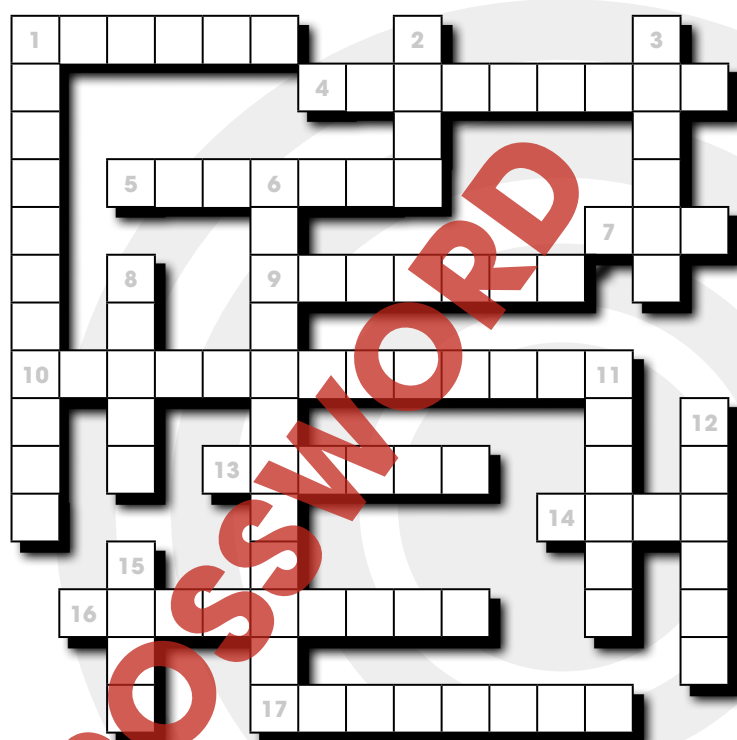
Total reduction of home footprint = _____ Tons



Crossword Puzzle!

Across

- Solar power is either passive or _____.
- Martial arts masters get a black belt, and some cities get a _____.
- People sharing rides to work.
- Carbon dioxide is a greenhouse _____.
- The kind of vegetables that are grown without pesticides.
- People who work at home using a computer and telephone.
- This type of fuel releases carbon dioxide when it burns.
- Coal is a fossil _____.
- Per person.
- Someone on his or her way to work.



Down

- The type of fuels that are used to replace fossil fuels.
- Photovoltaic _____.
- _____ climate change.
- The type of device that changes the sun's energy directly into electricity.
- Having to do with the sun.
- A neighborhood outside a city.
- When a city absorbs the sun's energy, it creates a heat _____.
- What greenhouse gases trap.

Word List

active	fuel	organic
alternative	gas	per capita
carpool	global	photovoltaic
cell	greenbelt	solar
commuter	heat	suburb
fossil	island	telecommuters



Comprehension Quiz

Part A

Circle the word **TRUE** if the statement is TRUE or **FALSE** if it is FALSE.

- Global climate change is caused by a change in the amount of greenhouse gases in the atmosphere.
TRUE **FALSE**
- Carbon dioxide is a greenhouse gas.
TRUE **FALSE**
- Your community carbon footprint is the same as your personal carbon footprint.
TRUE **FALSE**
- Adding parkland to your community increases its carbon footprint.
TRUE **FALSE**
- Some communities generate all their own electricity from renewable sources.
TRUE **FALSE**
- Carbon neutral communities are being built in countries around the world.
TRUE **FALSE**
- People living on low-lying islands are looking forward to a rise in global temperature.
TRUE **FALSE**

Part B

Put a check mark (✓) next to the answer that is most correct.

- Which invention was the main cause of cities and communities spreading out to cover more land?
 A television
 B cell phone
 C automobile
 D electric light
- Which change in a community's food supply would reduce its carbon footprint?
 A Buying food from farmers closer to home.
 B Improving packaging to keep food fresh longer.
 C Using more chemical fertilizer to increase crop yield.
 D Buying more food than you need to be ready for natural disasters.
- Cities absorb more solar energy than the surrounding countryside, creating a
 A heat island.
 B carbon offset.
 C sea level rise.
 D greenhouse effect.

SUBTOTAL: /10

Alternative Transportation



Bicycle



City transit bus



Carpool



Walking



Self-balancing personal transportation device



Electric scooter

NAME: _____

After You Read 



Is the Future Green or Grim?

3. Answer the questions in complete sentences.

- a) Explain the sign the Maldives refugee was holding: "My country is under water. Please help." Explain it in terms of climate change.

- b) Describe the main difference between the food Joe ate in the green future and the food Joe ate in the grim future.

Extensions & Applications

1. Describe one way you can take action to reduce the home energy footprint of your community.

2. Describe one way you can take action to reduce the food footprint of your community.

3. Describe one way you can take action to increase the amount of CO₂ absorbed in and around your community.

3.

In a future where climate change is still a problem, low-lying islands like the Maldives may be under water.

In the grim future, the food was shipped from far away; and, in the green future, food was locally or home grown.



Extensions & Applications

(Answers will vary.) Look for government programs that help people reduce their home energy use, such as tax breaks for installing solar devices. Find ways to spread the news about this help.

(Answers will vary.) Support local farmers' markets. Join a group interested in home gardening and composting.

(Answers will vary.) Plant trees on your family's property. Volunteer to help plant trees on public land.

11

EASY MARKING ANSWER KEY