

## Nature Hike

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Welcome to Filoli! Discover the beauty of nature as you explore the Natural Lands.

filoli



# 1

## Vocabulary

**Adaptation** a unique feature of a plant or animal that allows it to survive in its environment

**Diurnal** behavior characterized by activity during the daytime

**Evidence** a sign proving that something exists or that an idea is true

**Habitat** the place where an animal lives, or a plant or fungus grows

**Nocturnal** behavior characterized by activity during the nighttime

**Ohlone** a Native American people who had villages throughout Northern California, including what is now Filoli's Natural Lands

**Organism** any living thing including plants, animals, and fungi

**Predator** an animal that captures and feeds on another animal

**Prey** an animal that is hunted for food



### Natural Resources

People have depended on the natural resources from this estate and Natural Lands for more than 1,000 years:

1,000 years ago there was an Ohlone village.

200 years ago settlers introduced livestock.

100 years ago the Bourn family had herds of sheep.

60 years ago it was a pasture for the Roth family horses.

Today, the fields are seeded with hay in spring and harvested in summer.

## 2 Plant Communities on Filoli's Natural Lands

Mark your favorite discoveries on the map.



# 3

## Evidence of Animals

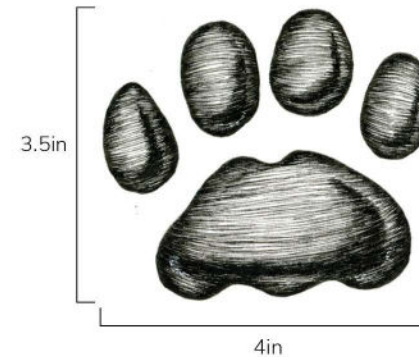
Many animals are hiding from us or from predators. How do you know these animals are hiding or have been here? Check off what you observe on your hike:

- ☐ Animal tracks
- ☐ Bird calling
- ☐ Bird droppings
- ☐ Bird nest
- ☐ Bones
- ☐ Feathers
- ☐ Frog croaking
- ☐ Gopher hole
- ☐ Hole in a tree
- ☐ Spider Web
- ☐ Scat
- ☐ Tunnel in a decaying log
- ☐ Woodpecker pecking

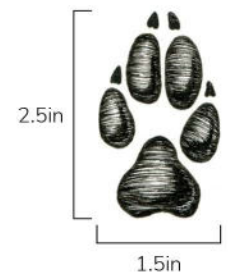
Deer



Mountain Lion



Coyote



Measure the size of the track you found.

Width: \_\_\_\_\_ Inches

Height: \_\_\_\_\_ Inches

Sketch the Track



## Plants Provide Food and Shelter

Acorn woodpeckers live in holes in trees. They also make small holes in trees to store acorns. This is called a granary.

Do you hear any other birds nearby?

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Does anyone in your group know what bird it is?

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## Plant Identification

Why does it matter? People have always needed to know which plants are safe to eat and use for medicines and which make the best building materials.

The leaves of a wild blackberry look like poison oak leaves. Some edible mushrooms look identical to mushrooms that are poisonous.

Some trees like oaks have acorns, while other trees like coastal redwoods have cones.

The tannins in coastal redwoods protect the tree from rot, fungus, fire, and insects. To tell the trees apart, look at the differences in the plant parts.

As you are walking do you notice the trees start to look different?

### Douglas Fir

Cone



Needles



### Coastal Redwood

Cone



Needles on  
Lower Branches

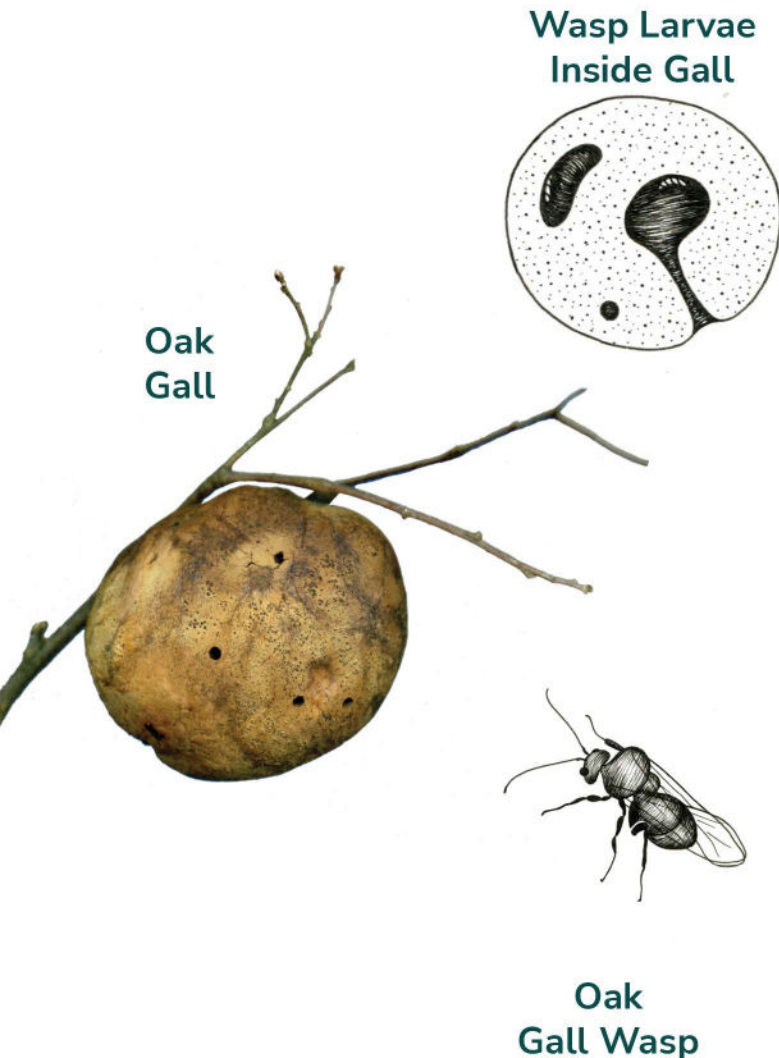


Needles on  
Upper Branches



## Parasites

Some parasites use plants to make shelters. The oak gall wasp uses chemicals to make the oak tree grow a gall. The wasp uses the gall as a nursery for its larvae.



## Decomposers

Decomposers play two very important roles in an ecosystem:

1. They break down material including trees, rocks, and animals;
2. They turn this material into nutrients for plants.

### Carbon Ball Fungus



**Scarlet Hood Mushroom**

### Lichen



Lift a decaying log. What organisms are in or under it?

\_\_\_\_\_

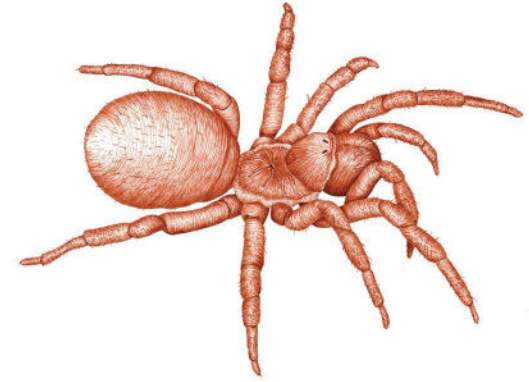
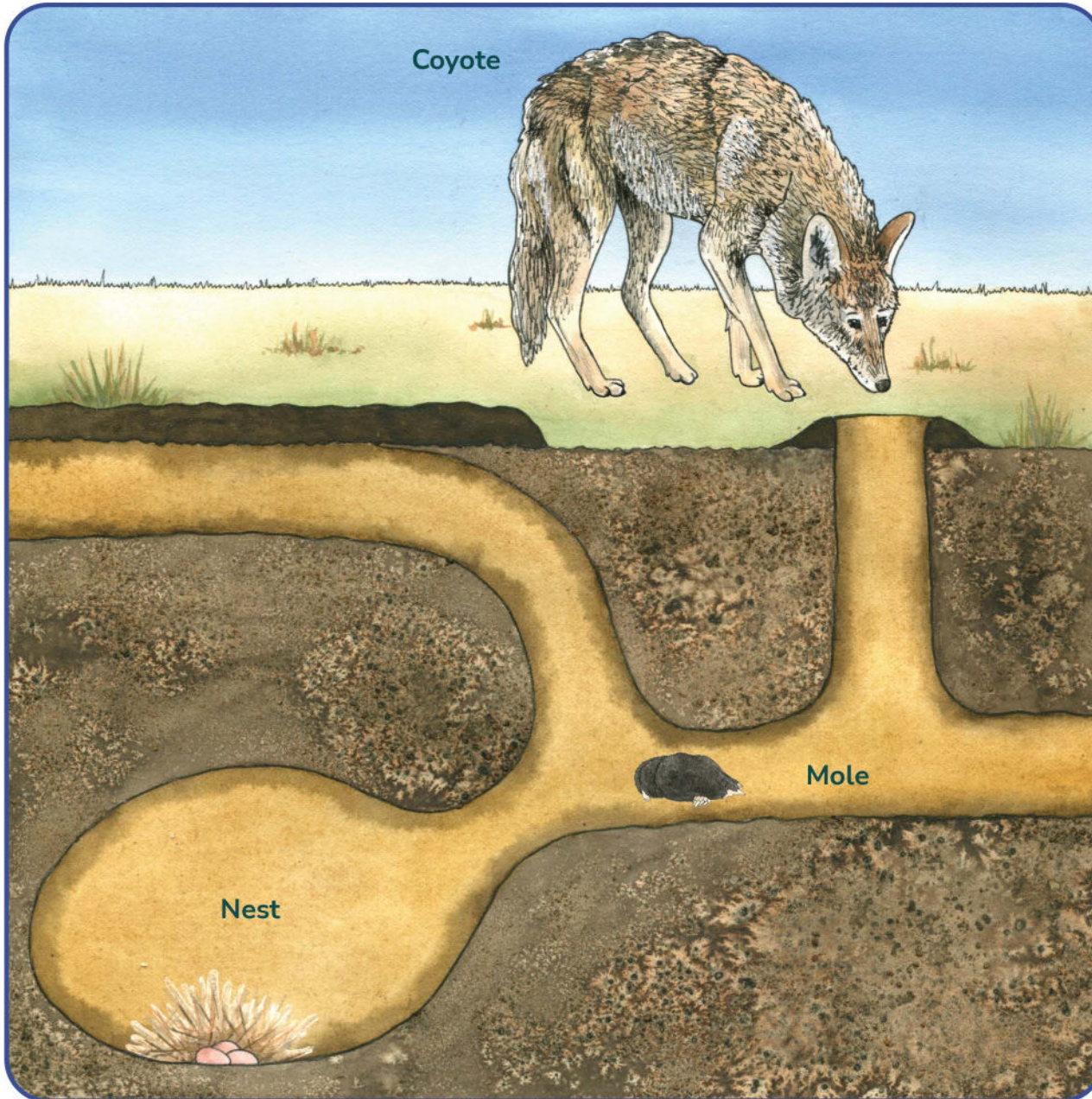
Is the log moist or dry? \_\_\_\_\_

What sound does the wood make when you tap on it?

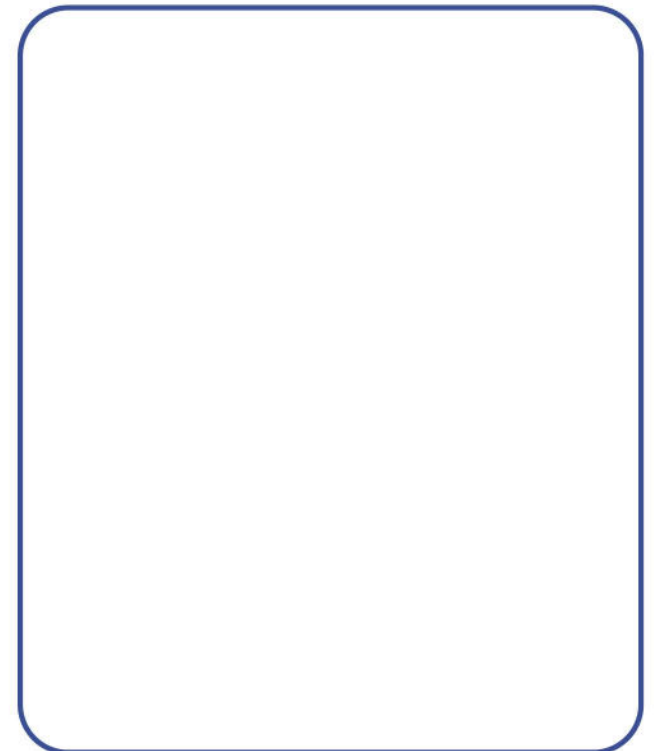
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## Animals Make Shelters Underground

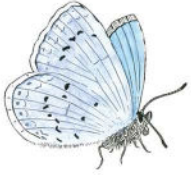


Did you spot a turreted spider or bug burrow on your hike? Sketch it here.





# Animals Pollinate Plants



This tiny echo azure butterfly lays eggs on buckeye trees. It also pollinates buckeye flowers while feeding on nectar.



Buckeye  
Flowers

Buckeye pollen is toxic to honey bees, but not to native California bees.

Bees collect pollen in sacks on their legs.



## Nocturnal Pollinators

M \_\_\_\_\_ B \_\_\_\_\_

B \_\_\_\_\_

## Diurnal Pollinators

B \_\_\_\_\_ F \_\_\_\_\_ B \_\_\_\_\_

H \_\_\_\_\_ B \_\_\_\_\_

## Animals Spread Seeds

Plants can't move to spread their seeds so some depend on animals to distribute seeds for them.

### Toyon

Birds eat toyon berries and the seeds come out in the bird's droppings.



### Buckeye Seedling

Buckeye seeds are not distributed by animals. Animals avoid eating these giant seeds because they contain toxins. The seeds germinate where they fall.

### Oak Seedling

Squirrels plant oak seedlings when they bury acorns but then forget to eat them.

What part  
of the plant  
is this?





# Remarkable Animal Adaptations

Did you see a Banana Slug? Sketch it here.



How long is the banana slug? \_\_\_\_\_ Inches

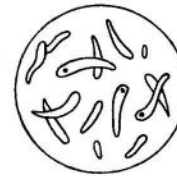
List the colors of its body. \_\_\_\_\_

Banana slugs have adaptations that help them from drying out, aid them in moving from one place to another and defend them from predators.

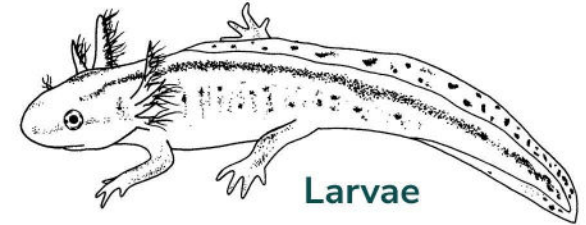
How do these adaptations help the species you learned about?

Newts have adaptations like producing poison, which when ingested can be deadly. Younger newts have higher levels of this toxin.

**Egg**

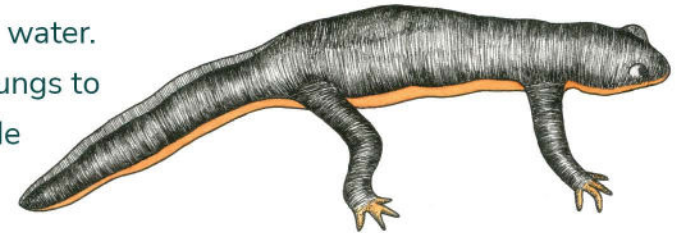


**Larvae**



Larvae have gills to breathe under water. Adults grow lungs to breathe outside of water.

**Aquatic Adult**



The shape of the male's tail changes in the aquatic stage. Why?

**Adult on Land**

