

EAT OR BE EATEN

Summary: In "Eat or Be Eaten," students demonstrate energy transfer and connections between plants and animals.

Grade Levels: 4th - 8th

Setting: Classroom, Gymnasium, or Outdoor space

Duration: 1 class period

Vocabulary: Consumer, producer, energy, herbivore, carnivore, omnivore, predator, prey, photosynthesis, ecosystem

Objectives:

- Show the relationship between animals and plants in the food chain
- Explain the importance of a healthy food chain/web/cycle
- State the connections between predators, prey, and plants

Background: All living things, plants and animals, are connected as parts of a food chain. Some members of the food chain are **producers**, providing food for other organisms. Other members are **consumers** of those producers. Knowledge of the interrelationships and interdependencies of living things is important.

1. Have students select an animal, plant, or energy source from the Eat or Be Eaten guide.
2. Students will write the name and draw a picture of the animal/plant/energy source on the front side of a card. On the back of the card, write what it eats and is eaten by. Loop a string through each Life card so students can wear the card like a necklace.
3. Offer examples to explain the terms **consumer**, **producer**, **herbivore**, **carnivore**, **omnivore**, **predator**, and **prey**.
4. Go outdoors or to a large open space and have students form a circle. Give students new names based on their card—Mr. Black Bear, Ms. Elk, etc.
5. Pass out Life Cards for students to hang around their necks, picture side out. Attempt to position an animal across the circle from the food it might eat. (If it is a small group, go through the cards to select the most appropriate animals/plants. Be sure to include a Sun card.)
6. Have students lose their voice, except when they have **energy** (the string).
7. Explain that only one card may start the game. When they have determined that the Sun is the beginner of the game, have the Sun go to the center of the circle. Give the end of the string to the Sun.
8. Have the Sun state whom he/she will give energy to. It must be one of the green plants. If necessary, review **photosynthesis**. Keep the string from sagging or becoming a tug-of-war object.
9. Have the Sun stay in the center while you walk the string to the plant. Continue to walk the string to each player as they are chosen.

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10. Open a discussion by asking questions: What does this look like/What have you created? If we had more time, more string and many more hands, could we go around more times? What are some other possible relationships that you see in the circle? Where do humans fit into this web of life?
11. Discuss the importance of a healthy **ecosystem** to enable everything to survive. Allow two or three students to jiggle their string with a large up and down motion while everyone else sits very still. Have the others look at their own string. If their string has wiggled even a little, they are somehow connected to the others. Do this a few times, using different students each time. What would happen to them if the ecosystem became unhealthy for the other inhabitants?
12. Talk about each animal and plant as you wind the string. If there were a problem with the fish, the otter would be affected, etc. - you could make scenarios up as you go.

NOTE: You also might include soil, shelter, or water in the circle. There are no cards for them (unless you/they make them), but this would open discussion beyond just food/energy needs. The string would become more than just food energy.



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GUIDE

ANIMAL/PLANT	EATS	IS EATEN BY
Black bear	Fruit Acorns Grasses Fish Carrion Insects	
White-tailed deer	Buds Twigs Corn Grasses Fruit Acorns	Coyotes Black bears
Turkey	Insects Seeds Spiders Leaves Fruit Acorns	Foxes Bobcats Mink Owls Raccoons Snakes
Mallard duck	Insects Seeds Sedges Leaves Grain Acorns	Skunks Foxes Raccoons Snakes Snapping turtles
Coyote	Rabbits Birds Deer Insects Fruit Mice	
Gray squirrel	Acorns Walnuts Berries Mushrooms Corn	Hawks Foxes Owls Snakes
Beaver	Grasses Ferns Algae Cattails Bark Twigs Buds	Bobcats Bears Coyotes
Skunk	Insects Toads Mice Eggs Fruits Snakes	Great horned owls Foxes
Songbirds	Seeds Berries Fruit Insects Spiders Grain	Eagles Owls Hawks Snakes Domestic/Feral cats
River otter	Fish Snails Snakes Mussels Frogs Crayfish	
Sun		Grasses Forbs Clover Leaves Stems
Great horned owl	Mice Rats Voles Small birds Squirrels	

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ANIMAL/PLANT	EATS	IS EATEN BY
Elk	Grasses Forbs Twigs Buds Acorns	
Bald eagle	Fish Birds Carrion Reptiles Amphibians	
Bobcat	Mice Chipmunks Birds Rabbits Shrews Hares	Owls
Grasses		Bears Deer Beavers Raccoons Elk
Canada goose	Roots Stems Corn Wheat Clover Millet	Crows Eagles Coyotes Opossums Foxes Owls
Fruits		Bears Deer Songbirds Coyotes Skunks
Insects	Plant materials Other insects	Bears Turkeys Skunks Coyote Ducks Raccoon
Fish	Aquatic plants Insects Frogs Algae Fish eggs	Eagles Bears Otters Humans
Buds & Twigs		Elk Beaver Deer
Weasel	Mice Voles Shrews Rats Rabbits Frogs	Hawks Owls Snakes Humans Domestic cats
Bats	Insects	Owls Hawks Foxes Raccoons
Red-tailed hawk	Snakes Mice Squirrels Rats Rabbits Birds	Great horned owls

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GUIDE

Example of Life Card

FRONT

BLACK BEAR



BACK

BLACK BEAR

EATS

IS EATEN BY

Fruit
Acorns
Grasses
Fish
Carrion
Insects