

# GUARDIANS OF THE FOOD GALAXY

## LESSON 3



NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

# VIDEO GUIDE

Using the worksheet, answer the following questions.

1- What is one thing you learned from the video about the atmosphere or global warming?

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2- 2 questions I have are:

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3- Do scientists know how to fix or solve global warming?

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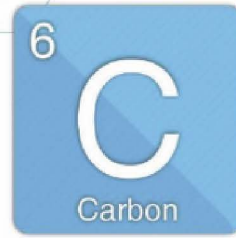
4- Can ordinary people help?

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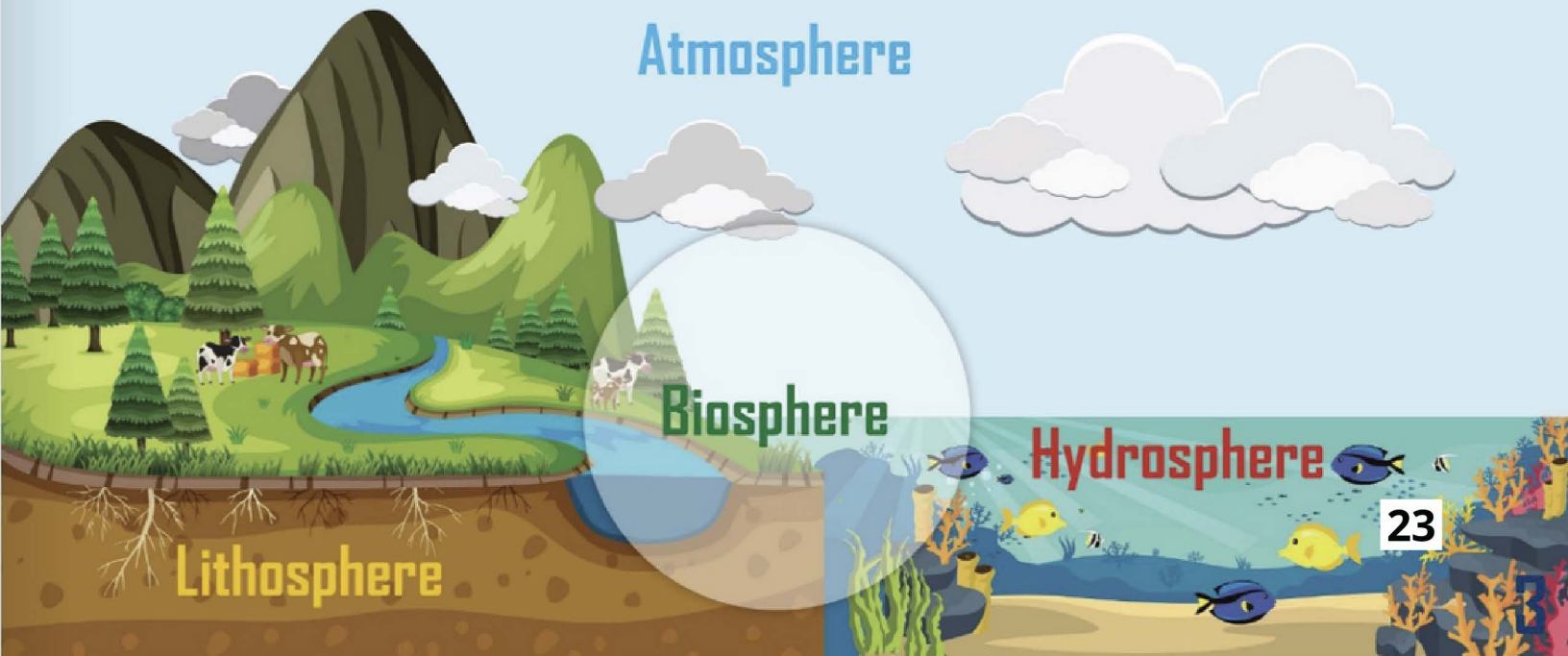
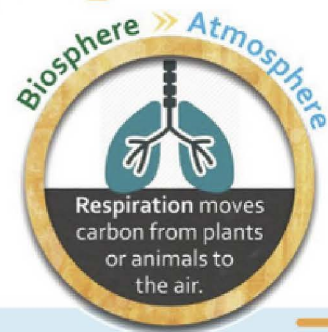
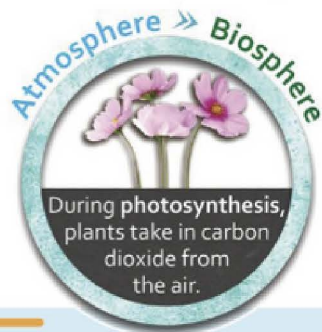
# CARBON



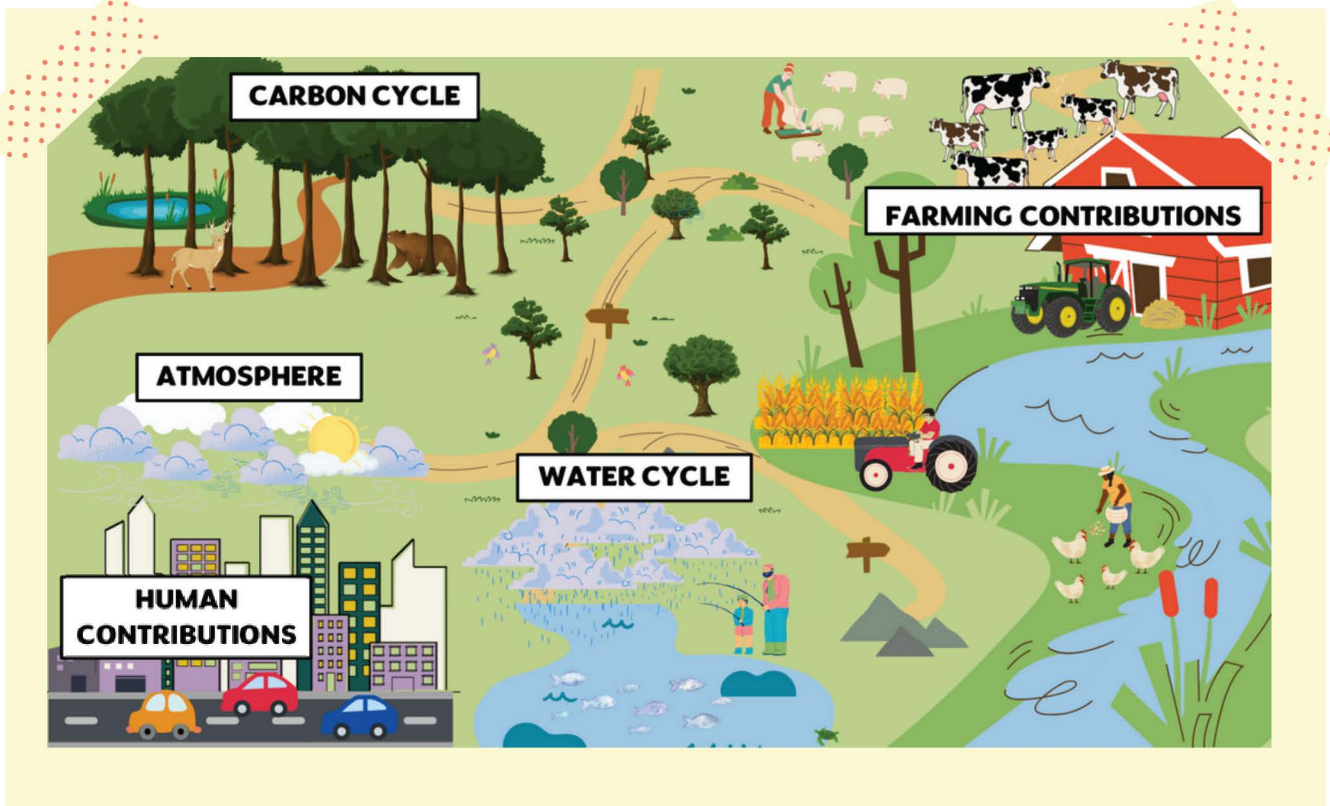
What is carbon?  
Where is carbon found?

**CARBON** is an important element for life on earth that is found in both living and non-living parts of the planet. We encounter carbon each day of our lives. While it could be pure, elemental carbon, it is usually a compound. Examples include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and ethylene (C<sub>2</sub>H<sub>4</sub>). Carbon is present in all four spheres of the planet. The **biosphere** includes parts of the land, sea and atmosphere where life can exist, the **hydrosphere** includes all of earth's water, the **atmosphere** is all of the gases surrounding the Earth, and the **lithosphere** is the rocky outer layer of earth. Places where carbon is stored are called **reservoirs**. The movement of carbon from one **reservoir** to another is called a **flow**. The total amount of carbon on Earth stays relatively stable except for very small additions from meteorites. However, the carbon in any of Earth's four spheres does not remain in the same sphere forever. Carbon moves from one sphere to another in an ongoing process called the **Carbon Cycle**.

## Examples of natural carbon cycling



# Model of the Climate System



1. What systems are in this image?

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2. What activities in this image are creating greenhouse gases? Explain.

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3. What could you add to this image to show more systems that can increase or decrease greenhouse gases?

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# Model of the Climate System

## Activity 1

Claim: \_\_\_\_\_

Evidence: \_\_\_\_\_

Reason: \_\_\_\_\_

## Activity 2

Claim: \_\_\_\_\_

Evidence: \_\_\_\_\_

Reason: \_\_\_\_\_

## Activity 3

Claim: \_\_\_\_\_

Evidence: \_\_\_\_\_

Reason: \_\_\_\_\_

**NAME:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

## 5th Grade Climate Change Hero Challenge!

### Student Point Sheet

Welcome to your Climate Change Hero journey! Let's see who can reduce the most greenhouse gases and food waste during this program. As the program continues, you will learn about new ways to reduce your greenhouse gas impact and ways you can reduce food waste. Keep track of your Climate Change Hero Actions and points. You can find a list of Climate Change Hero Actions and how many points that action is worth below.

Good luck on your journey!



Climate Change Hero Action Description	Points
Looked up information on <a href="http://climatekids.nasa.gov">climatekids.nasa.gov</a>	3
Ate oddly shaped or imperfect veggies/fruits	3
Brought home the food I did not finish at school lunch	3
Brought leftovers for my school lunch	3
Read fruit and vegetable stickers to eat foods that are closer to NJ	3
Made a plan to grow some of our own food at home	3
Turned off electronics and played with something that doesn't use electricity instead (drawing, reading, board games, outside time)	4
Tried a new food this week! What was the new food?	4
Ate leftovers for dinner (try it at least 1 time per week!)	4
Ate a fruit or vegetable that is grown in NJ/is in season	4
Add your own way to reduce greenhouse gas emissions:	5
Only took what I was hungry enough to eat (Check with parents first!)	5
Interviewed person in my house who goes to the grocery store about how to reduce food waste	5
Interviewed person in my house who cooks about how to reduce food waste	6
Watched YouTube videos about starting a compost pile at home with a grown up	6
Going to a farm, farmers' market, or community garden with a parent	6
Planted a tree	6
Found a farm, farmers' market, or community garden near my home and talked to a grown up about going to visit it to buy food	6
Talked to a friend or family member about what I am learning	7
Played the video game for this Unit	7
Started a compost at home	10

