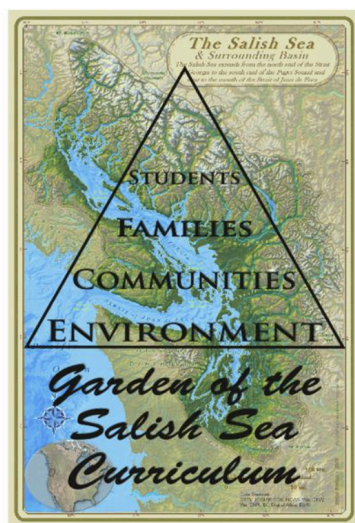




The Human Smokestack Experiment



Pacific
Shellfish
Institute



Essential Questions: *What impacts the natural balance of the carbon cycle? How can we be stewards of the Salish Sea?*

Instructions: *All parts of this lab can be found in this document. Read the page and click on the links as you go.*

Video: First click on this link to watch a video →



Gardensalishsea.org

Answer the questions below:	Your response:
1. How did the solution in Cup #2 change when breath was added?	
2. What is your hypothesis for why this change occurred?	

Gardensalishsea.org

Garden of the Salish Sea Curriculum is funded through a Public Participation Grant from the Department of Ecology, the Whatcom Community Foundation, and individual donations.



Pacific
Shellfish
Institute

We acknowledge and respect the treaty rights of the Coast Salish Peoples to the lands and waters of the Salish Sea and we recognize their stewardship since time immemorial.

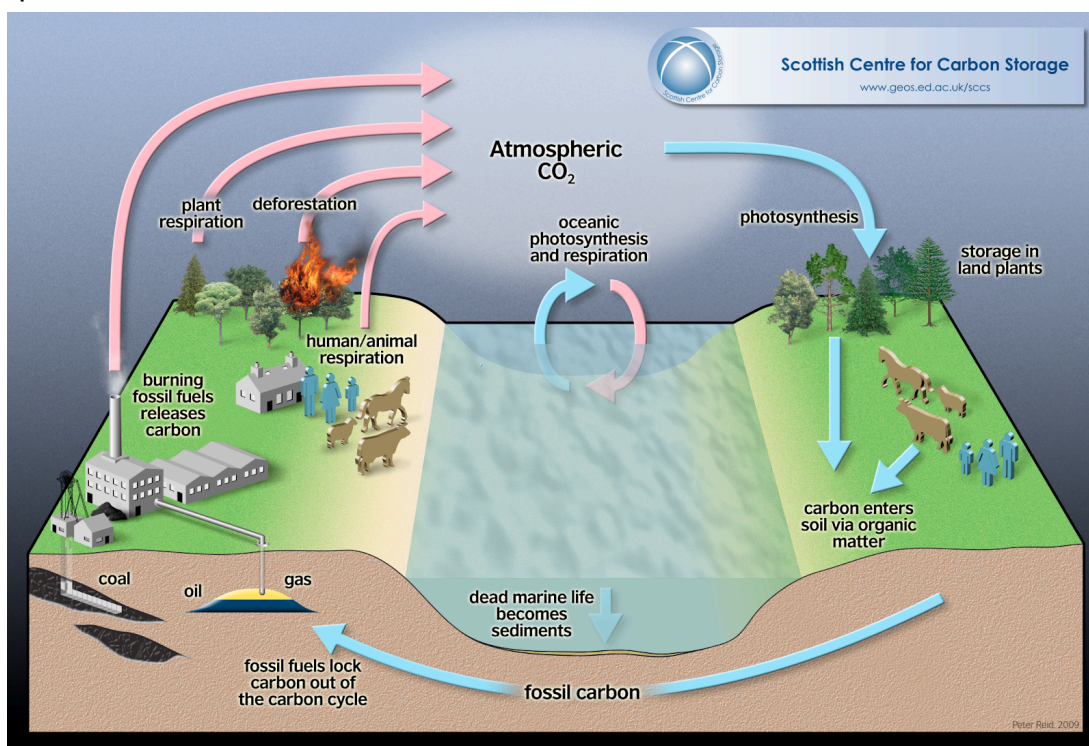
Video: Watch the next video by clicking on the link →



Reading:

As you read, pay attention to the scientific vocabulary words (underlined and in bold). Try and picture the video you just watched.

The **carbon cycle** is a complex system that includes all life on earth. The natural balance of the carbon cycle is the reason that humans can survive on this planet. Look at the picture below. There are both natural and unnatural sources of carbon.



When humans and animals breathe in, they use Oxygen (O₂). When they breathe out, they give off **Carbon Dioxide (CO₂)**. This is a natural part of the Carbon Cycle called **respiration**.

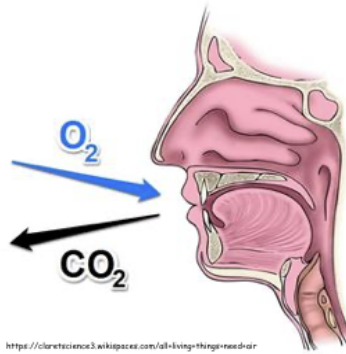


gardensalishsea.org

Garden of the Salish Sea Curriculum is funded through a Public Participation Grant from the Department of Ecology, the Whatcom Community Foundation, and individual donations.

We acknowledge and respect the treaty rights of the Coast Salish Peoples to the lands and waters of the Salish Sea and we recognize their stewardship since time immemorial.





Brainstorm a list of ways that you affect the carbon cycle. Write in the space below.

Interactive Lab:

Go outside or look out your window and observe the carbon cycle around you.

Now **DRAW** the carbon cycle of the things you observed. **Use arrows to show the movement of carbon. Include the following processes: decomposition, respiration, and photosynthesis. Label each source U (unnatural) or N (natural).**

You have 2 choices for turning this in.

1. Print and draw on this [worksheet](#) or a blank sheet of paper (you will need to take a picture and upload it to google classrooms) OR



gardensalishsea.org

Garden of the Salish Sea Curriculum is funded through a Public Participation Grant from the Department of Ecology, the Whatcom Community Foundation, and individual donations.

We acknowledge and respect the treaty rights of the Coast Salish Peoples to the lands and waters of the Salish Sea and we recognize their stewardship since time immemorial.



2. Create google [drawings](#).

Video: Watch the next video by clicking on the link → 

Quiz: Now take this Quiz to measure your understanding → 

What can YOU do to reduce Carbon Dioxide (CO₂) emissions?

Read this article about what a young person like you is doing to [reduce CO₂ emissions](#) in his community.

*Brainstorm a list of ways that you can reduce CO₂ in your community.
Write your ideas below.*

Now, read the [Salish Sea Community Challenge](#), [Salish Sea Challenge Bingo](#), [Salish Sea Watersheds Challenge Posters](#) [Salish Sea Watersheds Challenge Poster \(large\)](#)

It is a list of ideas for ways that you can have a positive impact on the health of your watershed, conserve energy and decrease the amount of CO₂ emissions you are



gardensalishsea.org

Garden of the Salish Sea Curriculum is funded through a Public Participation Grant from the Department of Ecology, the Whatcom Community Foundation, and individual donations.

We acknowledge and respect the treaty rights of the Coast Salish Peoples to the lands and waters of the Salish Sea and we recognize their stewardship since time immemorial.



releasing. Read and ***make a commitment*** with your families to be [stewards](#) of the Salish Sea and practice [watershed](#) healthy and climate friendly habits. For the next 2 weeks you will use the table to record your actions and the number of times you did them to quantify the impact your choices have. Once you complete an action, move a bingo piece over that square. Use page 2 to tally each time you complete an action.

Optional Extension:

- Want to try this experiment at home? You can work with your family to [make your own red cabbage indicator or pH paper](#), put it into two cups, and use a straw to blow into one of the cups for one minute to observe the change. Be sure to blow gently to avoid getting lightheaded.
- Other videos to watch:
 - [Ocean carbon cycle](#)



gardenofthesalishsea.org

Garden of the Salish Sea Curriculum is funded through a Public Participation Grant from the Department of Ecology, the Whatcom Community Foundation, and individual donations.

We acknowledge and respect the treaty rights of the Coast Salish Peoples to the lands and waters of the Salish Sea and we recognize their stewardship since time immemorial.

