



WILD CLASSROOM

Conservation in the Classroom

Supplemental Material Packet



SEAWEED: GROWING UNDERWATER FORESTS TO "KELP" OUR PLANET

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Recording available on the [Wild Classroom YouTube Channel](#)

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Teacher guide containing optional discussion questions, helpful resources, and quiz key

SEAWEED: GROWING UNDERWATER FORESTS TO “KELP” OUR PLANET

Student Warm-Up

Get ready to watch the Conservation in the Classroom event by reading and brainstorming about the topic with the questions below.

Read: Seaweed is a win for you, the ocean, and the planet

More than 95% of the seaweed harvested for human consumption is cultivated rather than taken from the wild. Unlike land-based crops, seaweed doesn't require fertilizer, pesticides, freshwater, or, obviously, land. It grows fast—some marine algae can be ready to harvest in as little as six weeks—and absorbs CO₂ while it's growing, making it a valuable carbon sink. Algae also absorbs other excess nutrients like nitrogen and phosphorus and creates new habitats for marine life.

(Source: [WWF](#))

What are three benefits of farming seaweed?

1. _____
2. _____
3. _____

Connect:

Scientists estimate that globally, seaweed collects as much carbon dioxide as mangroves, seagrasses, and salt marshes combined. How does this ability of seaweed help slow the effects of climate change?

Explain:

Kelp and other seaweeds create large underwater forests that help provide food and/or habitat to many different species, including juvenile fish and shellfish. When thinking about marine food webs, why is seaweed such an important part?

Take a Guess:

In addition to being a highly nutritious food, seaweed can be used in a number of other products. Can you think of one item on the shelves at the store that might contain seaweed?

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Student Wrap-Up

After watching the Conservation in the Classroom event, answer the following quiz questions and prompts to show what you've learned.

1) Which of the following is a characteristic of seaweed?

- a) It is not particularly nutritious for humans.
- b) It adds extra carbon to the atmosphere.
- c) It is found in deep-sea ecosystems.
- d) It grows very quickly.

2) How can seaweed help clean and protect our coasts?

3) List three ways that humans use seaweed or seaweed products.

4) TRUE or FALSE: Livestock animals, such as cows, can produce a lot of methane (a harmful greenhouse gas), but when seaweed is used in their food, it can help reduce the amount of methane produced. _____

5) Provide a short explanation for how kelp is farmed.

6) Seaweed farming provides great economic opportunities for communities living near the coast. Do you think you would be interested in being a seaweed farmer? Why or why not?

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Teacher Guide

Use the discussion questions to further enhance student comprehension following the event viewing. For additional information on seaweed, please reference the list of articles, videos, and teaching materials in the additional resources section. Also included is the answer key to the student wrap-up quiz on the previous page.

Discussion Questions

- After watching the event, how did your understanding or perception of seaweed change?
- Have you ever used or eaten a seaweed product? If not, do you think you will in the future?
- What are the key environmental benefits of seaweed, and how can these benefits help slow climate change and support marine ecosystems?
- How does growing seaweed help people who live in coastal communities?
- What are some characteristics of kelp forests that make them very biodiverse ecosystems?
- What are some characteristics of seaweed that make it particularly useful as a cultivated crop?
- Even if you don't live near a coastline, what does seaweed have to do with your life?
- Can you think of another example of something found in nature that offers solutions to threats facing our planet?

Additional Resources

- Video: [Seaweed](#)
- Video: [Diving In with WWF featuring Bailey Moritz](#)
- Web page: [Farmed Seaweed](#)
- Blog post: [From Sea to Table: Wild Harvested Kelp Versus Farmed Kelp](#)
- Article: [Seaweed is a win for you, the ocean, and the planet](#)
- Kahoot!: [Seaweed: underwater forests to “kelp” our planet](#)
- Our Planet Video Guide: [Our Coastal Seas](#)
- Resource Library: [Maine Aquaculture Innovation Center: Kelp Curriculum](#)

Student Wrap-Up Answer Key

1. D.
2. Seaweed reduces nutrient pollution by taking up nitrogen and phosphorus. Seaweed protects shellfish and other sea creatures by taking up CO₂, which reduces ocean acidification. Seaweed can protect shorelines from currents and waves, reducing erosion.
3. Seaweed is a food source and is found in sushi, soups, and salads and is added as a thickener to many other foods. It is also used in cosmetic products (such as lotions, shampoos, and toothpaste), as fertilizers, and in animal feed. In the future, we may see seaweed used in medicines, in fabrics, or as a biodegradable packaging material.
4. True.
5. Answers will vary. Farming kelp involves taking a few blades from a natural kelp bed, which produce millions of spores that can then be grown on rope in a controlled area in the ocean.
6. Answers will vary.