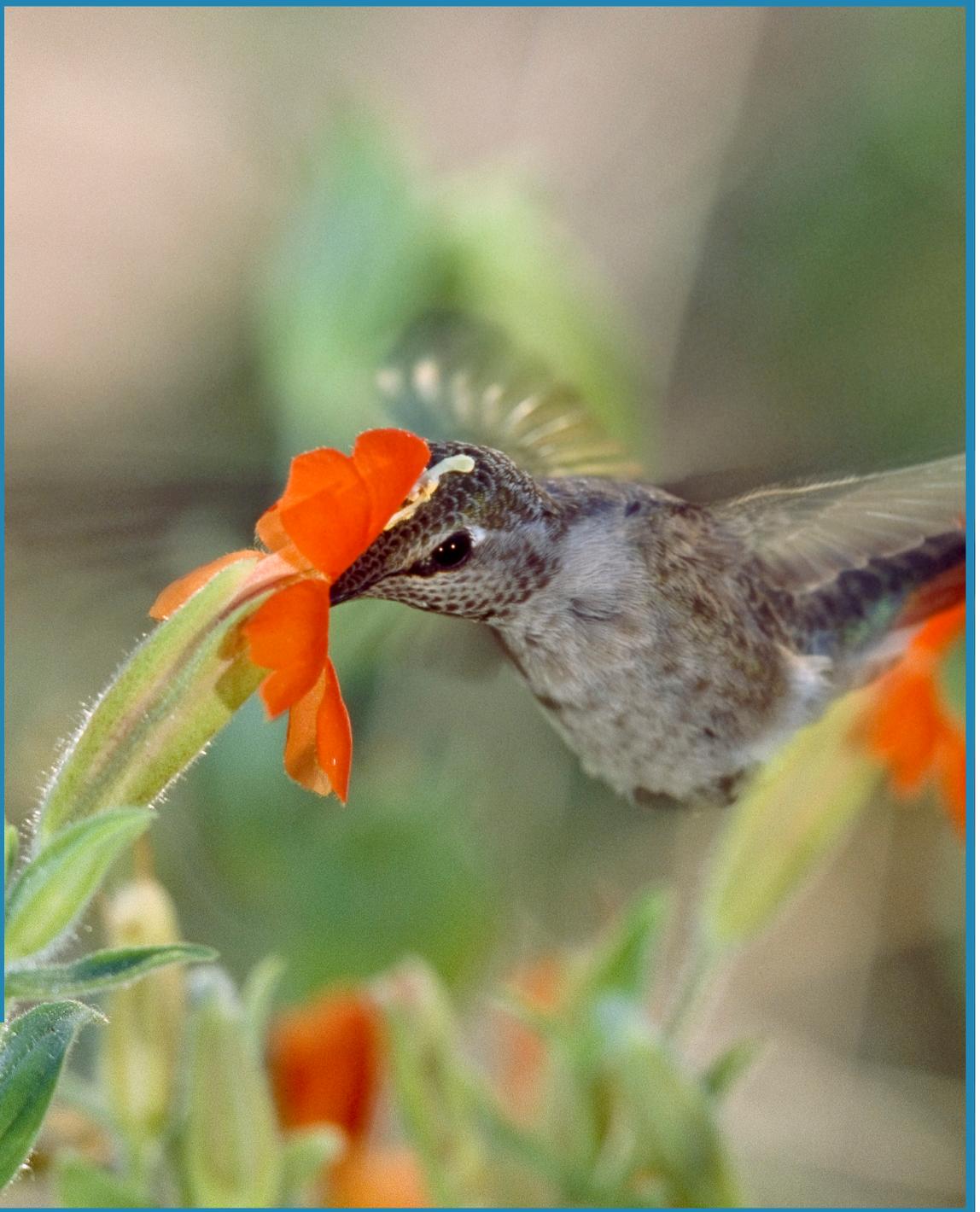


# 3

Science Standard  
3.3.a.

Supports  
ELA Standard:  
Writing 3.2.3.



# Structures for Survival in a Healthy Ecosystem

## California Education and the Environment Initiative

Approved by the California State Board of Education, 2010

### The Education and the Environment Curriculum is a cooperative endeavor of the following entities:

California Environmental Protection Agency  
California Natural Resources Agency  
Office of the Secretary of Education  
California State Board of Education  
California Department of Education  
California Integrated Waste Management Board

### Key Leadership for the Education and Environment Initiative:

**Linda Adams**, Secretary, California Environmental Protection Agency  
**Patty Zwarts**, Deputy Secretary for Policy and Legislation, California Environmental Protection Agency  
**Andrea Lewis**, Assistant Secretary for Education and Quality Programs, California Environmental Protection Agency  
**Mark Leary**, Executive Director, California Integrated Waste Management Board  
**Mindy Fox**, Director, Office of Education and the Environment, California Integrated Waste Management Board

### Key Partners:

Special thanks to **Heal the Bay**, sponsor of the EEI law, for their partnership and participation in reviewing portions of the EEI curriculum.

Valuable assistance with maps, photos, videos and design was provided by the **National Geographic Society** under a contract with the State of California.

### Office of Education and the Environment

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<http://www.calepa.ca.gov/Education/EEI/>

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

**Instructions:** Complete the **What Are Structures For?** charts as you read and discuss each plant and animal in **California Connections: Roots and Trunks, Beaks and Claws**.

Plant or Animal	Structure	Use of Structure	Resources from the Environment	How structure helps plant/animal use the resource to survive	What if the environment cannot provide the needed resource?
Lodgepole Pine	roots				
Lodgepole Pine	pine needles				
Lodgepole Pine	cones				

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

Plant or Animal	Structure	Use of Structure	Resources from the Environment	How structure helps plant/animal use the resource to survive	What if the environment cannot provide the needed resource?
Black Oak	pollen	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Black Oak	leaves	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Black Oak	tap root	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

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

Plant or Animal	Structure	Use of Structure	Resources from the Environment	How structure helps plant/animal use the resource to survive	What if the environment cannot provide the needed resource?
Pileated Woodpecker	beak	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Pileated Woodpecker	tail feathers	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Pileated Woodpecker	tongue	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

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

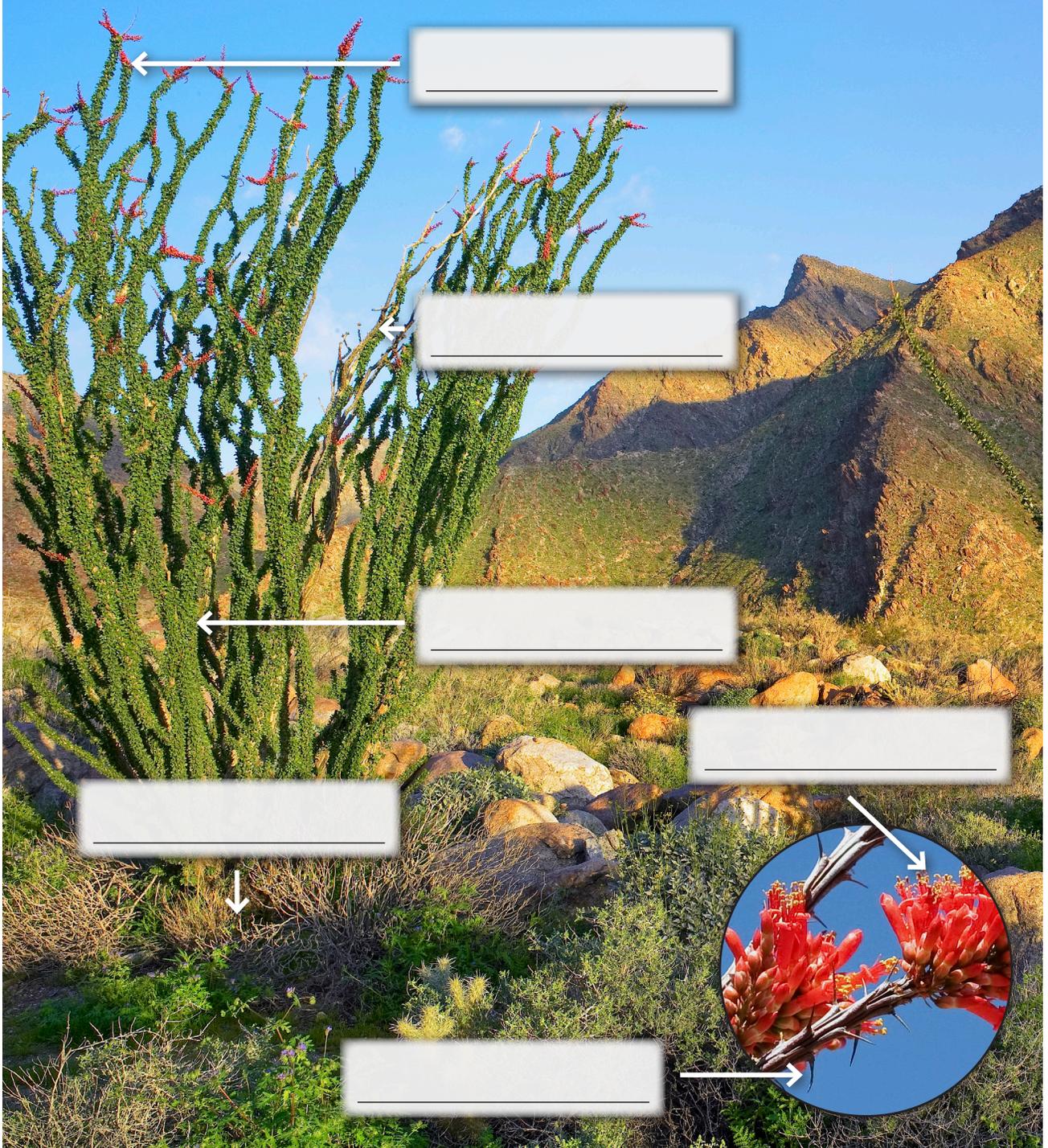
Plant or Animal	Structure	Use of Structure	Resources from the Environment	How structure helps plant/animal use the resource to survive	What if the environment cannot provide the needed resource?
Fisher	claws				
Fisher	back paws				
Fisher	sharp teeth				

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

**Instructions:** Write your answers on the lines provided.

**Part 1: Plant Structures**

1. Label each plant structure. (1 point)



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

2. Write a sentence that explains how each structure helps the ocotillo grow, reproduce, or survive. (2 points each)

Leaves:

Roots:

Flowers:

Seeds:

Stems:

Thorns:

**Part 2: Are Structures Enough?**

A new animal comes to the desert. The ocotillo’s thorns do not keep the animal away from the plant. Will the plant’s structures still help the plant survive? Why? (5 points)

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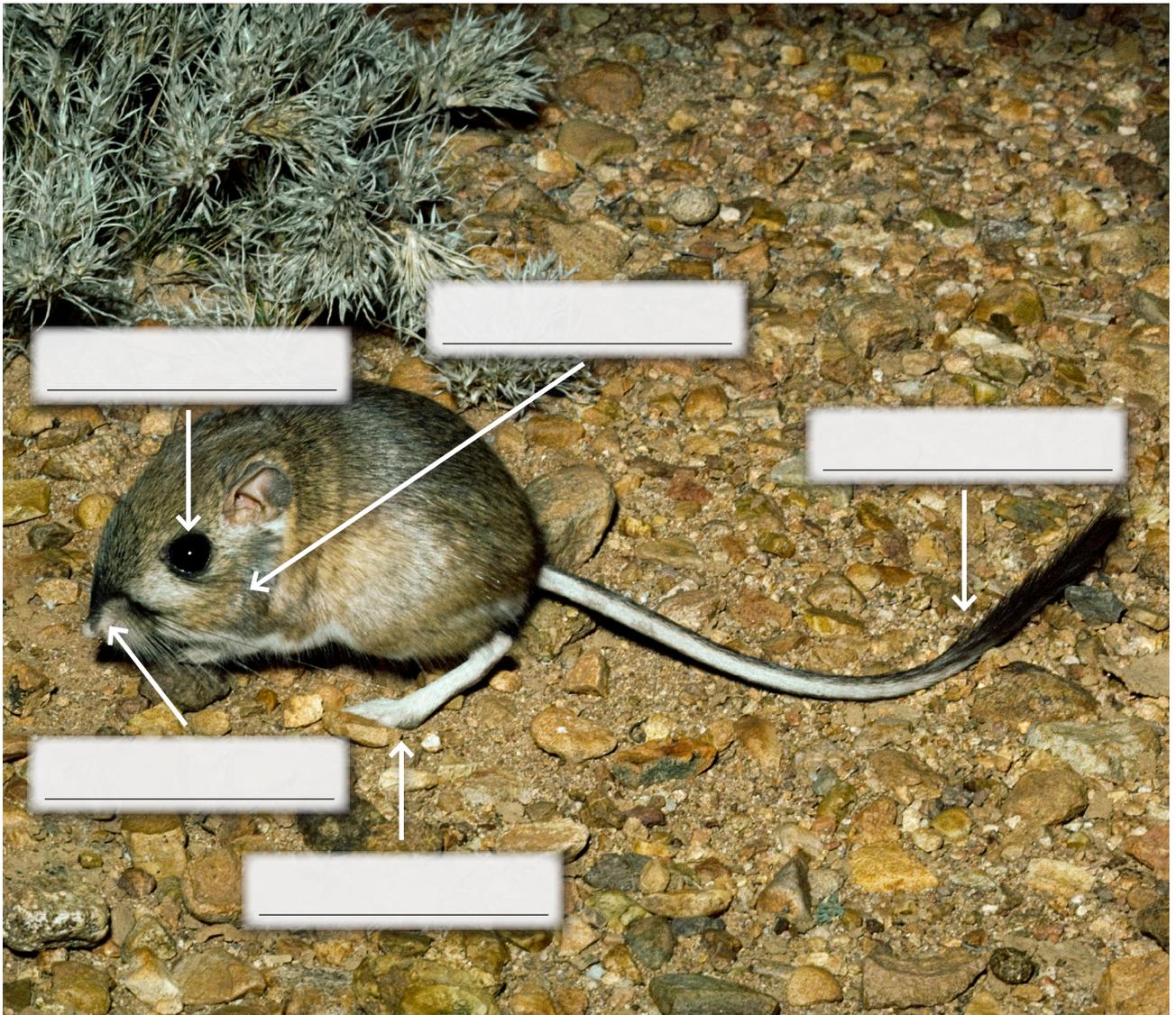
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Name: \_\_\_\_\_

### Animal Structures

**Instructions:** Look at picture below and complete the tasks on the lines provided.

1. Label each animal structure. (1 point each)



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

2. Write a sentence that explains how each structure helps the kangaroo rat grow, reproduce, or survive. (2 points each)

Eyes:

Nose:

Feet:

Tail:

Cheeks:

3. Are structures enough? Low desert plants such as the ocotillo do not get enough water to make seeds. Will the Merriam's kangaroo rat's structures still enable it to survive? Why? (5 points)

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**Instructions:** Label the kangaroo rat body parts on the front of the postcard. On the back of the postcard, write a personal letter telling how one of the kangaroo rat's structures helps the animal survive, grow, or reproduce in a healthy low desert ecosystem.

**Front of Postcard**



## Back of Postcard



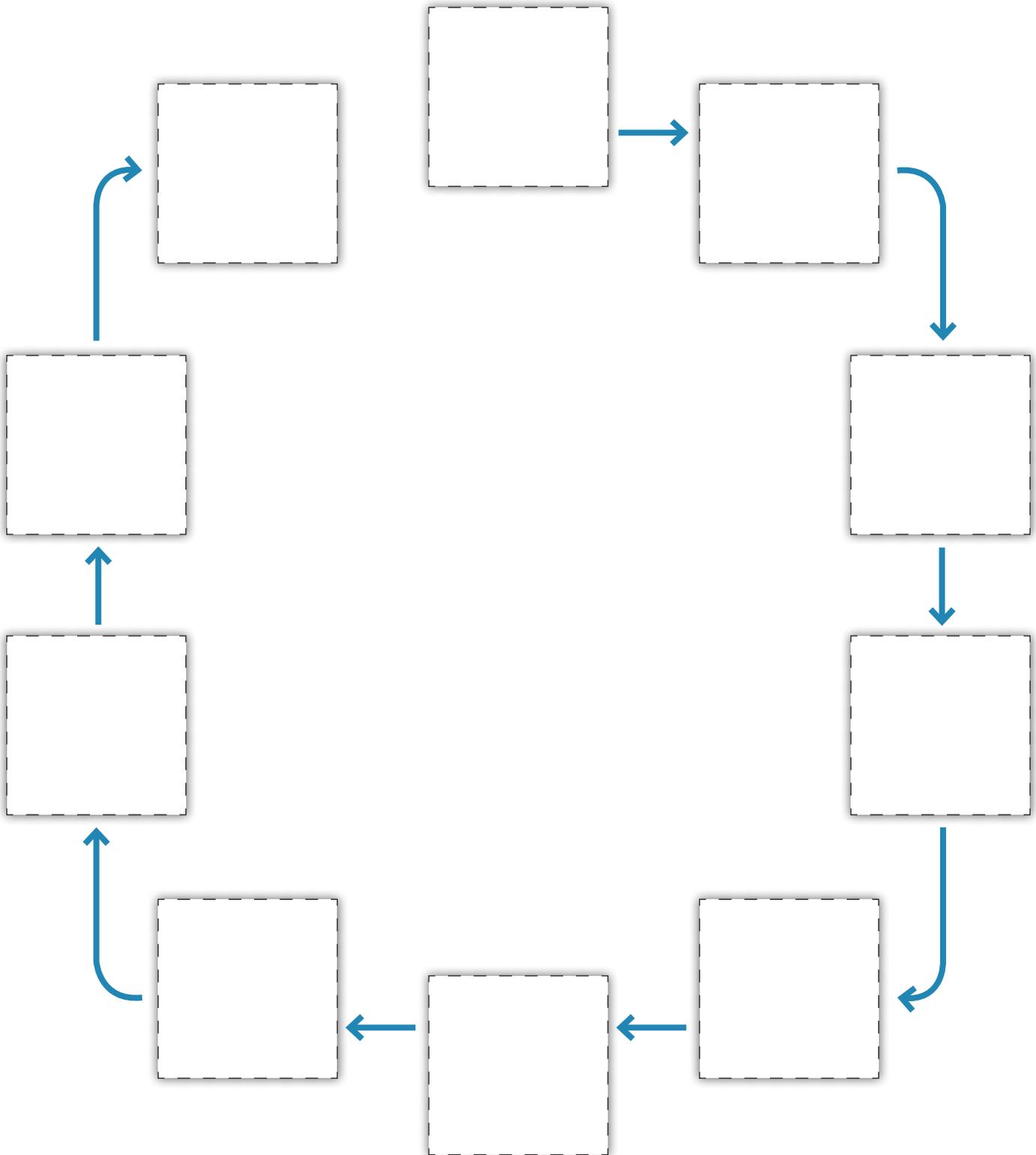
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Name: \_\_\_\_\_

**Instructions:** Place the **Apple Cards** in correct order. Glue your cards in the squares below. (1 point each)



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

**Instructions:** Read the questions and write the answers on the lines provided. (2 points each)

1. Imagine that there was no good soil for planting apple seeds. What would happen to apple trees?

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2. Imagine that there was no rain and that apple blossoms did not bloom. What would happen to bees?

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3. Imagine that all the bees died from a disease. What would happen to apple trees?

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4. Imagine that there were no insects such as bees. How would that affect people?

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## Our Hummingbird Habitat

Lesson 5 | page 1 of 3

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Names: \_\_\_\_\_  
\_\_\_\_\_

**Instructions:** Read the instructions below and complete the assigned tasks.

1. Look at the picture on page 3. It is an empty garden with a path running through it.
2. Select items from the **Garden Catalog** to put in your garden to help hummingbirds survive.
3. Draw a simple picture of the item in the spot where you want to plant or place it. Label each drawing.

## Our Hummingbird Habitat

Lesson 5 | page 2 of 3

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Names: \_\_\_\_\_  
\_\_\_\_\_

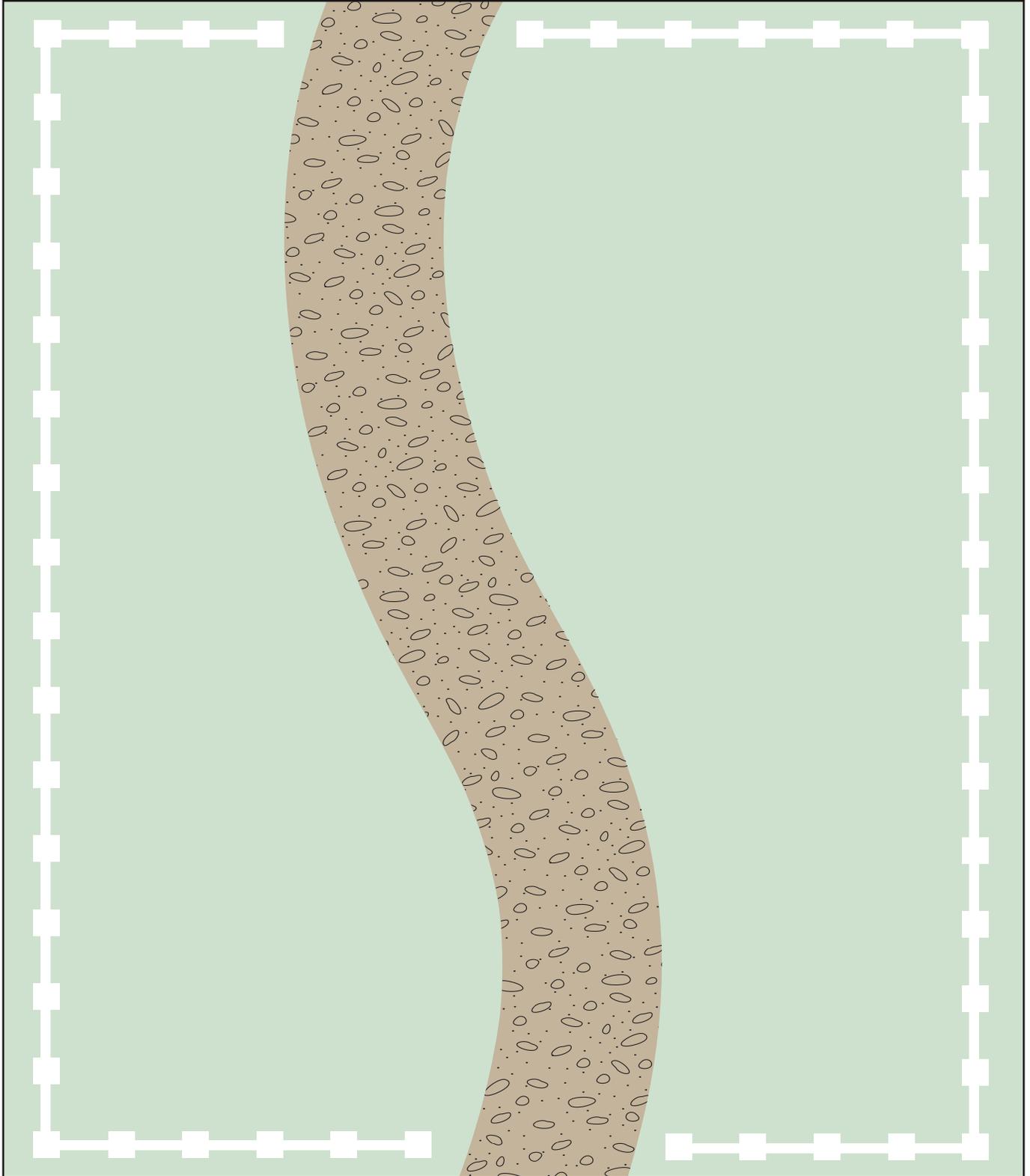
4. Use the chart below. Write the name of each item on your map. Write a sentence about why the item is important to hummingbirds.

Item	Why it is Important

# Our Hummingbird Habitat

Lesson 5 | page 3 of 3

Names: \_\_\_\_\_  
\_\_\_\_\_



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

**Instructions:** Read the questions below. Write your answers on the lines provided. (2 points each)

1. What kinds of flowering plants did you put in your garden? Why?

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2. Did you decide to keep cats indoors? Why?

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3. What did you plant in your garden to help hummingbirds reproduce?

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4. How did you protect hummingbirds from animals such as cats?

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5. People have planted many gardens like these. What has happened to the number of Anna's hummingbirds that live in California? Why?

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