

ACTIVITY 3: FOOD WEB

Overview

During this activity you will construct a food web of the Wadden Sea ecosystem. Food webs are models that show how matter and energy are transferred among producers, consumers, and decomposers as the three groups interact in the ecosystem.

Materials Needed

“Wadden Sea Species Cards”

Paper or digital copy of the ecosystem [Poster “Wadden Sea”](#)

Materials you created of producers, consumers, and decomposers during **Activity 2: Roles in the Ecosystem**

Instructions

1. Use the “Wadden Sea Species Cards” to find information about the organisms in the *Wattenmeer* ecosystem.
2. Use arrows to show the direction of energy transfer. Begin by adding the sun to the poster diagram. Draw arrows from the sun to producers.
3. Draw an arrow from the nutrient source (food) to the consumers. Some consumers will have more nutrient sources than others.
4. In the mudflat and tidal creek, add bacteria and fungi as decomposers in the soil. Add a label for detritus near the filter feeders, siphon feeder, and worms.
5. Use a dashed arrow to connect producers and consumers to decomposers. The dashed arrow indicates that the producer or consumer is dead. Eventually all of the organisms will die and decompose.

6. Compare your food web to the food web made by another student. Discuss similarities and differences.

Consider the Following

As a scientist, analyze the food web.

Which species are in direct competition for nutrient resources? Explain.

Which species would be most affected by a decrease in cockles? Explain.