

Eat or Be Eaten

Age: Middle School

Objective

- To teach students that every member of the food web plays an important role.
- To demonstrate how producers break down the bodies of top predators and return their organic matter to the ecosystem.
- To show that energy may flow through a food web through different paths.

Background Lesson

Every living thing requires energy to live. Producers are able to synthesize energy from non-living materials but consumers must rely on other organisms for energy and therefore must hunt to stay alive. A food web shows the feeding relationships between different organisms.

Each organism acquires energy from the organism directly below it in the food web. When organisms at the top of the food chain die, decomposers work to break down their bodies and return them for use by the producers at the base of the food chain.

Every member of the food chain plays an important role and the absence of any one member can be disastrous to the overall health of the web.

The Game

An outdoor space, a whistle, coloured construction paper, tape and a number of bean bags are required for this game. Different colours of construction paper will represent different levels of the food web. Some possible levels of the food web may include the following.

Organism	Colour
Phytoplankton	Green
Zooplankton	Orange
Fish	Yellow
Seals, Penguins	Red
Orca Whales, Sharks	Blue
“Disaster”	Black

1. Acquire as many pieces of construction paper as there are students and hand them out randomly to the class. Make sure there are at least a couple of students representing each colour.
2. Have students either write the name of their organism or draw a picture of it onto their construction paper. Some levels may provide choice for the student when it comes to the organism they want to be. Have them tape the construction paper onto a friend's back so everyone is clearly displaying the level of the food web they represent.
3. Give each member of the producers a few bean bags. These represent "food".
4. Blow the whistle to start the game! Each member of the food web must acquire "food" (i.e. a bean bag) from an organism in the level immediately below them. Apart from the Phytoplankton, when an organism's bean bag is taken from them, they are dead and must sit out. "Disaster" will be responsible for killing the top predators and returning their bean bag back to the Phytoplankton.
5. After a few minutes, blow the whistle again to signify the end of the game. Have students that are alive with bean bags raise them to show that they have won the game. Other students have either been eaten or starved to death.
6. Repeat the game a few times as it will only take a short period of time to run. Allow students to switch up roles between games if they choose. Then return to the classroom and discuss what should have been taken from this game about the food web.

Post Activity Questions

Have students reflect on the game. Ask them what would happen if one of the levels of the food web was removed. Have students consider what would make up the "Disaster" category. Possible answers include hunters, accidents, old age, etc. Ask students why it is important that energy from the top predators is returned back to the base of the food chain.

One Fish at a Time