

How a Food Web Is Formed

Student Game

Introduction

What are food chains and food webs? Are they related? Answer these questions by playing this engaging and informative card game.

Concepts

- Food chain
- Food web
- Biomes
- Tropic relationships

Background

There are many types of organisms in an ecosystem. Organisms such as plants and algae are *autotrophic*. Autotrophs, or "self-feeders" are able to produce their own food using the Sun's energy. Other animals known as *heterotrophs*, or "other feeders," cannot produce their own food. For example, deer which are heterotrophs, eat grasses which are autotrophs. Some heterotrophic animals, known as *predators*, eat other animals. Examples of predators are largemouth bass, sharks, and coyotes. The animals that are fed upon by predators are known as *prey*.

One way to study the relationships between organisms in an ecosystem is to look at their feeding habits. Trophic relationships deal with the types of food organisms eat and how organisms are dependent on one another. The word trophic is defined as "to eat" and is a root word found in both the terms autotrophic and heterotrophic. Autotrophs and heterotrophs are also respectively known as producers and consumers. See Figure 1.

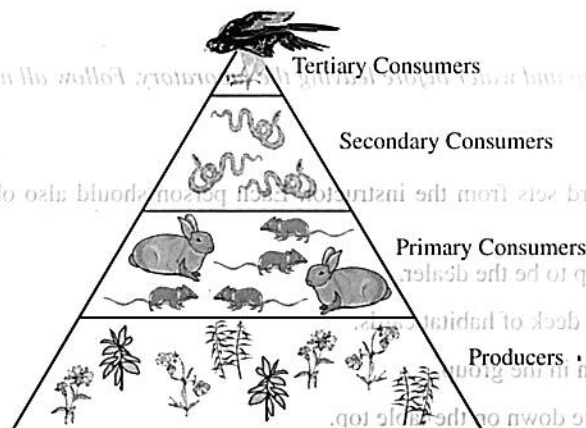


Figure 1.

Producers are autotrophic and at the bottom of the food chain. Consumers are heterotrophic and are generally classified into three other subgroups—herbivores, carnivores, and omnivores. *Herbivores* obtain energy by only eating plants. Examples of herbivores are cows, deer and rabbits. *Carnivores*, such as snakes and owls, only eat other animals. *Omnivores*, such as humans and bears, eat both plants and animals. All consumers are dependent upon producers in one way or another. Consumers may be further broken down into groups based on how far removed their food of choice is from the producers. *Primary consumers* feed directly upon producers, *secondary consumers* feed upon a primary consumers, *tertiary consumers* feed upon a secondary consumer, and so on.

Within specific ecosystems food chains are formed. A *food chain* is a direct relationship between a producer, primary consumer, secondary consumer and a tertiary consumer. In some instances, a quaternary consumer may be involved. Other organisms known as scavengers and decomposers are involved in food chains as well. *Scavengers* eat dead animal and/or plant material. They do not directly hunt or prey upon animals. Turkey vultures are classic scavengers. *Decomposers* are organisms that break down tissues of living or non-living organisms. Decomposers absorb nutrients from organisms they feed upon. Fungi and bacteria are good examples of this group.

In nature, not all feeding relationships between organisms are formed directly in a food chain. There are many individuals that may prey or be preyed upon by different types of organisms. A food web more accurately defines these types of relationships. *Food webs* are networks of complex interactions formed by the feeding relationships among the various organisms in an ecosystem.

The number and types of producers and consumers in an ecosystem depend on the region where the ecosystem exists. Earth is divided into several different areas known as *biomes*. Biomes are defined by the types of animals, flowers, and climate they contain. In general, there are five main biomes—aquatic, desert, forest, grassland, and tundra. Biomes are further divided into different habitats or areas where an organism naturally lives.

Experiment Overview

In this activity, organisms from five different habitats—marine, desert, tropical rainforest, hardwood forest, and swamp—will be studied. Food chains and webs will be formed for each of these habitats.

Materials

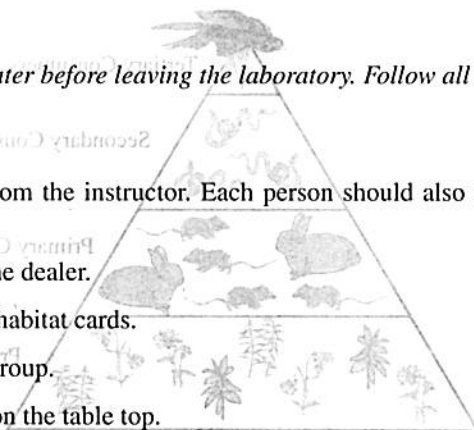
Marine habitat card set, blue	Rainforest Food Web Sheet
Desert habitat card set, yellow	Hardwood Forest Food Web Sheet
Rainforest habitat card set, green	Swamp Food Web Sheet
Hardwood forest habitat card set, red	Modeling clay, 1 stick
Swamp habitat card set, purple	Scissors
Marine Food Web Sheet	String, approximately 25 feet
Desert Food Web Sheet	

Safety Precautions

Wash hands thoroughly with soap and water before leaving the laboratory. Follow all normal classroom guidelines.

Procedure

- Obtain one of the habitat card sets from the instructor. Each person should also obtain the appropriate Food Web Sheet from the instructor.
- Pick one member of the group to be the dealer.
- The dealer should shuffle the deck of habitat cards.
- Deal five cards to each person in the group.
- Place the remaining cards face down on the table top.
- The person to the left of the dealer should draw a card from the top of the pile.
- The card should be placed in the first person's hand.
- The object of the game is to complete a food chain containing five organisms.
- Use the appropriate Food Web Sheet to confirm whether or not a food chain of five organisms has been formed.
- If a complete food chain of five organisms is not in the first person's hand, one of the first person's cards must be discarded face-down next to the original draw pile.



11. The next player to the left may either pick up a card from the draw pile or the discard pile.
12. Play continues clockwise until a food chain is formed.
13. If cards run out in the draw pile, reshuffle the discard pile and use that as the new draw pile.
14. When a player completes a food chain, it should be checked to make sure that it is complete and realistic.
15. Resume play until all members of the group create complete food chains.
16. When everyone in the group has a complete food chain, the first group member to complete their food chain should place their cards on the table top.
17. The first member should cut four 5" pieces of string.
18. Using clay, attach the pieces of string to the cards to form a food chain.
19. Steps 17 and 18 should then be repeated by the other members of the group.
20. Once the four food chains have been formed, determine what organisms from the different food chains may be linked together based on their trophic levels.
21. Use additional clay and pieces of string to attach these organisms and form a food web.
22. Answer the *Post-Lab Questions*.
23. If time allows, obtain a different habitat card set from another group and repeat steps 1–21.

Disposal

All materials may be saved and reused.

Post-Lab Questions *(Use a separate sheet of paper to answer the following questions.)*

1. What is a trophic level?
2. Are most habitats better described as a food chain or a food web? Why?
3. What roles do decomposers and scavengers play in a habitat? What would happen if these organisms were not present?
4. What would happen if a predator organism was removed from a certain habitat? Use specific examples from your group's constructed food web.
5. Can an organism be a secondary and tertiary consumer in the same ecosystem? Explain using examples from the game.
6. In general, are there more tertiary consumers or producers in a healthy habitat? Why?
7. Draw a food chain and a food web for organisms living in your area.

Lab Hints

- Enough materials are provided in this kit for 40 students working in groups of eight (four groups of eight) or 20 students working in groups of four. This laboratory activity can reasonably be completed in one 50-minute class period.
- Copies of the appropriate Food Web Sheets should be made for each student.
- One stick of clay should be given to each student "game."
- Each "game" should receive one piece of string approximately 25 ft long.
- Additional games may be set up and played after the initial round and the Post-Lab Questions have been answered.

Rain Forest Food Web Sheet

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Brazil Tree Nut	A	NA	NA	Agouti, Caterpillar, Ant, Iguana, Howler Monkey, Coatiundi, Decomposers, Scavengers
Papaya	A	NA	NA	Caterpillar, Ant, Iguana, Humming Bird, Agouti, Howler Monkey, Fruit Bat, Monarch Butterfly, Toucan, Kinkajou, Coatiundi, Decomposers, Scavengers
Banana	A	NA	NA	Caterpillar, Ant, Iguana, Hummingbird, Agouti, Howler Monkey, Fruit Bat, Monarch Butterfly, Toucan, Kinkajou, Coatiundi, Decomposers, Scavengers
Acacia Tree	A	NA	NA	Agouti, Caterpillar, Ant, Iguana, Howler Monkey, Coatiundi, Decomposers, Scavengers
Orchid	A	NA	NA	Agouti, Caterpillar, Ant, Iguana, Howler Monkey, Coatiundi, Monarch Butterfly, Kinkajou, Decomposers, Scavengers
Morichi Palm	A	NA	NA	Agouti, Caterpillar, Ant, Iguana, Howler Monkey, Coatiundi, Kinkajou, Decomposers, Scavengers
Caterpillar	H	Herb	Leaves	Tree Frog, Anole, Gecko, Kinkajou, Yellow-billed Cuckoo, Coatiundi, Decomposers, Scavengers
Ant	H	Herb	Leaves	Tree Frog, Anole, Gecko, Kinkajou, Yellow-billed Cuckoo, Coatiundi, Decomposers, Scavengers
Iguana	H	Herb	Flowers, Fruits, Leaves	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Humming Bird	H	Herb	Flower Nectar	Gecko, Kinkajou, Coatiundi, Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Agouti	H	Herb	Plants	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Howler Monkey	H	Herb	Leaves, Fruit	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Fruit Bat	H	Herb	Fruit	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Monarch Butterfly	H	Herb	Fruit, Flower Nectar	Tree Frog, Anole, Gecko, Kinkajou, Yellow-billed Cuckoo, Coatiundi, Decomposers, Scavengers
Toucan	H	Herb	Fruit	Kinkajou, Coatiundi, Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers

A = Autotroph H = Heterotroph Herb = Herbivore Carn = Carnivore Omni = Omnivore Decom = Decomposer Scav = Scavenger

Rain Forest Food Web Sheet, continued

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Tree Frog	H	Carn	Insects	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Gecko	H	Carn	Insects, Small Birds, Young Mammals	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Anole	H	Carn	Insects	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Kinkajou	H	Omni	Fruit, Flowers, Insects, Small Mammals, Birds	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Yellow-billed Cuckoo	H	Carn	Insects	Kinkajou, Coatimundi, Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Coatimundi	H	Omni	Insects, Small Mammals, Birds, Fruit, Nuts	Anaconda, Emerald Tree Boa, Caiman, Jaguar, Harpy Eagle, Decomposers, Scavengers
Caiman	H	Carn	Birds, Mammals, Reptiles	Jaguar, Decomposers, Scavengers
Jaguar	H	Carn	Birds, Mammals, Reptiles	Top of Food Chain, Decomposers, Scavengers
Emerald Tree Boa	H	Carn	Birds, Mammals, Reptiles	Harpy Eagle, Decomposers, Scavengers
Anaconda	H	Carn	Birds, Mammals, Reptiles	Jaguar, Caiman, Decomposers, Scavengers
Harpy Eagle	H	Carn	Birds, Mammals, Reptiles	Top of Food Chain, Decomposers, Scavengers
Bacteria	H	Decom	Decaying Plant and Animal Matter	None
King Vulture	H	Scav	Decaying Plant and Animal Matter	Jaguar, Caiman, Decomposers
Oyster Mushroom	H	Decom	Decaying Plant and Animal Matter	Insects
Jelly Fungus	H	Decom	Decaying Plant and Animal Matter	Insects

Hardwood Forest Food Web Sheet

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Raspberries	A	NA	NA	Spider, Mice, Shrew, Whitetail Deer, Squirrel, Rabbit, Moth, Grasshopper, Raccoon, Mink, Turkey, Cardinal, Robin, Black Bear, Decomposers, Scavengers
Walnut Tree	A	NA	NA	Whitetail Deer, Squirrel, Raccoon, Rabbit, Grasshopper, Mouse, Shrew, Decomposers, Scavengers
Maple tree	A	NA	NA	Whitetail Deer, Squirrel, Raccoon, Rabbit, Grasshopper, Mouse, Shrew, Decomposers, Scavengers
Oak Tree	A	NA	NA	Whitetail Deer, Squirrel, Raccoon, Rabbit, Grasshopper, Mouse, Shrew, Decomposers, Scavengers
Hickory Tree	A	NA	NA	Whitetail Deer, Squirrel, Raccoon, Rabbit, Grasshopper, Mouse, Shrew, Decomposers, Scavengers
Dogwood	A	NA	NA	Whitetail Deer, Squirrel, Raccoon, Rabbit, Grasshopper, Mouse, Shrew, Moth, Decomposers, Scavengers
Black-eyed Susan	A	NA	NA	Whitetail Deer, Squirrel, Raccoon, Rabbit, Grasshopper, Mouse, Shrew, Moth, Decomposers, Scavengers
Whitetail Deer	H	Herb	Plants, Leaves, Bark, Twigs	Black Bear, Bobcat, Coyote, Decomposers, Scavengers
Squirrel	H	Herb	Leaves, Nuts, Seeds, Roots, Plants	Black Bear, Bobcat, Coyote, Red Fox, Gray Fox, Badger, Mink, Raccoon, Great Horned Owl, Decomposers, Scavengers
Turkey	H	Herb	Seeds, Fruits, Insects	Black Bear, Bobcat, Coyote, Red Fox, Gray Fox, Badger, Mink, Raccoon, Great Horned Owl, Decomposers, Scavengers
Shrew	H	Omni	Seeds, Plants, Fruit	Black Bear, Bobcat, Coyote, Red Fox, Gray Fox, Badger, Mink, Raccoon, Great Horned Owl, Decomposers, Scavengers
Rabbit	H	Herb	Leaves, Bark, Twigs	Black Bear, Bobcat, Coyote, Red Fox, Gray Fox, Badger, Mink, Raccoon, Great Horned Owl, Decomposers, Scavengers
Mouse	H	Herb	Seeds, Plants, Fruit	Black Bear, Bobcat, Coyote, Red Fox, Gray Fox, Badger, Mink, Raccoon, Great Horned Owl, Decomposers, Scavengers
Moth	H	Herb	Plants	Cardinal, Robin, Turkey, Mink, Spider, Gray Fox, Red Fox, Coyote, Black Bear, Decomposers, Scavengers
Grasshopper	H	Herb	Plants	Cardinal, Robin, Turkey, Mink, Spider, Gray Fox, Red Fox, Coyote, Black Bear, Decomposers, Scavengers

A = Autotroph

H = Heterotroph

Herb = Herbivore

Carn = Carnivore

Omni = Omnivore

Decom = Decomposer

Scav = Scavenger

Hardwood Forest Food Web Sheet, continued

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Raccoon	H	Omni	Plants, Fruit, Nuts, Rodents, Birds	Black Bear, Bobcat, Coyote, Great Horned Owl, Decomposers, Scavengers
Mink	H	Omni	Rodents, Other Small Mammals, Birds, Insects	Black Bear, Bobcat, Coyote, Great Horned Owl, Decomposers, Scavengers
Badger	H	Carn	Small Mammals, Insects, Birds	Black Bear, Bobcat, Coyote, Decomposers, Scavengers
Robin	H	Omni	Seeds, Insects	Black Bear, Bobcat, Coyote, Red Fox, Gray Fox, Badger, Mink, Raccoon, Great Horned Owl, Decomposers, Scavengers
Cardinal	H	Omni	Seeds, Insects	Black Bear, Bobcat, Coyote, Red Fox, Gray Fox, Badger, Mink, Raccoon, Great Horned Owl, Decomposers, Scavengers
Spider	H	Carn	Insects	Cardinal, Robin, Turkey, Mink, Gray Fox, Red Fox, Coyote, Black Bear, Decomposers, Scavengers
Gray Fox	H	Carn	Rodents, Birds, Insects	Black Bear, Bobcat, Coyote, Decomposers, Scavengers
Coyote	H	Carn	Mammals, Birds, Insects	Black Bear, Bobcat, Decomposers, Scavengers
Bobcat	H	Carn	Mammals, Birds	Black Bear, Coyote, Decomposers, Scavengers
Great Horned Owl	H	Carn	Small Mammals, Birds	Raccoon, Red Fox, Gray Fox, Coyote, Decomposers, Scavengers
Black Bear	H	Omni	Mammals, Birds, Insects, Plants	Top of Food Chain, Decomposers, Scavengers
Cockroach	H	Scav	Decaying Plant and Animal Material	Cardinal, Robin, Turkey, Mink, Spider, Gray Fox, Red Fox, Coyote, Black Bear, Decomposers, Scavengers
Mushroom	H	Decom	Decaying Plant and Animal Material	Spider, Grasshopper, Whitetail Deer, Raccoon, Moth, Mouse, Shrew Squirrel
Bacteria	H	Decom	Decaying Plant and Animal Material	None
Turkey Vulture	H	Scav	Decaying Plant and Animal Material	Decomposers, Scavengers

Swamp Food Web Sheet

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Algae	A	NA	NA	Mallard Duck, Mosquito, Crayfish, Snail, Minnow, Tadpole, Decomposers
Cattails	A	NA	NA	Mallard Duck, Mosquito, Crayfish, Snail, Minnow, Tadpole, Grasshopper, Decomposers
Water Lily	A	NA	NA	Mallard Duck, Mosquito, Crayfish, Snail, Minnow, Tadpole, Grasshopper, Decomposers
Iris	A	NA	NA	Mallard Duck, Mosquito, Crayfish, Snail, Minnow, Tadpole, Grasshopper, Decomposers
Duckweed	A	NA	NA	Mallard Duck, Mosquito, Crayfish, Snail, Minnow, Tadpole, Grasshopper, Decomposers
Pennywort	A	NA	NA	Mallard Duck, Mosquito, Crayfish, Snail, Minnow, Tadpole, Grasshopper, Decomposers
Mallard Duck	H	Omni	Plants, Algae, Insects, Small Fish	Red Fox, Bald Eagle, Alligator, Panther, Scavengers, Decomposers
Mosquito	H	Omni	Plants, Algae, Blood of Mammals	Water Strider, Salamander, Opposum, Muskrat, Dragonfly, Frog, Mallard Duck, Decomposers
Crayfish	H	Omni	Algae, Plants, Insects	Great Egret, Great Blue Heron, River Otter, Opposum, Muskrat, Frog, Red Fox, Scavengers, Decomposers
Grasshopper	H	Herb	Plants	Salamander, Opposum, Muskrat, Frog, Mallard Duck, Decomposers
Water Strider	H	Carn	Mosquito larvae	Salamander, Opposum, Muskrat, Frog, Mallard Duck, Decomposers
Snail	H	Herb	Algae, Plants	Great Egret, Great Blue Heron, River Otter, Opposum, Muskrat, Frog, Scavengers, Decomposers
Minnow	H	Herb	Algae, Plants	Great Egret, Great Blue Heron, River Otter, Opposum, Muskrat, Frog, Scavengers, Decomposers
Tadpole	H	Herb	Algae, Plants	Great Egret, Great Blue Heron, River Otter, Opposum, Muskrat, Frog, Scavengers, Decomposers
Great Egret	H	Carn	Fish, Frogs, Tadpoles, Crayfish, Salamanders, Snails	Red Fox, Bald Eagle, Alligator, Panther, Scavengers, Decomposers
Great Blue Heron	H	Carn	Fish, Frogs, Tadpoles, Crayfish, Salamanders, Snails	Red Fox, Bald Eagle, Alligator, Panther, Scavengers, Decomposers

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Swamp Food Web Sheet, continued

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
River Otter	H	Carn	Fish, Frogs, Tadpoles, Crayfish, Salamanders, Snails	Red Fox, Bald Eagle, Alligator, Panther, Scavengers, Decomposers
Salamander	H	Carn	Insects, Snails	Great Egret, Great Blue Heron, River Otter, Opposum, Muskrat, Frog, Red Fox, Bald Eagle, Alligator, Scavengers, Decomposers
Opposum	H	Omni	Insects, Shails, Minnows, Tadpoles, Frogs, Crayfish, Salamanders	Red Fox, Bald Eagle, Alligator, Panther, Scavengers, Decomposers
Muskrat	H	Omni	Plants, Crayfish, Salamanders, Tadpoles, Insects, Snails	Red Fox, Bald Eagle, Alligator, Panther, Scavengers, Decomposers
Dragonfly	H	Carn	Insects	Salamander, Opposum, Muskrat, Frog, Mallard Duck, Decomposers
Frog	H	Carn	Crayfish, Small Fish, Snails, Insects	Great Egret, Great Blue Heron, River Otter, Opposum, Muskrat, Frog, Red Fox, Bald Eagle, Alligator, Scavengers, Decomposers
Red Fox	H	Carn	Fish, Frogs, Tadpoles, Crayfish, Salamanders, Birds	Bald Eagle, Panther, Alligator, Scavengers, Decomposers
Bald Eagle	H	Carn	Fish, Small Mammals, Frogs, Birds, Reptiles	Top of Food Chain, Scavengers, Decomposers
Panther	H	Carn	Fish, Mammals, Birds	Top of Food Chain, Scavengers, Decomposers
Alligator	H	Carn	Fish, Mammals, Birds	Top of Food Chain, Scavengers, Decomposers
Earthworm	H	Scav	Decaying Plant and Animal Matter	Great Egret, Great Blue Heron, River Otter, Opposum, Muskrat, Frog, Scavengers, Decomposers
Bacteria	H	Decom	Decaying Plant and Animal Matter	Tadpole
Turkey Vulture	H	Scav	Decaying Plant and Animal Matter	Red Fox, Alligator, Panther, Decomposers
Mushrooms	H	Decom	Decaying Plant and Animal Matter	Mallard Ducks

Desert Food Web Sheet

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Desert Marigold	A	NA	NA	Peccary, Pika, Chuckwalla, Mule Deer, Jackrabbit, Kangaroo Rat, Queen Butterfly, Carpenter Ant, Yucca Moth, Scavengers, Decomposers
Prickly Pear Cactus	A	NA	NA	Peccary, Pika, Chuckwalla, Mule Deer, Jackrabbit, Kangaroo Rat, Queen Butterfly, Carpenter Ant, Yucca Moth, Scavengers, Decomposers
Saguaro	A	NA	NA	Peccary, Pika, Chuckwalla, Mule Deer, Jackrabbit, Kangaroo Rat, Queen Butterfly, Carpenter Ant, Yucca Moth, Scavengers, Decomposers
Yucca	A	NA	NA	Peccary, Pika, Chuckwalla, Mule Deer, Jackrabbit, Kangaroo Rat, Queen Butterfly, Carpenter Ant, Yucca Moth, Scavengers, Decomposers
Sunflower	A	NA	NA	Peccary, Pika, Chuckwalla, Mule Deer, Jackrabbit, Kangaroo Rat, Queen Butterfly, Carpenter Ant, Yucca Moth, Scavengers, Decomposers
Mesquite	A	NA	NA	Peccary, Pika, Chuckwalla, Mule Deer, Jackrabbit, Kangaroo Rat, Queen Butterfly, Carpenter Ant, Yucca Moth, Scavengers, Decomposers
Peccary	H	Herb	Plants	Cougar, Coyote, Scavengers, Decomposers
Pika	H	Herb	Plants	Horned Lizard, Scorpion, Road Runner, Raven, Cougar, Gila Monster, Coyote, Rattlesnake, Golden Eagle, Scavengers, Decomposers
Chuckwalla	H	Herb	Plants	Horned Lizard, Scorpion, Tarantula, Road Runner, Raven, Gila Monster, Coyote, Golden Eagle, Scavengers, Decomposers
Mule Deer	H	Herb	Plants	Cougar, Coyote, Scavengers, Decomposers
Jackrabbit	H	Herb	Plants	Raven, Cougar, Gila Monster, Coyote, Rattlesnake, Golden Eagle, Scavengers, Decomposers
Kangaroo Rat	H	Herb	Seeds, Plants	Horned Lizard, Scorpion, Road Runner, Raven, Cougar, Gila Monster, Coyote, Rattlesnake, Golden Eagle, Scavengers, Decomposers
Queen Butterfly	H	Herb	Plants	Armadillo, Horned Lizard, Scorpion, Tarantula, Road Runner, Raven, Scavengers, Decomposers
Carpenter Ant	H	Herb	Plants	Armadillo, Horned Lizard, Scorpion, Tarantula, Road Runner, Raven, Scavengers, Decomposers
Yucca Moth	H	Herb	Plants	Armadillo, Horned Lizard, Scorpion, Tarantula, Road Runner, Raven, Scavengers, Decomposers
Armadillo	H	Carn	Insects	Cougar, Coyote, Golden Eagle, Scavengers, Decomposers

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Desert Food Web Sheet, continued

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Horned Lizard	H	Carn	Insects, Small Mammals, Small Reptiles	Scorpion, Road Runner, Raven, Gila Monster, Coyote, Rattlesnake, Golden Eagle, Scavengers, Decomposers
Scorpion	H	Carn	Insects, Small Reptiles	Road Runner, Raven, Cougar, Gila Monster, Coyote, Rattlesnake, Golden Eagle, Scavengers, Decomposers
Tarantula	H	Carn	Insects, Small Reptiles, Small Mammals	Horned Lizard, Scorpion, Road Runner, Raven, Scavengers, Decomposers
Road Runner	H	Carn	Rodents, Insects, Lizards	Raven, Cougar, Gila Monster, Coyote, Rattlesnake, Golden Eagle, Scavengers, Decomposers
Raven	H	Carn	Rodents, Insects, Lizards, Small Birds, Small Snakes	Gila Monster, Coyote, Cougar, Rattlesnake, Golden Eagle, Scavengers, Decomposers
Cougar	H	Carn	Mammals, Reptiles, Birds	Top of Food Chain, Scavengers, Decomposers
Gila Monster	H	Carn	Small Mammals, Birds, Snakes, Lizards	Cougar, Rattlesnake, Golden Eagle, Scavengers, Decomposers
Coyote	H	Carn	Small Mammals, Birds, Snakes, Lizards	Cougar, Scavengers, Decomposers
Rattlesnake	H	Carn	Small Mammals, Birds, Snakes, Lizards	Raven, Coyote, Golden Eagle, Cougar, Scavengers, Decomposers
Golden Eagle	H	Carn	Small Mammals, Birds, Snakes, Lizards	Top of Food Chain, Scavengers, Decomposers
Turkey Vulture	H	Scav	Decaying Plant and Animal Material	Golden Eagle, Decomposers, Scavengers
Termite	H	Decom	Decaying Plant and Animal Material	Tarantula, Aramidillo, Road Runner, Raven, Scavengers, Decomposers
Bacteria	H	Decom	Decaying Plant and Animal Material	Termite
Hyena	H	Scavi	Decaying Plant and Animal Material	Cougar, Coyote, Scavengers, Decomposers

Marine Food Web Sheet

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Turtle Grass	A	NA	NA	Manatee, Immature Fish, Shrimp, Scallop, Conch, Crab, Decomposers, Scavengers
Brown Algae	A	NA	NA	Manatee, Immature Fish, Shrimp, Scallop, Conch, Crab, Decomposers, Scavengers
Sea Lettuce	A	NA	NA	Manates, Immature Fish, Shrimp, Scallop, Conch, Crab, Decomposers, Scavengers
Red Algae	A	NA	NA	Immature Fish, Shrimp, Zooplankton, Crab, Decomposers, Scavengers
Green Algae	A	NA	NA	Immature Fish, Shrimp, Zooplankton, Crab, Decomposers, Scavengers
Diatoms	A	NA	NA	Oysters, Octopus, Angel Fish, Jelly Fish, Crab, Anemone, Decomposers, Scavengers
Manatee	H	Herb	Seagrasses	Decomposers, Scavengers
Immature Fish	H	Herb	Seagrasses, Algae	Sea Star, Octopus, Angel Fish, Jelly Fish, Tuna, Lobster, Moray Eel, Anemone, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Shrimp	H	Omni	Seagrasses, Algae	Angel Fish, Octopus, Tuna, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Scallop	H	Omni	Zooplankton	Sea Star, Crab, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Conch	H	Herb	Seagrasses	Octopus, Lobster, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Zooplankton	H	Herb	Algae	Oyster, Octopus, Angel Fish, Jellyfish, Crab, Anemone, Decomposers, Scavengers
Oyster	H	Omni	Zooplankton, Diatoms	Sea Star, Lobsters, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Sea Stars	H	Carn	Scallops, Oysters, Fish	Tuna, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Octopus	H	Carn	Fish, Zooplankton, Diatoms, Crabs, Conch, Shrimp	Morey Eel, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers

A = Autotroph H = Heterotroph Herb = Herbivore Carn = Carnivore Omni = Omnivore Decom = Decomposer Scav = Scavenger

Marine Food Web Sheet, continued

Organism	Autotroph or Heterotroph	Herbivore, Omnivore, Carnivore, or Decomposer/Scavenger	Consumes	Consumed by
Angelfish	H	Carn	Shrimp, Zooplankton, Diatoms, Immature Fish	Octopus, Jellyfish, Tuna, Lobster, Moray Eel, Anemone, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Jellyfish	H	Carn	Fish, Zooplankton, Diatoms	Crab, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Crab	H	Omni	Seagrasses, Algae, Sea Stars, Scallops, Jellyfish, Zooplankton, Diatoms	Lobster, Octopus, Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Tuna	H	Carn	Fish, Sea Stars, Shrimp	Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Lobster	H	Carn	Scallops, Oysters, Fish, Crabs, Conch	Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Moray Eel	H	Carn	Fish, Octopus	Lemon Shark, Sea Turtle, Killer Whale, Tiger Shark, Decomposers, Scavengers
Anemone	H	Carn	Small fish, Zooplankton, Diatoms	Sea Star, Decomposers, Scavengers
Lemon Shark	H	Carn	Fish, Invertebrates, Marine Mammals	Killer Whale, Tiger Sharks, Decomposers, Scavengers
Sea Turtle	H	Carn	Fish, Invertebrates	Lemon Shark, Tiger Sharks, Decomposers, Scavengers
Killer Whale	H	Carn	Fish, Invertebrates, Marine Mammals	Top of Food Chain, Decomposers, Scavengers
Tiger Shark	H	Carn	Fish, Invertebrates, Marine Mammals	Killer Whale, Lemon Shark, Decomposers, Scavengers
Marine Fungi	H	Decom	Decaying Plant and Animal Matter	Oyster, Octopus, Angelfish, Jellyfish, Crab, Anemone, Decomposers, Scavengers
Sea Cucumber	H	Scav	Decaying Plant and Animal Matter	Sea Star, Angelfish, Tuna, Decomposers, Scavengers
Marine Bacteria	H	Decom	Decaying Plant and Animal Matter	Oyster, Octopus, Angelfish, Jellyfish, Crab, Anemone, Decomposers, Scavengers
Sea Urchin	H	Scav	Decaying Plant and Animal Matter	Tuna, Angelfish, Decomposers, Scavengers