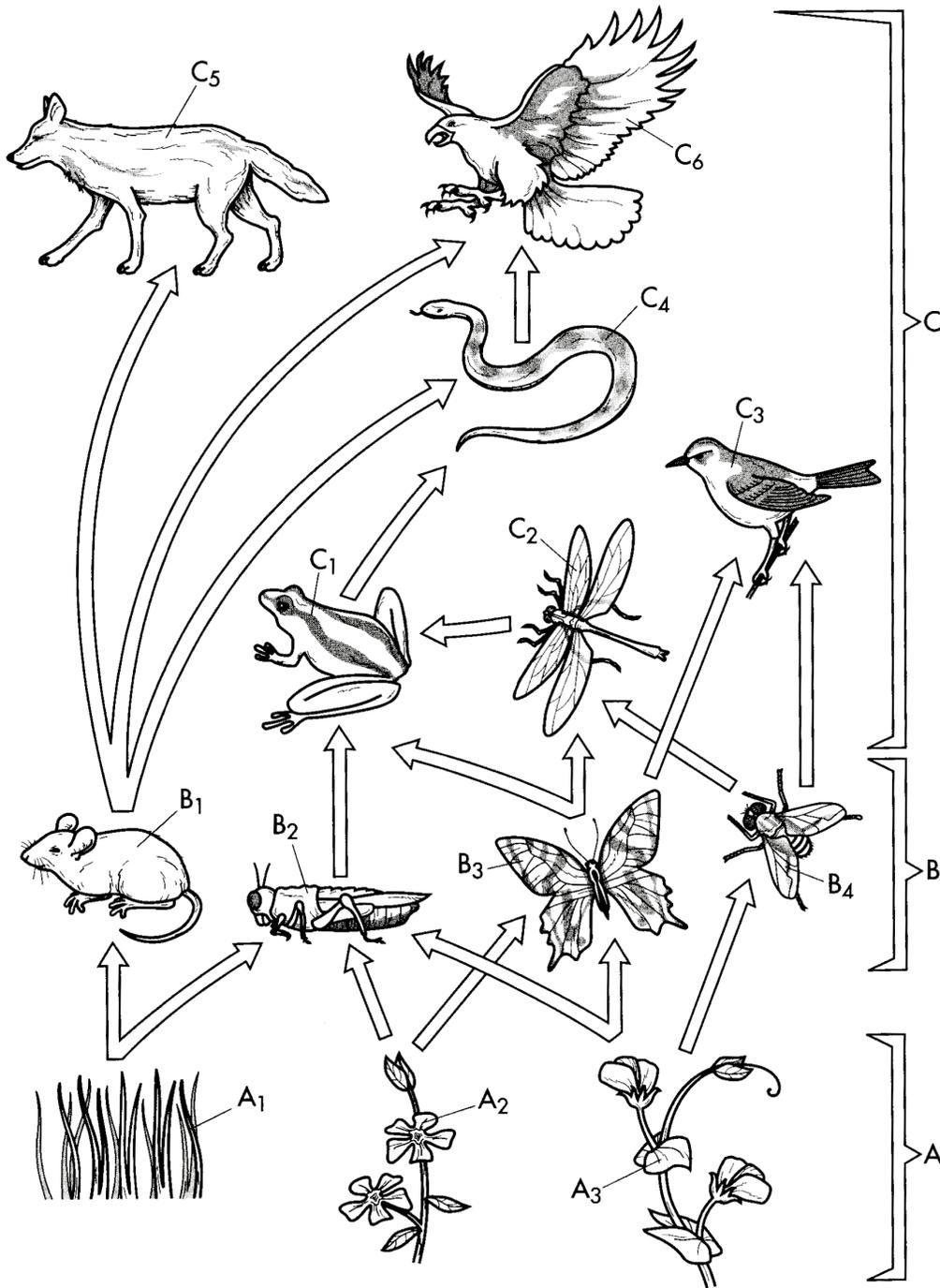


# Food Web Relationships

Name: \_\_\_\_\_

Period: \_\_\_\_\_



**A Food Web**

<input type="radio"/> Producers .....A	<input type="radio"/> Field Mouse .....B <sub>1</sub>	<input type="radio"/> Dragonfly .....C <sub>2</sub>
<input type="radio"/> Grasses .....A <sub>1</sub>	<input type="radio"/> Grasshopper .....B <sub>2</sub>	<input type="radio"/> Bird.....C <sub>3</sub>
<input type="radio"/> Water Plants .....A <sub>2</sub>	<input type="radio"/> Butterfly .....B <sub>3</sub>	<input type="radio"/> Snake .....C <sub>4</sub>
<input type="radio"/> Terrestrial Plants...A <sub>3</sub>	<input type="radio"/> Housefly.....B <sub>4</sub>	<input type="radio"/> Coyote.....C <sub>5</sub>
<input type="radio"/> Primary Consumers ....B	<input type="radio"/> Secondary Consumers ..C	<input type="radio"/> Hawk.....C <sub>6</sub>
	<input type="radio"/> Frog.....C <sub>1</sub>	

diagram from The Princeton Review Biology Coloring Book (1998) by I. Edward Alcamo

Work: 10 points

## Food Web Relationships

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Follow the directions below to color-code the diagram and to answer the questions. Use colored pencils, and check off each box  as you finish that part of the instructions.

For this exercise, you will be seeing how different organisms interact with each other by interpreting a food web.

1. Food webs start with organisms called **producers**. These are plants, which make their own food through the process of photosynthesis. Because they make their own food, they do not have to eat anything. So, two easy ways to tell if something is a producer is to look for chloroplasts, and see if it has a mouth or not. Find the vertical bar labeled A in the bottom right of the diagram, and color it green . In the key, color the little circle next to "Producers" green as well . Next, color each of the plants (A<sub>1</sub>, A<sub>2</sub>, A<sub>3</sub>) along the bottom of the diagram using green, and whatever color you want for the flowers .

The word "produce" means "to make." Why are plants called producers in a food web?

2. Higher up the food web appear organisms called **primary consumers**. These are going to be animals that eat plants. Find the vertical bar labeled B in the middle right of the diagram, and color it brown . In the key, color the little circle next to "Primary Consumers" brown as well . Next, color each of the animals (B<sub>1</sub>, B<sub>2</sub>, B<sub>3</sub>, B<sub>4</sub>) at this level of the diagram using colors that make them look realistic .

The word "primary" means "first," and "consumers" eat things. Why does it make sense to call these animals in a food web primary consumers?

3. In the upper part of the food web, there are organisms called **secondary consumers**. These are going to be animals that eat other animals. Find the vertical bar labeled C in the top right of the diagram, and color it red . In the key, color the little circle next to "Secondary Consumers" red as well . Next, color each of the animals (C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub>, C<sub>5</sub>, C<sub>6</sub>) at this level of the diagram using colors that make them look realistic .

Why aren't these predatory animals called producers in a food web?

4. You can see by looking at the diagram how complicated some of the relationships in the food web can be. Others are quite simple and more direct.

In this food web, which *secondary consumer* would be most affected if the field mouse population died out?

**turn over for more questions**

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Imagine that frogs in this area are born with mutations that prevent them from jumping. Name two effects this would have upon the food web.

effect #1—

effect #2—

Imagine the the grass in this area was paved over to make a parking lot. Would this affect the bird (C<sub>3</sub>)? Why or why not?

A drought makes it harder for all kinds of organisms to survive. Imagine that this area has more coyotes coming to it, looking for food. How would a larger population of coyotes impact this food web?

In the space below, make a food chain that starts with terrestrial plants (A<sub>3</sub>) and contains at least 4 organisms. Include arrows to show the flow of energy from one organism to the next.