



# FACTivity

## Time Needed

30-40 minutes

## Materials

- Photo sheets and answer sheets provided in this FACTivity
- Pencil
- Blank paper or science notebook (optional)

In this research, you learned about carbon sinks and carbon sources. You learned about different land uses and whether they are more likely to be a carbon sink or source. The questions you will answer in this FACTivity are: What are the characteristics of an area identified as a carbon sink? What are the characteristics of an area identified as a carbon source?

## Methods

You may work individually, in pairs, or in small groups. Examine the two photo sheets provided in the next section. Identify whether you believe each photo shows an area that is a carbon sink or a carbon source. Your teacher may make copies of the answer sheet, or you may use the one in this journal.

On the answer sheet, indicate whether each photo is a carbon sink or a carbon source. Then, explain what makes the area a sink or a source by writing one or two complete sentences. Recall that a carbon sink is an area that absorbs more carbon through photosynthesis than it releases. A carbon source is an area that releases more carbon than it absorbs through photosynthesis. Then, rank all of the photos from one to eight. Rank the photos from the most powerful carbon sink to the most powerful carbon source.

On your own, write a short paragraph describing the main characteristics of a carbon sink. Write a short paragraph describing the main characteristics of a carbon source. These paragraphs should be based on your photo observations and evaluations. Use complete sentences with proper grammar and punctuation.

Your teacher will lead a class discussion about what makes an area a carbon sink or a carbon source. As a class, discuss your rankings. Did everyone agree and if not, why not? As a class, determine whether the area around your school is a carbon sink or source. To do this, your class must first agree on how large an area you will consider. Then, identify three opportunities to improve the area's status as a carbon sink. Write these three ideas in complete sentences and develop a plan to implement them in the area around your school.

# Carbon sink or carbon source?



1

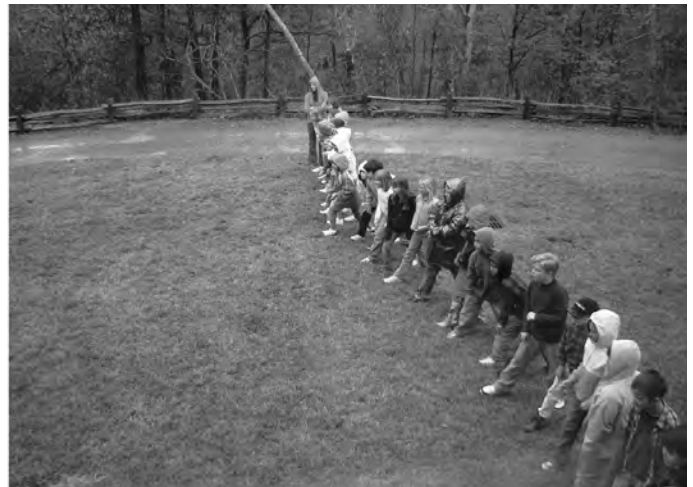


2

PHOTOS BY BABS McDONALD.



3



4

# Carbon sink or carbon source?



5



PHOTOS BY BAABS McDONALD.

6



7



8

NOTE: 1 is most powerful carbon sink, 8 is the most powerful carbon source.

Photo	Carbon sink or source?	Why is this area a carbon sink or a carbon source? (1-2 sentences)	Rank order from 1-8
1			
2			
3			
4			
5			
6			
7			
8			

Describe the obvious visual characteristics of a carbon sink.

Describe the obvious visual characteristics of a carbon source.

Three ways to improve our schoolyard's status as a carbon sink are:

## FACTivity Extension

To complete this extension, you must have either a smartphone or a digital camera. Using your smartphone or camera, take five photos of areas around your community that are carbon sinks. Take five photos that are carbon sources. Share your photos with the class and describe why you think the area is a carbon sink or source. As a class, identify ways to move the carbon source areas toward carbon sinks.

### Web Resources

A Student's Guide to Global Climate Change by the U.S. Environmental Protection Agency  
<http://www.epa.gov/climatestudents/>

Climate Kids: NASA's Eyes on the Earth  
<http://climatekids.nasa.gov/>

NOAA Climate Change for Students  
<http://www.education.noaa.gov/Climate/>

Pachamama: Our Earth--Our Future  
<http://www.grida.no/publications/other/geo2000/pacha/>

U.S. Environmental Protection Agency Ozone Web site  
<http://www.epa.gov/glo/>

An Article about Fossil Fuels and the Nitrogen Cycle  
[http://news.mongabay.com/2009/0604-hance\\_nitrogen.html](http://news.mongabay.com/2009/0604-hance_nitrogen.html)



\*“Everything but the Carbon Sink” is taken from the saying “Everything but the kitchen sink.” This saying means that nearly everything possible is being included, usually when someone is taking items from a place.



If you are a trained Project Learning Tree-educator, you may use *Our Changing Climate* or *Our Changing World* as additional resources.