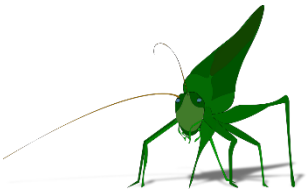
Name _____

Building a Food web



In a group, work together to sort the pictures into categories. When they're sorted, try to match the terms to the groups you created.

1. What categories did you initially choose for your pictures?

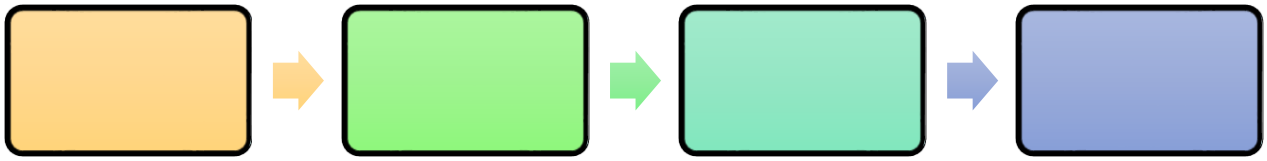
   _____

2. Once you were given the cards with the words, how did you categorize the cards?

   _____

The terms and pictures make up three different ecosystems: desert, pond, and grasslands. An **ecosystem** is a community of **living organisms** who function together with **nonliving** parts like soil and rocks in the same environment. They are linked together through nutrient cycles and energy flows. Initially fueled by the **sun**, the living parts of the system work together to provide **energy** all the way up the **food chain**.

3. With the deck of cards given to you, sort the cards into one ecosystem and try to create a food chain. Consider what each item eats, and use the terms you labeled to help you. Draw what your group came up with below. Feel free to draw more boxes as needed.



4. Now that you have a chain, add two more cards to your pile: the sun, and a decomposer. Discuss how they fit into the puzzle. You can use the pyramid below or draw your own.

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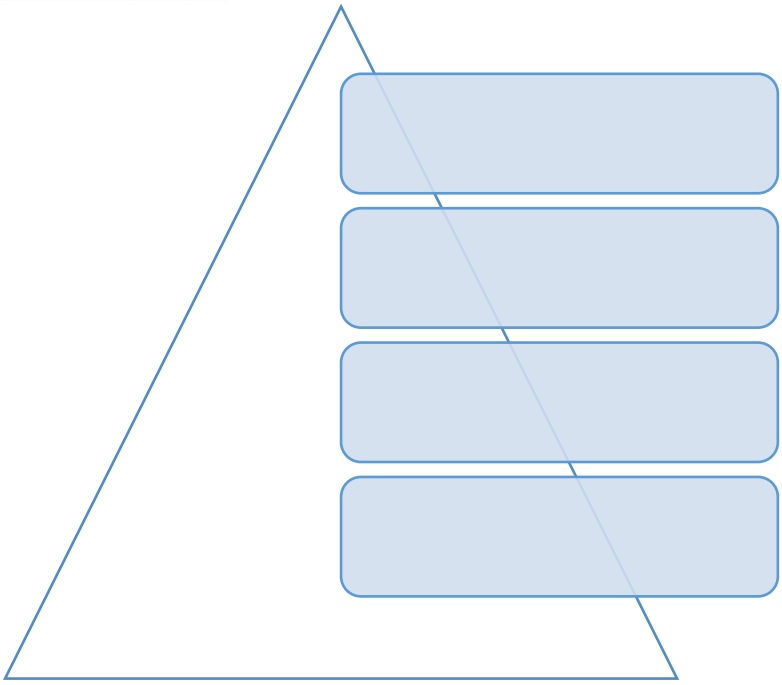

Each part of the food chain has a name to describe it.

Producer- organism that makes its own food; also known as autotrophs. They get energy from chemicals or the sun, and with the help of water, convert that energy into useable energy in the form of sugar, or food
Primary (1°) Consumer- organism that feeds on plants or other autotrophs
Secondary (2°) Consumer- organism that feeds on animals and primary consumers
Apex Predator- organism at the top of the food chain who has no predators
Decomposer- organism who breaks down waste (**organic matter**), converting it back to rich soil for plants to use

5. Looking at what each animal eats, label the following parts on your pyramid drawing.
    a. Producer, consumer, decomposer,

6. Why is the sun an important part of the ecosystem?

_____

7. How do the producers get their energy?

_____

8. How do decomposers contribute to the food chain?

_____

Name _____

Compile a Food Web

After the group activity, collaborate with other groups' food chains to develop a food web that connects all the organisms.

9. Do you think a food chain or a food web is a more accurate model of relationships between organisms? Why?

_____

_____

_____

10. Draw the food web your class created.

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Teacher Guide

The idea for this lesson is to have students work together to develop relationships between organisms that create an ecosystem and relating the terms that describe their eating habits. Start with the students in pairs or groups. Have them group the cards into categories in general, just to familiarize themselves with the organisms. To guide their categorization, hand out the cards with the terms on them. This is a pre-assessment to see if they know what the terms mean or what they think they mean.

Have students create a food chain with the organisms and write them in the boxes on their handout. Then, ask them to add in the sun and decomposers if they have not already. Have them change the shape and add the terms to form a pyramid.

When each group completes their pyramid, recap with an interactive activity.

Desert Rock Paper Scissor!

Have students play a game to move up and down in the ecosystem. They will play rock, paper, scissor to determine the winner and loser of each round. Losing a round requires students to move down the food chain while winning requires students to move up.

Start by being the producer, a cactus. Everybody stands around with their arms out at 90 degrees, bent at the elbow. Move up or down per the following chart:

Ecosystem	Organism	Hand Gesture
Producer	Cactus	Stand with arms bent at the elbow 90 degrees
Consumer	Grasshopper	Jump in the air
Secondary Consumer	Tarantula	Wiggle fingers by mouth to pretend you have arachnid mouthparts
Tertiary Consumer	Hawk	Flap arms like wings
Decomposer	Millipede	Move arms in a slithering motion

Bring the class together to create a food web with all the organisms they put together into food chains. Connect each animal with string to show relationships.

	Pond	Grass	Desert
Producer	Algae	Maple tree	Cactus
1° Consumer	Mosquito larva	Cicada	Grasshopper
2° Consumer	Dragonfly larva	Cicada Killer	Tarantula
3° Consumer	Fish	Snake	Snake
Apex Predator	Turtle	Hawk	Hawk
Decomposer	Bacteria	Millipede	Millipede

Name _____

 Mosquito larva	 Cicada killer	Decomposer
 Dragonfly larva		Producer
	 Algae	Consumer

	 Maple Tree	Heterotroph
 Bacteria	 Cicada	Autotroph

Name _____

Cricket

Millipede

Algae

Cicada

Maple Tree