U.S. Department of the Interior
Bureau of Land Management

Provolt Recreation Area

Activity Book

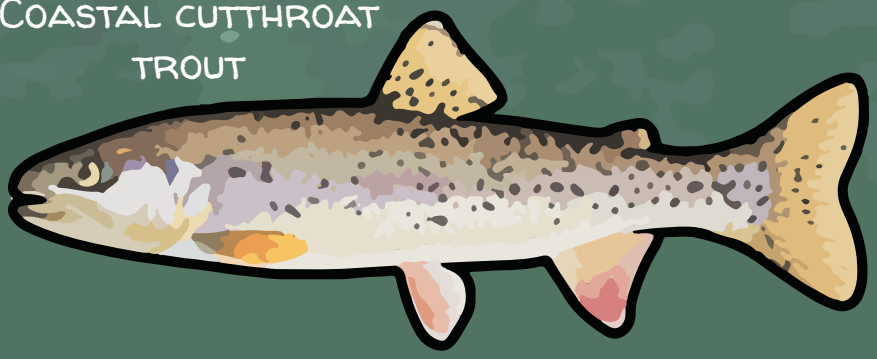
JUNIOR RANGER

Medford District Office

Native Fish of the Applegate River

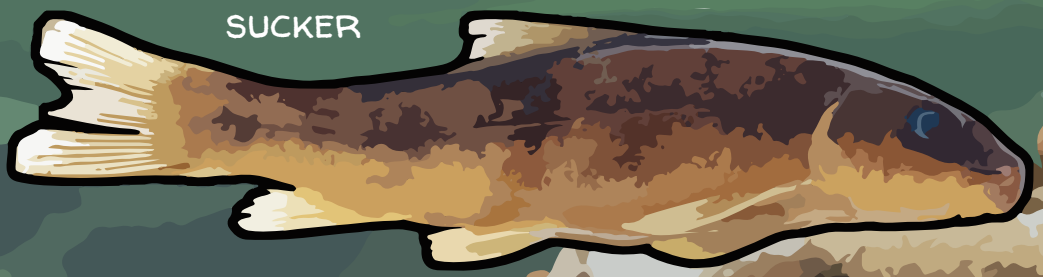
Chinook salmon

Coastal cutthroat trout



Speckled dace

Klamath smallscale sucker



What's Inside?

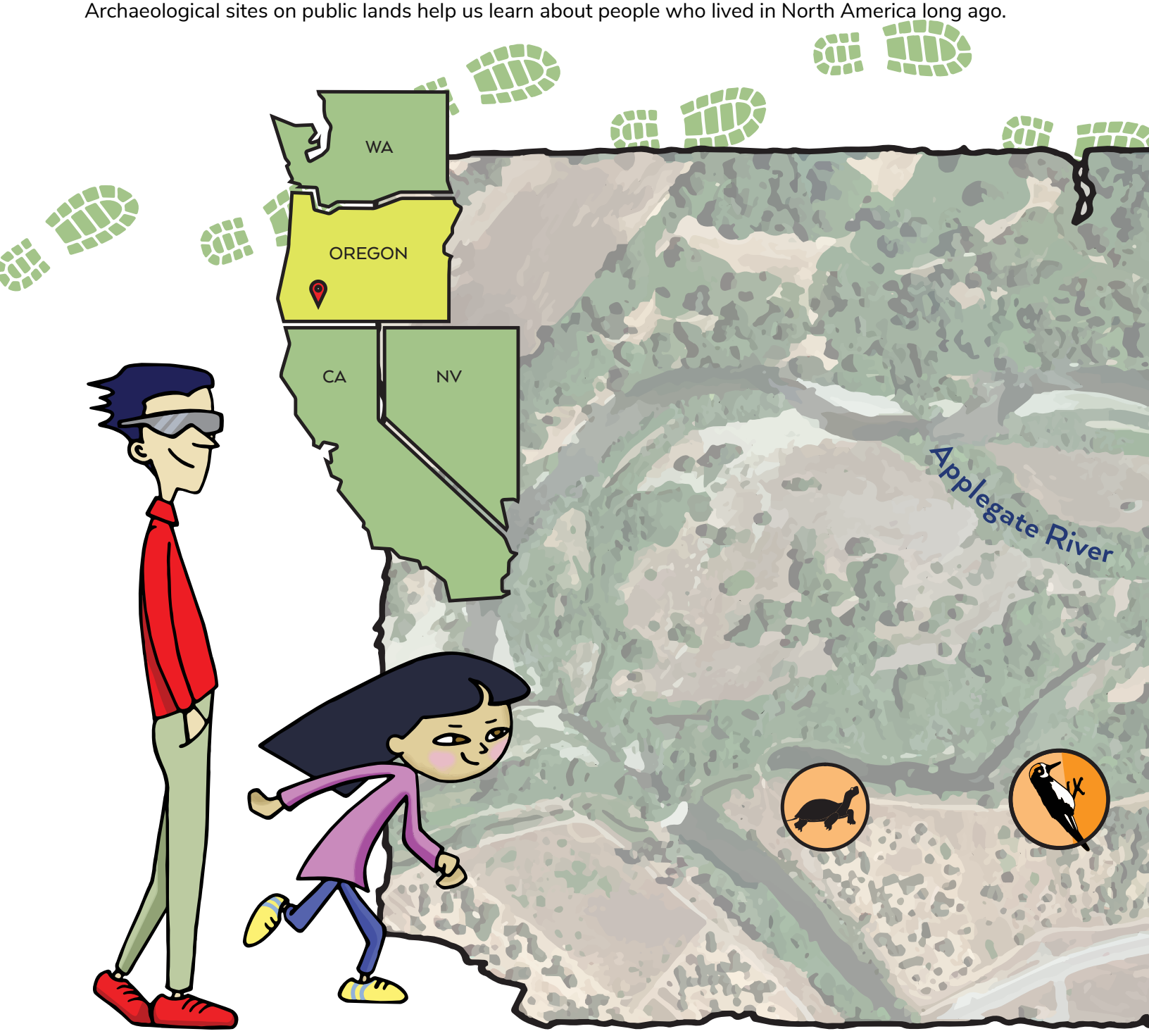
Explore Provolt Recreation Area of BLM's Medford District

What was once a seed orchard is now a unique place to discover Oregon's heritage! Whether hiking, biking, or horseback riding on the trails that crisscross the landscape or paddling in the Applegate River, you can learn about the unique story of Oregon's timber history. The seeds of the Douglas fir trees here were once used to plant new trees and help forests grow. The Provolt Recreation Area is also home to many plant and wildlife species and is important spawning habitat for chinook and coho salmon and Pacific lamprey. There is a lot to discover in this area!

Public Lands Belong to You

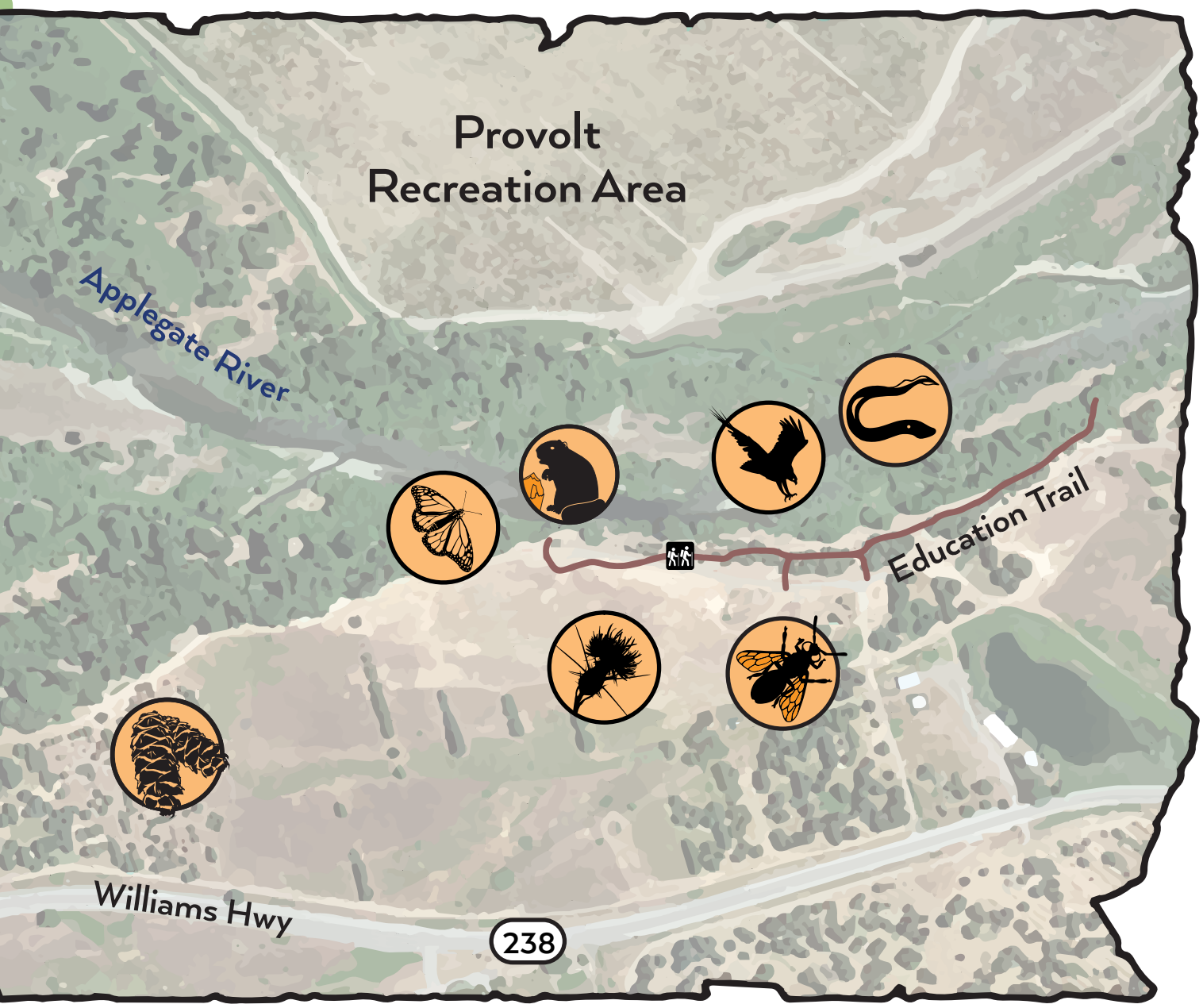
The Bureau of Land Management (BLM) is a federal government agency that takes care of about 245 million acres of public lands. These lands belong to all Americans, including you. Most are in the Western United States. The BLM also manages a number of smaller sites in the Eastern United States.

The BLM manages public lands for many uses. Big open spaces are available for recreation activities, such as hiking, camping, fishing, and hunting. Public lands provide habitat for wildlife, food for grazing animals, and clean air and water for people. These lands provide natural resources, such as timber, coal, oil, and natural gas. The lands contain evidence of the past, such as dinosaur bones and plant fossils. Archaeological sites on public lands help us learn about people who lived in North America long ago.



The BLM Junior Ranger Program introduces young adventurers like you to the lands and resources managed by the BLM. This book describes some of the amazing animals and plants that live at Provolt Recreation Area. As you work through the activities, reference the map to see where they live. Have fun exploring and learning about this special area.

When you are finished with the activities, cut out the Junior Ranger certificate in the back. Then, say the Junior Ranger pledge and sign the certificate.



Riparian Wonderland

Look at the map of Provolt Recreation Area on pages 2 and 3. This area is a lush riparian habitat because it sits on the bank of a river. **Riparian** areas are along the banks of rivers or other bodies of water. A **habitat** is an area where different species live and can find food, shelter, protection, and mates. The Applegate River provides an ideal habitat for a number of animals and plants. Animals and plants like riparian areas because they are shadier, cooler, and wetter than other areas. A variety of mammals, birds, fish, amphibians, reptiles, and insects call Provolt Recreation Area home. Some species are more active during the day (**diurnal**), and some are more active at night (**nocturnal**). And yet, some, are **crepuscular**, meaning they are mostly active during dawn or dusk. In the list below, species with an asterisk (*) are crepuscular.

Directions: Many of the plants, animals, and insects at Provolt Recreation Area appear in the list below and the picture to the right. Have fun searching for the words and coloring the picture.

Nocturnal Species

- Bat
- Barn owl
- Grey fox*
- Lamprey
- Long-tailed weasel
- Mountain lion
- Porcupine
- Racoon
- Striped skunk*

Diurnal Species

- Bald eagle
- Beaver*
- Bobcat*
- Bumble bee
- Caddisfly
- California kingsnake
- Chinook salmon
- Coyote*
- Deer
- Hairy woodpecker
- Jackrabbit*
- Otter
- Pacific tree frog
- Rough-skinned newt
- Ruffed grouse
- Sculpin
- Steelhead
- Swallowtail butterfly
- Valley quail
- Western pond turtle
- Wood duck

R	D	W	Y	E	O	S	E	Y	B	F	Q	H	K	Q	N	O	G	R	S	N	S	W	E	J
Q	O	O	O	L	L	R	E	N	B	A	U	A	Z	L	L	J	E	G	T	O	T	E	U	A
K	M	U	O	L	F	P	E	Y	I	A	R	N	M	I	D	W	K	R	E	M	R	S	G	C
C	N	O	G	W	L	R	A	G	N	P	T	N	A	R	O	E	A	E	E	L	I	T	N	K
J	A	T	U	H	N	I	E	M	O	H	U	T	O	L	D	E	N	Y	L	A	P	E	O	R
N	X	D	M	N	S	O	W	T	F	N	T	C	F	W	M	R	S	F	H	S	E	R	T	A
K	R	R	D	A	T	K	T	B	T	A	G	Y	R	Z	L	T	G	O	E	K	D	N	S	B
C	C	E	O	I	M	A	I	T	C	U	E	R	S	O	J	K	N	X	A	O	S	P	D	B
U	O	W	F	W	S	N	I	N	O	K	B	L	A	P	P	A	I	R	D	O	K	O	N	I
D	Y	O	T	D	O	F	O	N	N	C	Y	L	G	P	T	O	K	C	H	N	U	N	U	T
D	O	R	Y	O	R	M	L	O	L	E	K	H	I	I	E	E	A	A	S	I	N	D	O	S
O	T	R	C	L	M	O	M	Y	T	I	D	C	D	A	B	H	I	I	I	H	K	T	H	E
O	E	A	D	O	L	W	W	R	C	J	O	N	A	G	T	R	N	Z	K	C	F	U	Q	L
W	R	Y	C	G	O	P	Y	S	W	M	G	N	E	L	Y	W	R	I	C	K	D	R	Q	G
B	U	M	B	L	E	B	E	E	C	A	V	M	F	W	B	Z	O	I	P	V	P	T	V	A
B	G	U	L	A	R	I	F	S	A	L	G	U	O	D	T	H	F	L	B	L	J	L	I	E
D	C	E	N	I	P	R	A	G	U	S	M	O	M	F	J	P	I	S	L	O	U	E	E	D
Z	Y	L	O	N	G	T	A	I	L	E	D	W	E	A	S	E	L	O	S	A	B	C	U	L
W	I	L	D	R	O	S	E	K	O	P	H	Y	E	R	P	M	A	L	U	L	W	C	S	A
D	E	E	R	S	G	O	R	F	E	E	R	T	C	I	F	I	C	A	P	E	A	S	A	B
B	E	A	V	E	R	E	F	C	S	H	O	W	Y	M	I	L	K	W	E	E	D	H	E	T
F	L	P	N	Q	T	Z	K	E	S	U	O	R	G	D	E	F	F	U	R	Q	O	I	P	S
Q	K	Z	M	T	F	E	L	W	G	O	U	J	V	A	L	L	E	Y	Q	U	A	I	L	Y
L	S	H	O	L	R	M	B	A	E	Q	Y	S	C	Z	U	T	L	Z	A	L	L	V	B	B
T	U	Q	Y	O	J	H	A	E	N	I	P	U	L	I	D	D	O	T	B	X	Y	W	G	D

Plant Species

- Bigleaf maple
- Black cottonwood
- Common cattail
- Douglas fir
- Houndstongue
- Lupine
- Oak tree
- Oregon grape
- Showy milkweed
- Sugar pine
- Sword fern
- Wild rose
- Willow
- Yarrow
- Yellow monkeyflower


DAY
NIGHT

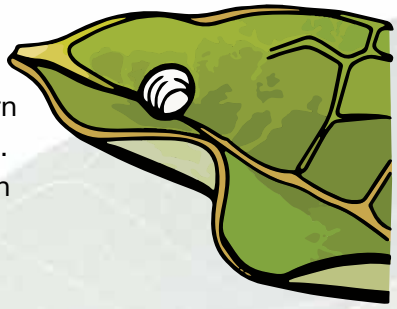
The King of Butterflies

Find the butterfly symbol on the map on page 3. The milkweed plants here are essential for the existence of monarch butterflies. These distinct black and orange butterflies are here in the summer. The monarch butterfly life cycle has four stages.

MONARCH BUTTERFLY LIFE CYCLE

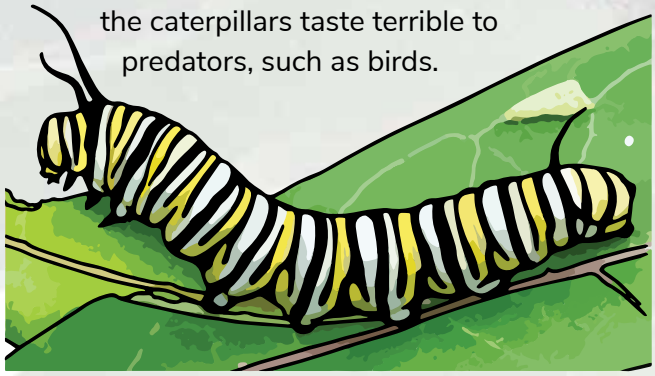
STAGE 1: Egg

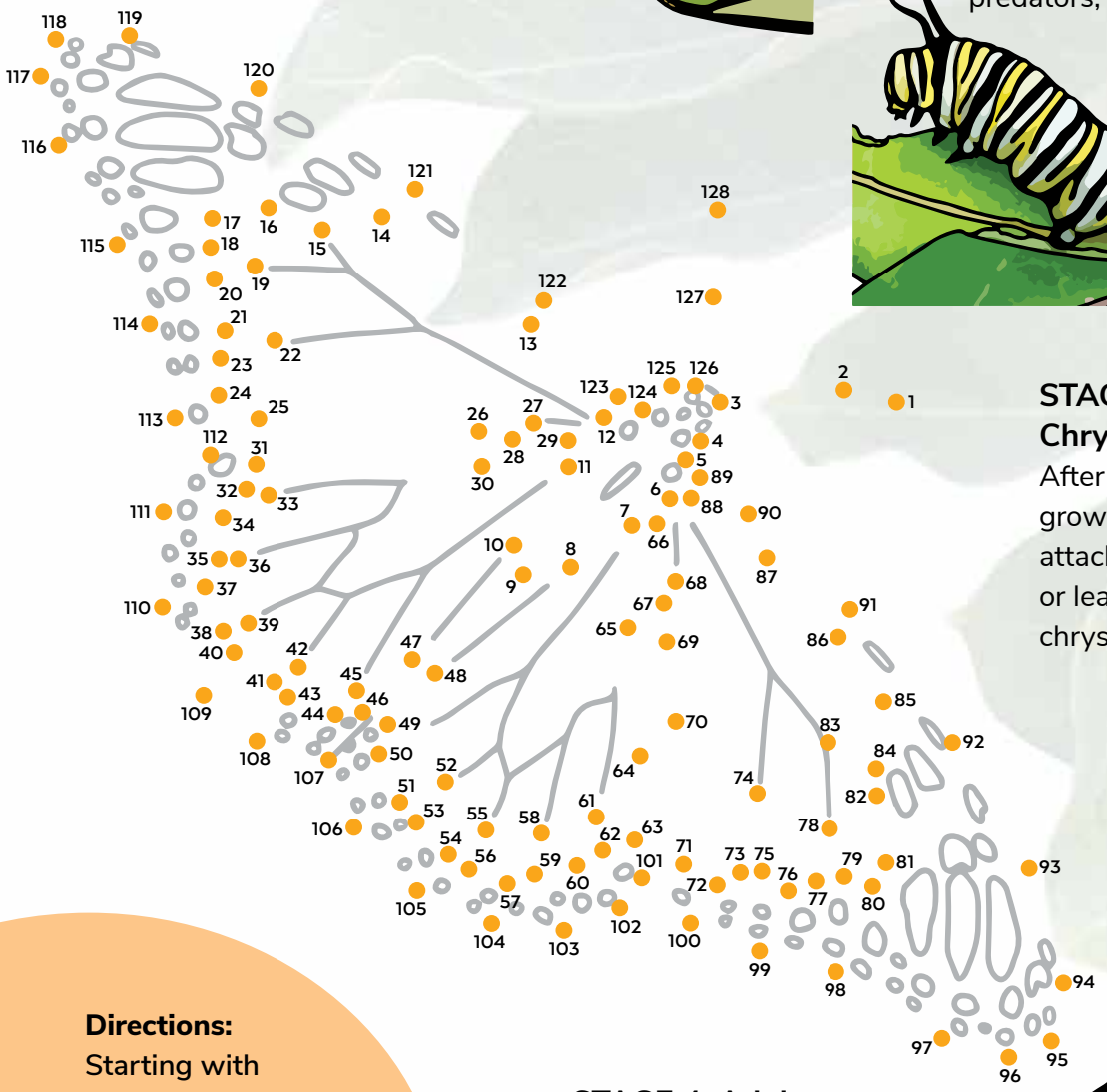
In the spring, monarchs migrate here from southern California to lay their eggs. They only lay their eggs on milkweed plants.



STAGE 2: Caterpillar

The eggs hatch into caterpillars, which are also called larvae. Monarch caterpillars only eat milkweed. The milkweed has a poisonous toxin, which is stored in the caterpillars' bodies, making the caterpillars taste terrible to predators, such as birds.



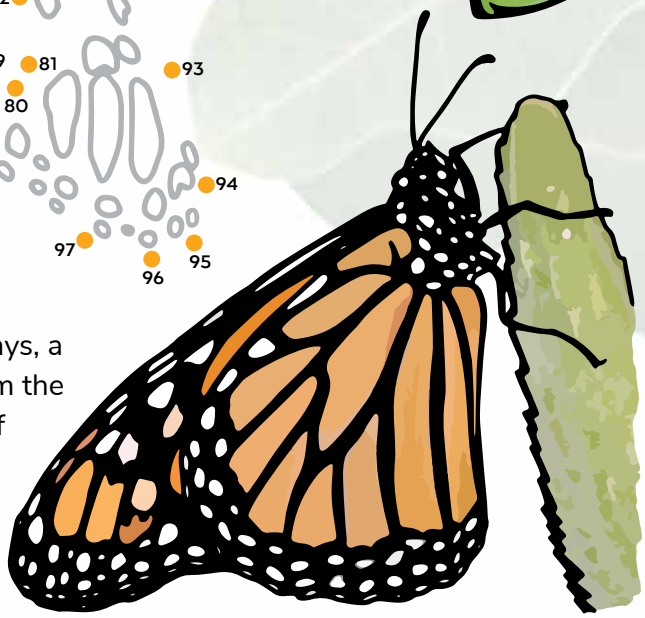


STAGE 3: Chrysalis

After they are fully grown, caterpillars attach to a stem or leaf and form a chrysalis.

STAGE 4: Adult

After about 8 to 15 days, a butterfly emerges from the chrysalis. The name of this amazing process is metamorphosis.



Directions:
Starting with number 1, connect the dots to see how a beautiful monarch butterfly looks after emerging from its chrysalis.

The Ultimate Acorn Stash

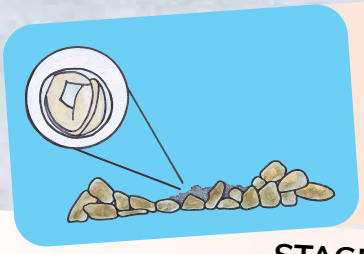
Find the woodpecker symbol on the map on page 2. At this location, a large oak tree is habitat for acorn woodpeckers. These birds usually live with each other in large family groups. Each year, they stash thousands of acorns in holes that they make in the trees. They take turns guarding the acorns so other birds cannot steal them. About the size of a robin, these birds are mostly black with a red cap and a white face and throat. Acorn woodpeckers also eat insects, fruit, seeds, and tree sap.

Directions: Help the acorn woodpecker find acorns it stashed in the oak tree.

A Fish from the Depths of Time

Find the lamprey fish symbol on the map on page 3. You have already probably heard of some of the common types of fish that live in the Applegate River—coho and chinook salmon. A less commonly known fish that lives here is the Pacific lamprey. The Pacific lamprey life cycle is similar to that of salmon. Like salmon, Pacific lamprey are **anadromous** fish, which means they are born in freshwater, spend some of their life in saltwater, and return to freshwater to lay eggs. To move upstream, lamprey use their sucker-like mouths to hold onto rocks to rest. According to fossils, Pacific lamprey lived at least 500 million years ago, making them the oldest fish species still living. Lamprey are more like **eels** than typical fish since they do not have jaws, paired fins, or bones. As adults, these fish feed off other animals, which means they are **parasites**. After attaching their mouths to other fish and marine mammals, lamprey suck the bodily fluids. Pacific lampreys have been found as deep as 2,600 feet under water.

PACIFIC LAMPREY LIFE STAGES

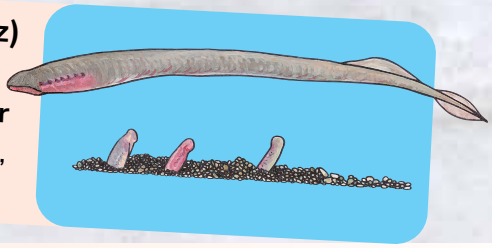


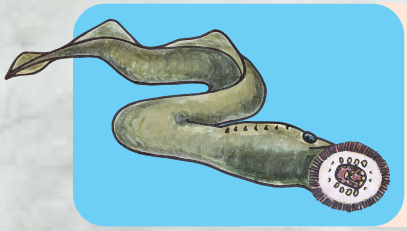
STAGE 1: Eggs and Pro Larvae

Beginning in freshwater, such as this stream, a female lamprey will lay her eggs in a nest called a **redd**, and the male will fertilize them. The eggs incubate in the redd for approximately 16-20 days. Once hatched, baby lamprey, commonly referred to as "pro larvae," remain in the redd for up to 15 days.

STAGE 2: Ammocoetes (pronounced amə'seetz)

For 5-7 years, **juvenile** lamprey, called ammocoetes, live burrowed under the soil. Without eyes or a fully developed mouth, they are **filter** feeders, eating algae, plankton, and other organic matter. By doing so, they help maintain healthy streams and improve water quality.



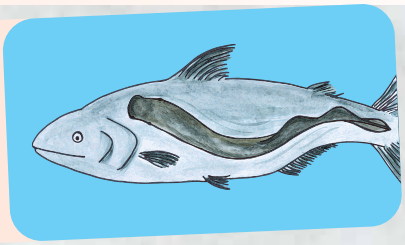


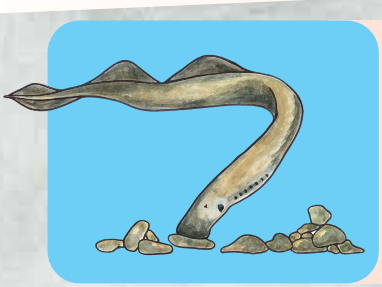
STAGE 3: Maturity and Ocean Migration

With fully developed eyes and mouth, including an oral hood with teeth, lamprey begin migration to the **Pacific** Ocean. However, before plunging into the saltwater from freshwater, their bodies must go through biological changes in order to adapt to the saltwater environment.

STAGE 4: Parasitic Growth

Pacific lamprey will feed off the blood of other fish and marine mammals, using their **suction** mouths and teeth. Despite popular belief, Pacific lamprey do not harm their host. During this parasitic phase, they can grow up to 36 inches long.

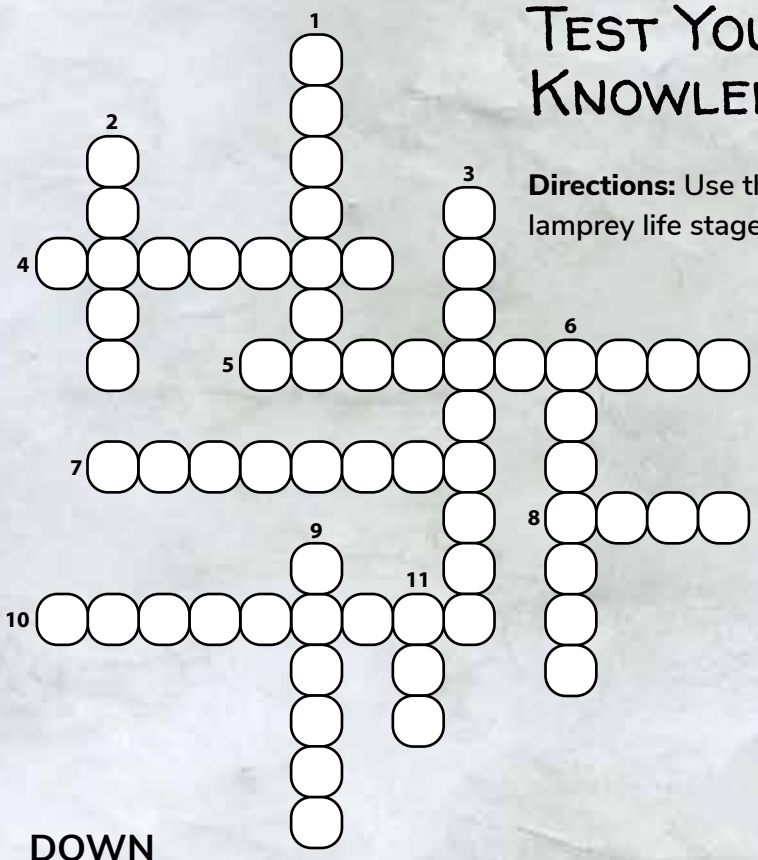




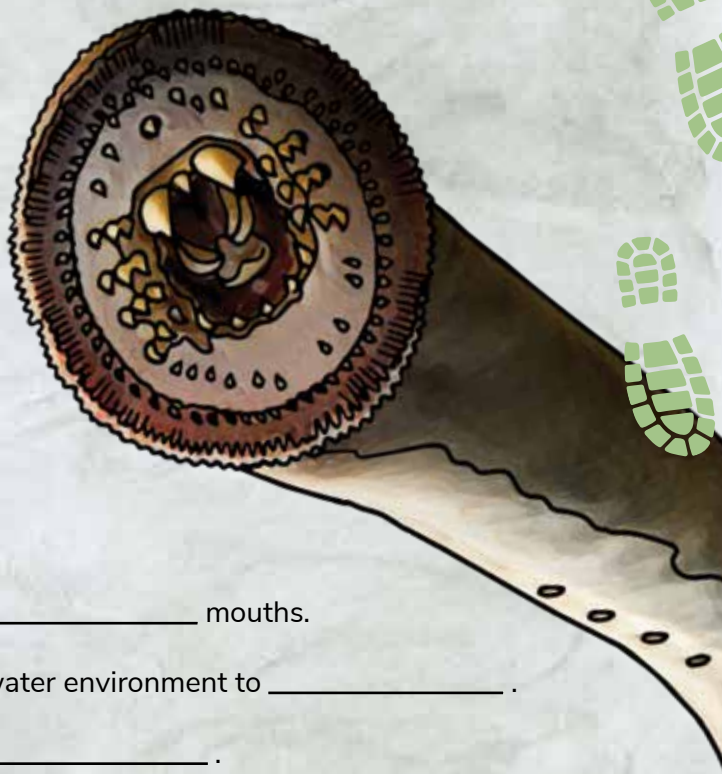
STAGE 5: Freshwater Migration and Death

As an **anadromous** fish, Pacific lamprey will **migrate** back to a freshwater environment to **spawn**. Once ready, they will seek streams where there are ammocoetes, knowing that there must be good spawning conditions. A spawning female lamprey can lay 100,000 to 230,000 eggs. After spawning, both male and female will die and decompose into the earth, supplying the entire ecosystem with **nutrients**.

Test Your Pacific Lamprey Knowledge



Directions: Use the information you learned about the Pacific lamprey life stages to complete the crossword puzzle.



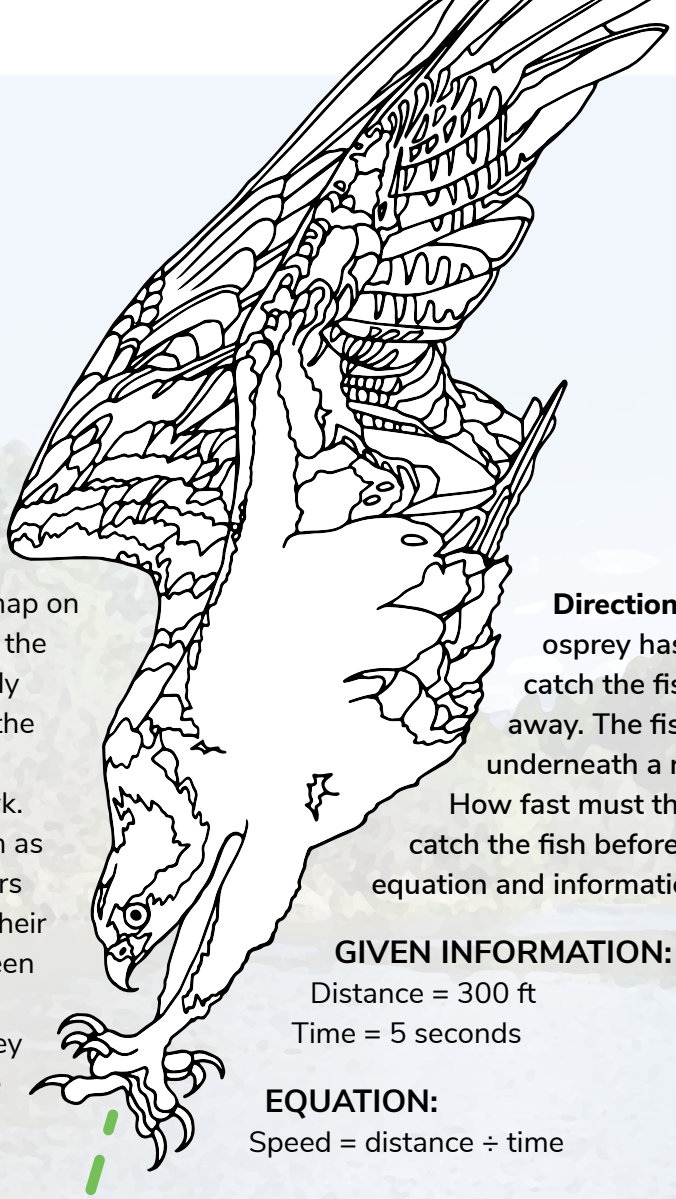
DOWN

1. A unique physical characteristic of lamprey are their _____ mouths.
2. Pacific lamprey will eventually migrate back to a freshwater environment to _____ .
3. When lamprey die, their bodies supply the river with _____ .
6. Mature lamprey travel, or _____ , from freshwater to saltwater.
9. _____ feeders eat algae, plankton, and other organic matter.
11. Since lampreys do not have jaws, paired fins, or bones, their bodies are more like that of an _____ than a fish.

ACROSS

4. The lamprey at Provolt migrate from the Applegate River to the _____ Ocean.
5. When a fish is born in freshwater, travels to saltwater, and returns to freshwater to fertilize eggs, it is an _____ fish.
7. For 5-7 years, _____ lamprey are called ammocoetes.
8. A lamprey nest is called a _____ .
10. Because mature lamprey feed on other fish and marine mammals, they are considered _____ .

Aerial Fish Hunters



Find the osprey symbol on the map on page 3. From this location along the Applegate River, visitors are likely to see an osprey dive for fish in the river. Other common names for osprey are fish hawk or sea hawk. Osprey are a type of raptor, such as hawks, falcons, and owls. Raptors are magnificent hunters due to their sharp beaks, fast speeds, and keen eyesight. Osprey live close to bodies of water and eat fish. They have special barbed pads on the bottoms of their feet that help them grasp slippery fish. They can fly up to 80 miles per hour and can see their prey under water from the air.

Directions: Determine if the osprey has enough time to catch the fish it sees 300 feet away. The fish will be hidden underneath a rock in 5 seconds. How fast must the raptor fly to catch the fish before it hides? Use the equation and information provided.

GIVEN INFORMATION:

Distance = 300 ft
Time = 5 seconds

EQUATION:

Speed = distance ÷ time

SOLVE FOR SPEED.

Speed = 300 ft ÷ 5 seconds

A. The raptor must fly at least ___ ft/second to catch the fish before it swims under the rock.

B. Is the raptor capable of flying this speed? ____

Hint: Osprey fly up to 80 miles per hour. This is the same as 117 feet per second.

Provolt's Orchard History

Find the pinecone symbol on the map on page 3. Did you know almost 300 acres of the Provolt Recreation Area used to be a Douglas fir seed orchard? An orchard is a place where a crop is grown sustainably for the purpose of producing fruits, nuts, or seeds. The purpose of the seeds from Provolt was to provide the best quality Douglas fir seeds. The BLM usually has a 15- to 20-year supply of seed to plant new trees and help forests grow, especially after catastrophic events like harmful fire or wind. Most of the seeds were used in southwestern Oregon and northern California.

If you get a chance to visit the trees at the orchard, you will notice that they look like Frankenstein trees. One reason for this is because the trees were grafted, or combined, with branch tips from the healthiest forest trees. The young 2-year-old trees at Provolt were grafted with forest branches that were 90 years old. This made the young trees think they were older so they would produce cones earlier. You can also see scars created by chainsaws—another way the trees were stressed to encourage cone production. The seedlings grown from the Provolt seeds look like typical Douglas fir trees.

Directions: Based on the given information, determine the number of seedlings than can be produced and the number of acres that can be reforested from the 2016 seed harvest.

A. In 2016, the orchard harvested 1,200 pounds of seeds. If 1 pound of seeds can produce 15,000 seedlings, how many seedlings can be produced from the orchard's 2016 harvest?

Answer: _____

B. If 500 seedlings are planted per acre, how many acres can be reforested from the 2016 harvest?

Answer: _____

A Native Oregon Reptile

Find the turtle symbol on the map on page 2. This section of the stream is an ideal home for western pond turtles.

Directions: Decode the message below to learn about the western pond turtle, including the unique physical features of turtles. The numbers 1 through 26 stand for the letters of the alphabet. For example, 1 = A, 2 = B, 3 = C, etc. Fill in the correct letters to decode the fun facts.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Western pond turtles are native to __ __ __ __ __ __. They live in lakes, ponds, __ __ __ __ __ __ __, and
15, 18, 5, 7, 15, 14 19, 20, 18, 5, 1, 13, 19

rivers. They prefer __ __ __ __ - __ __ __ __ __ __ water with plenty of places to bask in the sunlight.
19, 12, 15, 23 - 13, 15, 22, 9, 14, 7

Turtles can live up to __ __ __ __ __ years. They are the world's oldest living reptiles, dating back
6, 9, 6, 20, 25

215 __ __ __ __ __ __ __ years. The turtle's __ __ __ __ __ is critical to the animal's survival, as it protects
13, 9, 12, 12 9, 15, 14 19, 8, 5 12 12

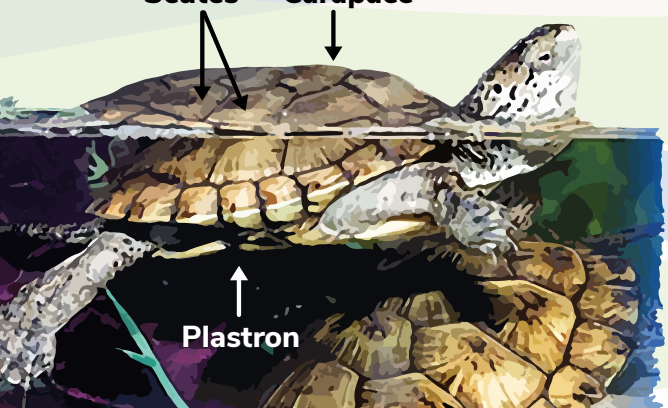
them from their many predators. The top shell is called the __ __ __ __ __ __ __ __. The bottom shell is
3, 1, 18, 1 16 1, 3, 5

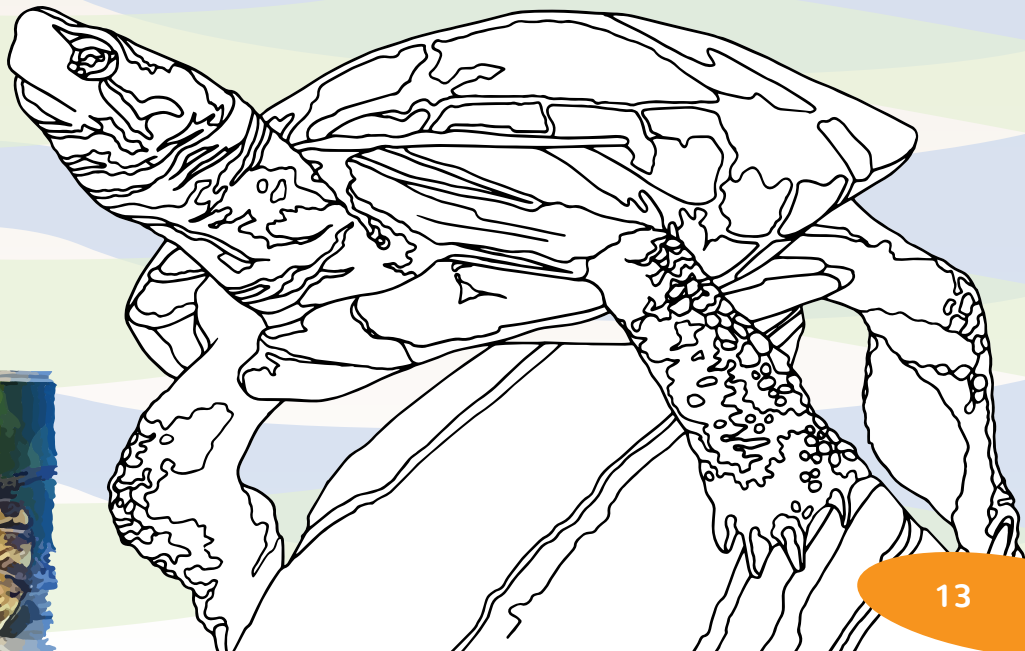
called the __ __ __ __ __ __ __ __. The carapace and plastron include numerous squarelike divisions.
16, 12, 1, 19 20 18, 15, 14

These are called __ __ __ __ __ __. Scutes are made of __ __ __ __ __ __ __, which is the same main
19, 3, 21, 20 5 19 11, 5, 18, 1, 20, 9, 14

material in human hair and fingernails and animal horns. A turtle's shell grows as the turtle grows.

The scutes __ __ __ __ to make room for newer and larger scutes.
19, 8, 5, 4

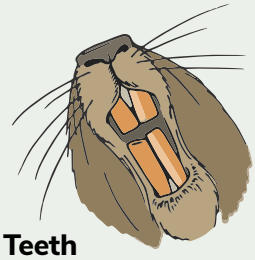




Impressive Skills of a Large Rodent

Find the beaver symbol on the map on page 3. While hiking at Provolt, you can sometimes see signs of beavers. Beavers often build lodges out of wood, grass, moss, and mud in rivers for shelter and protection from predators. In areas where the water is too fast or wide, like here on the Applegate River, beavers will instead build a den in the bank near tree roots. Beavers live in colonies, which usually includes one mating pair and their offspring. In the hollow chamber of their lodge or den, beavers sleep, eat, and groom each other. When a beaver reaches about 2 years of age, they travel to another location to make their own home and start a family. Beavers are the only animal, other than humans, who can completely change their environment by cutting down trees, building dams, and creating ponds. Many animals depend on the habitat the beavers create (especially young salmon). Because they create so much habitat, beavers are known as a **keystone species**, which means many other species depend on them for survival. Without them, the ecosystem would not be as healthy.

Directions: Many parts of the beaver's body serve a direct purpose for building a shelter and living in water. Draw a line to match the part of the beaver's body with its function.



Teeth

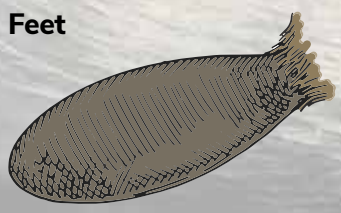
This is broad and flat and serves as a rudder to help beavers steer while swimming. Beavers also use it to slap the water to warn other beavers of predators.

Fur

Beavers use these to cut down trees for dams. Beavers also use them to eat leaves, roots, and bark, which are a part of their diet.

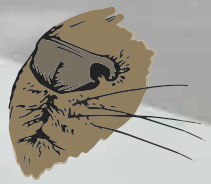
Feet

Beavers can hold their breath and stay under water for 15 minutes! They are able to close this part of their body to keep water out.



Tail

Beavers produce an oil, which they spread over this part of their body. This helps keep water off their skin so they can stay warm.



Nostrils

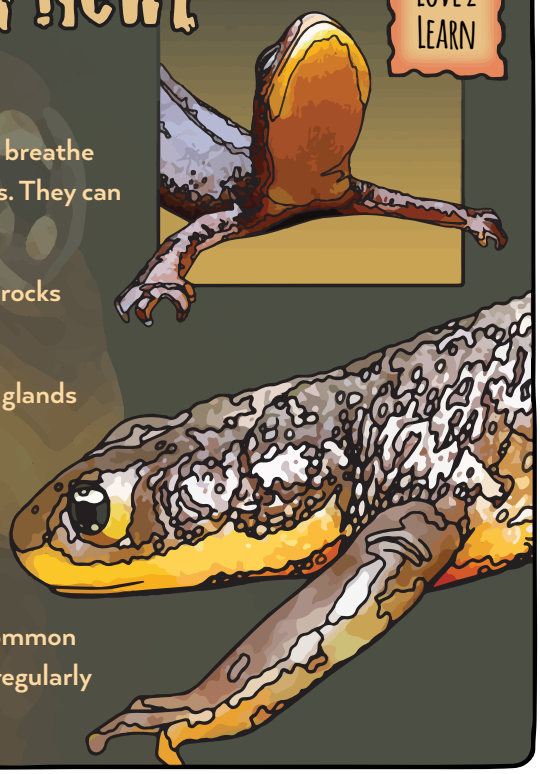
These are webbed and help propel the animal through the water.

Rough-Skinned Newt

LOVE 2 LEARN

A Very Toxic Amphibian

- As amphibians, rough-skinned newts begin their lives in water and breathe through gills. As adults, they live on land and breathe through lungs. They can also breathe through their damp skin!
- This animal has sticky, web-like feet, which help it cling to slippery rocks near water.
- The rough and grainy skin of this newt species is covered in poison glands for protection from predators, so do not pick them up!
- If threatened by predators, rough-skinned newts bend their heads and tails back to show off their orange bellies. This is how the newts warn predators that they are poisonous.
- Most predators die from trying to eat rough-skinned newts, but common garter snakes are immune (not harmed) by the newts' poison and regularly eat them.



BATS The Amazing Flying Mammal

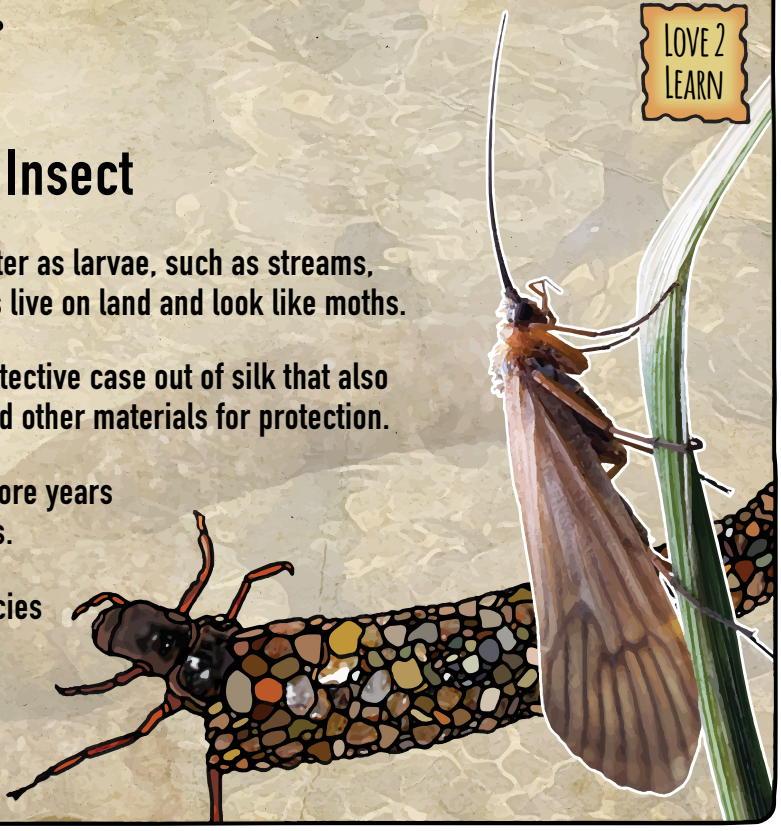
LOVE 2 LEARN

- With more than 1,400 species worldwide, bats are the only mammal capable of true flight.
- Bats have very good hearing and locate insects using echolocation. Through echolocation, bats emit sound waves that bounce off objects and back to the bat's ears.
- Bats often consume their body weight in insects every night, which would be like a person eating 20 pizzas in one night.
- Bats can scoop up insects with their wings, which they use to push the insects towards their mouth.
- Do not disturb a roosting bat! They use their downtime to conserve energy. Also, humans can spread a deadly disease called white nose syndrome between bat roosts.
- While hibernating, bats slow their heart rates from about 1,000 beats per minute to only 11 beats per minute. They only have to take one breath every 1 to 2 minutes!

Caddisfly

An Ancient and Abundant Insect

- Caddisflies are insects that live in the water as larvae, such as streams, rivers, and lakes. As adults, these insects live on land and look like moths.
- While in the larval stage, they make a protective case out of silk that also contains pieces of sand, gravel, wood, and other materials for protection.
- The caddisfly lives as larvae for one or more years and only lives as an adult for a few weeks.
- There are more than 14,000 different species of the caddisfly throughout the world.
- According to fossils, caddisflies lived at least 200 million years ago.



NORTH AMERICAN PORCUPINE

A SHARP AND SHY RODENT

- The North American porcupine is the second largest rodent in North America, second in size to the American beaver.
- Porcupines have more than 30,000 quills, which are sharp, barbed, hollow spines. They serve as protection against predators and warmth in the winter.
- Porcupines have antibiotics in their skin in case they accidentally get stuck with their own quills, which can happen when they fall out of trees.
- A patch of skin on the animal's lower back emits a strong smell to warn predators.
- Quills normally rest flat against the body. If a porcupine is in danger, it will make the quills stand up and out from the body. Quills get stuck in animals that get too close. Contrary to popular belief, porcupines do not throw their quills.

Sketch a Spot

Find a place where you can comfortably sit and observe a natural area or object. This can be outside at a place like Provolt or in your home while looking out a window. Take a few moments and observe, trying to use as many senses as you can. What do you hear? What do you see? Are there any smells?

Then, use one of the spaces below to make a sketch of what you see, hear, or smell. Along with your sketch, use words, numbers, or writing to describe your spot and observations. Adding information like date, time, and current weather is a great way to create a record of the site. That way, the next time you visit, you can see what has changed. You can use the other boxes below to draw the same site in the future or multiple different sites.

Date:
Time:

Date:
Time:

Date:
Time:

Date:
Time:

Be Kind to Bees

When most people think of bees, they think of honey bees. Did you know there are thousands of bee species throughout the world? In addition to honey bees, there are bumble bees, mason bees, mining bees, sweat bees, and many other types in Oregon. Bee species range in size and color. Honey bees live in colonies in hives. In contrast, most other bee types nest in the ground or in plants. You will often see bees on flowers. This is because they eat pollen and nectar. Bees are very important because they pollinate flowers, which allows plants to grow fruits and vegetables.

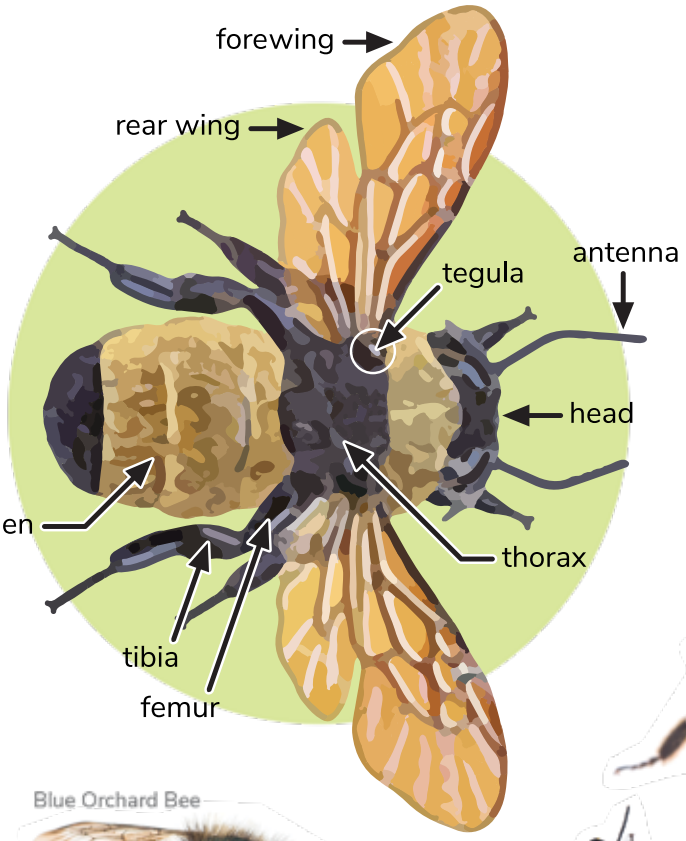

Leaf-Cutter Bee


Red Nomad Bee

BEE ANATOMY

Even though bees are different sizes and colors, they all have the same anatomy. Study the bee anatomy, and then learn how to draw a bumble bee on the next page.


Small Carpenter Bee




Black-Tailed Bumble Bee


Mining Bee


Metallic Sweat Bee


Blue Orchard Bee


Mason Bee


Long-Horned Bee


Honey Bee

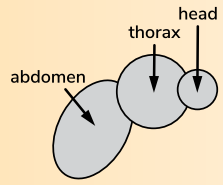

Large Sweat Bee

Bees Native to Oregon

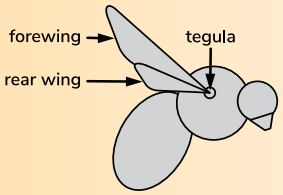
Learn to Draw a Bumble Bee

Nevada Bumble Bee

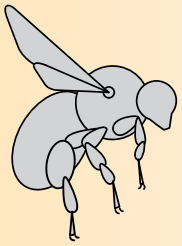
All bee photos courtesy of Oregon Department of Agriculture
Insect Pest Prevention and Management
www.Oregon.gov/ODA



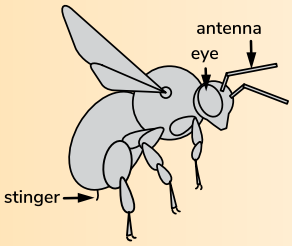
First, draw two circles and an oval for body parts.



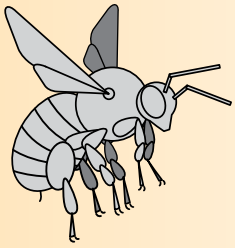
For the two right wings, draw a small circle in the middle of the thorax. Draw two long triangles connected to the small circle and round the corners on the ends. On the front of the head, draw a triangle with the tip “cut off.”



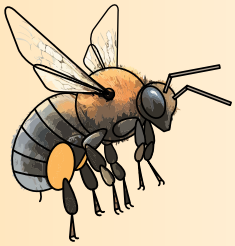
To draw a right leg, draw three teardrops that connect together. Draw a long triangle on the bottom teardrop and two curved lines at the bottom of the triangle. All three legs connect to the lower half of the thorax. The middle teardrop on the back leg should be bigger.



For each antenna, draw two long rectangles that connect on the short sides. Draw a large oval for the eye and a stinger at the bottom of the abdomen.



Draw the two left wings. Then, draw the left legs, making sure they appear behind the body and the right legs. Draw lines on the abdomen.



Now the fun part! Draw the details and add color.

Invasive Plant Outlaws of the West

Of the 245 million acres of public lands managed by the BLM, about 79 million acres are infested with noxious and invasive weeds. The word noxious is similar to the word obnoxious, and that is a good description of these plant species.

Noxious and invasive species are brought from other parts of the world, sometimes on accident and sometimes on purpose. For many reasons, they often destroy the native habitat—taking over thousands of acres of public lands and waterways each year. It is estimated that invasive weeds infest about 6.4 million acres of BLM lands across Oregon and Washington.

Some of the ways these weed species thrive is they sprout early and soak up water and nutrients before native species have a chance. They can also produce thousands of seeds that can stay in the soil for years until conditions are right for them to sprout.

They are often prickly or poisonous and do not provide good food or habitat for wildlife. They are harmful to people, animals, farm crops, and the economy.

What You Can Do to Help

- Volunteer to help remove noxious weeds and plant native species.
- Before and after visiting Provolt and other recreation sites, use the weed cleaning station to make sure noxious seeds do not spread.
- Teach others about the important role native plants play in our environment.
- If you find invasive plants, report them.
- Learn how to identify them. Let's meet the biggest culprits.

WANTED

for being a danger to animals and people

Poison Hemlock

This plant is dangerous. **All parts are toxic and can cause death.** Beware, the young bright-green fernlike leaves appear similar to carrot tops.

If you see this plant, report it to a Provolt staff member.

WANTED

for being a danger to horses

Yellow star-thistle

This plant is toxic to horses. The bright yellow flowers are surrounded by sharp spines. Each plant can produce thousands of seeds, and up to 95% will germinate.

If you see this plant, report it to a Provolt staff member.

WANTED

for aggressive formation of impenetrable thickets

Himalayan blackberry

Originally thought as a good idea, this fruit plant was brought to the U.S. for its large berries. However, these plants form dense thickets, especially near water, making it hard for animals to navigate.

If you see this plant, report it to a Provolt staff member.

WANTED

for crowding out native plants and decreasing diversity

Dyer's woad

Native to Russia, this plant was imported to the U.S. and grown for the indigo dye that can be made from its leaves. This species produces chemicals that make it difficult for other plants to grow nearby.

If you see this plant, report it to a Provolt staff member.

WANTED

for popping bike tires and hurting horse hooves and dog paws

Puncture vine

This species can form dense mats, extensive root systems, and stems 6-feet long. Its seeds are sharp and spiny, can harm animals and people, and frequently pop bicycle tires.

If you see this plant, report it to a Provolt staff member.

The Horror of Invasive Aquatic Species

Like invasive plants, there are also invasive aquatic species. These animals came from somewhere else and can easily take over habitat and food resources from native species. Some, like carp and red-eared sliders, were bought as pets and released into the wild accidentally or purposely when they were no longer wanted.

What You Can Do to Help

- Prevention is key! Once present, they are very difficult to eliminate.
- Never release aquarium pets into the wild, including rivers and streams.
- Often invasive species are too small to see and can "hitchhike" to new areas. Clean your boat, boots, and anything else before moving to another body of water.

Largemouth Bass

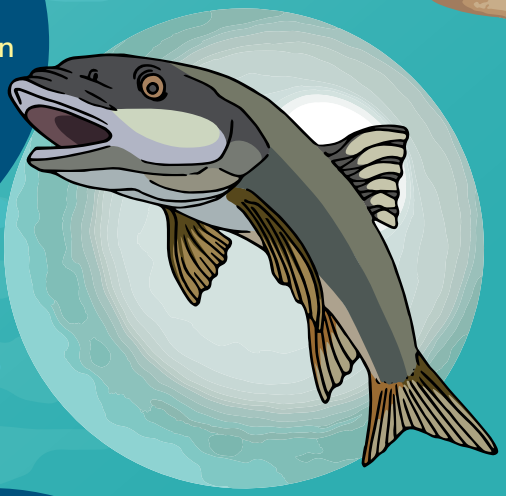
This fish species was introduced as a sport fish due to its popularity among anglers. It outcompetes natives for food and habitat and preys on young native fish.

Carp

This fish species grows quickly and can reach 50 pounds! It eats phytoplankton, which causes increased algae and hurts water quality and native habitat.

NORTHERN PIKEMINNOW

This fish species is a voracious predator of salmon smolt, decimating salmon populations before they can make it out to sea.

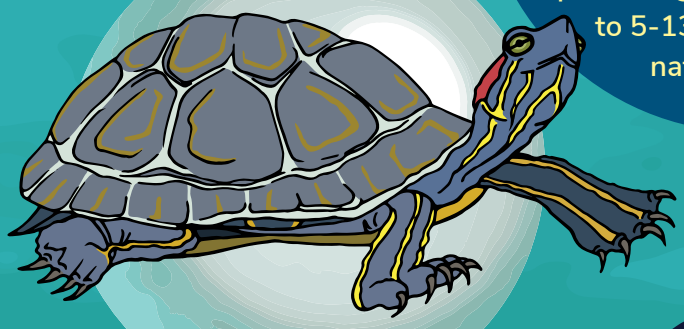


AMERICAN BULLFROG

This frog species outcompetes native species for food and habitat and devours native turtles, frogs, fish, mammals, and pretty much anything else that will fit in its mouth. It can also transmit disease to native species.

RED-EARED SLIDER

This turtle species outcompetes the native western pond turtle for food, habitat, and basking and nesting sites. It outcompetes native species since one female can lay up to 30 eggs a year compared to 5-13 eggs a year for native species.



Protect Our Pollinators

An animal that moves pollen grains from plant to plant is a pollinator. About 80% of all pollination is done by animals. Pollination is very important because it fertilizes the flowers that produce the foods we eat. Some foods that need pollinators are apples, bananas, blueberries, chocolate, coffee, melons, peaches, potatoes, tomatoes, pumpkins, vanilla, and almonds. Pollination also supports native plants that provide food and shelter for our local insects. Some common pollinators include butterflies, moths, bees, wasps, beetles, bats, birds, mosquitos, ants, flies, and the wind.

WHAT YOU CAN DO TO HELP POLLINATORS

Pollinators need food and shelter just like us.

- Plant a pollinator garden.
- Make a bee nesting box.
- Limit pesticide use.

The following pollinators are common in the Provolt Recreation Area.

BEES:

Bees were made to be pollinators. Their mouths are adapted to feed on nectar and pollen. Pollen sticks to the hairs on their legs, and bees have a special place on the back of their knees to store pollen for carrying back to their hive. Bees can even tell each other how to find a good pollen source through dancing. Generally, honey bees pollinate agricultural crops, and native bees are best at pollinating native plants.

HUMMINGBIRDS:

Hummingbirds, such as the rufous hummingbird, prefer trumpet or bell-shaped flowers. The nectar in flowers provides carbohydrates for these birds. Hummingbirds do not really eat pollen, but they do help transfer it on their body as they move from flower to flower.

BEETLES:

Some beetles, such as ladybugs, are considered accidental pollinators. They do not typically visit flowers to get pollen, but they will supplement their diet with nectar. Ladybugs also visit flowers to look for their prey. They will get pollen stuck on their body and legs and then transfer it to the next flower.

BUTTERFLIES:

Butterflies, such as the swallowtail butterfly, use their proboscis to drink nectar from blooms with open or deep flowers. Pollen gets on their legs and body, and in this way, they spread pollen from flower to flower.

MOSQUITOS:

Although female mosquitos are attracted to blood, male mosquitos consume nectar. In the process, they pollinate flowers.

WIND:

Plants pollinated by wind tend to produce lots of small, light, and smooth pollen grains that can easily be carried along in a breeze. Since these plants do not have to attract pollinators by being attractive, the flowers are usually small and drab—for example grass or pine tree flowers.

POINT OUT THE POLLINATORS

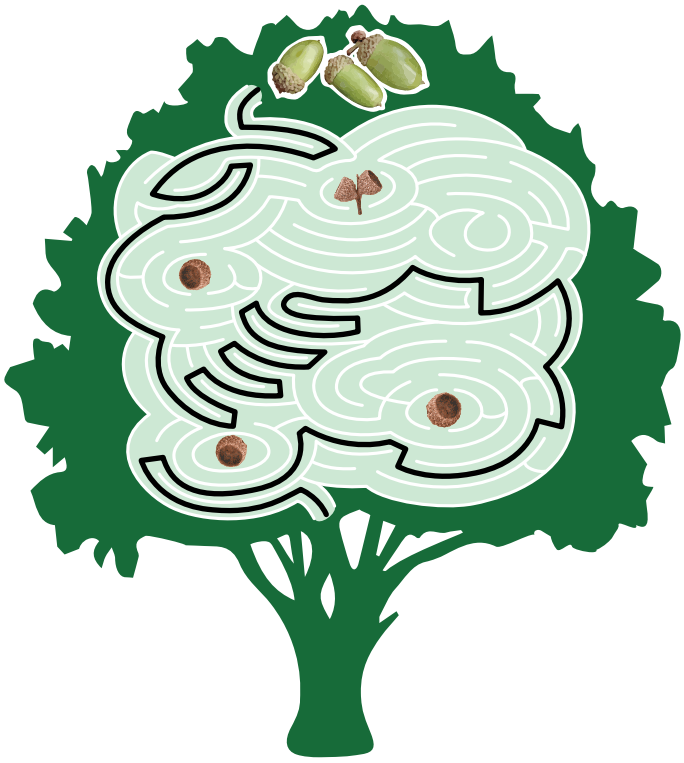
Directions: Use the information you learned about pollinators to find and circle the hidden pollinators in this drawing. Hiding in the drawing are 3 butterflies, 3 hummingbirds, 3 bees, 7 ladybugs, 2 ants, and 1 mosquito.

Answer Key

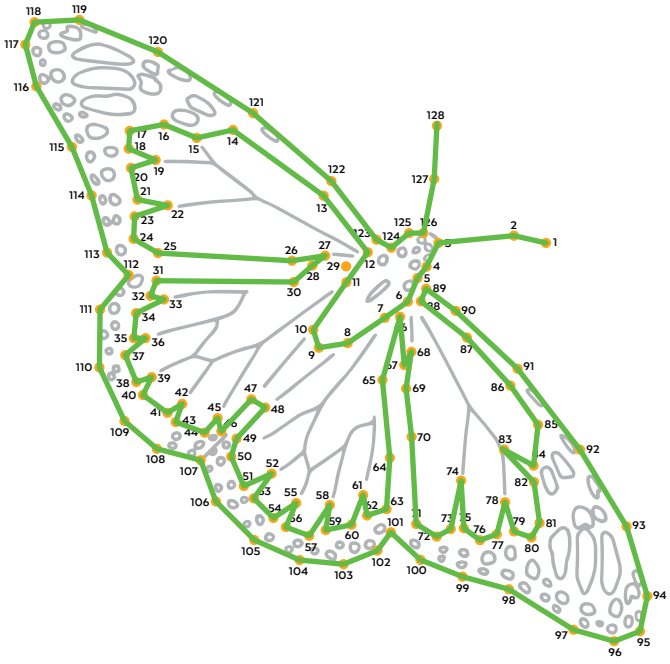
Riparian Wonderland

R	D	W	Y	E	O	S	E	Y	B	F	Q	H	K	Q	N	O	G	R	S	N	S	W	E	I
Q	O	O	O	L	L	R	E	N	B	A	U	A	Z	L	L	J	E	G	T	O	T	E	U	A
K	M	U	O	L	F	R	E	Y	I	A	R	N	M	I	D	W	K	R	E	M	R	S	G	C
C	N	O	G	W	L	R	A	G	N	R	T	N	A	R	O	E	A	E	E	L	I	T	N	K
J	A	T	U	H	N	I	E	M	O	H	U	T	O	L	D	E	N	Y	L	A	P	E	O	R
N	X	D	M	N	S	O	W	T	F	N	T	C	F	W	M	R	S	F	H	S	E	R	T	A
K	R	R	D	A	T	K	T	B	T	A	G	Y	R	Z	L	T	G	O	E	K	D	N	S	B
C	C	E	O	I	M	A	I	T	C	U	E	R	S	O	J	K	N	X	A	O	S	P	D	B
U	O	W	F	W	S	N	I	N	O	K	B	L	A	P	R	A	I	R	D	O	K	O	N	I
D	Y	O	T	D	O	F	O	N	N	C	Y	L	G	R	T	O	K	C	H	N	U	N	U	T
D	O	R	Y	O	R	M	L	O	L	E	K	H	I	I	E	E	A	A	S	I	N	D	O	S
O	T	R	C	L	M	O	M	Y	T	I	D	C	D	A	B	H	I	I	I	H	K	T	H	E
O	E	A	D	O	L	W	W	R	C	J	O	N	A	G	T	R	N	Z	K	C	F	U	Q	L
W	R	Y	C	G	O	P	Y	S	W	M	G	N	E	L	Y	W	R	I	C	K	D	R	Q	G
B	U	M	B	L	E	B	E	E	C	A	V	M	F	W	B	Z	O	I	R	V	P	T	V	A
B	G	U	L	A	R	I	F	S	A	L	G	U	O	D	T	H	F	L	B	L	J	L	I	E
D	C	E	N	I	P	R	A	G	U	S	M	O	M	F	J	P	I	S	L	O	U	E	E	D
Z	Y	L	O	N	G	T	A	I	L	E	D	W	E	A	S	E	L	O	S	A	B	C	U	L
W	I	L	D	R	O	S	E	K	O	P	H	Y	E	R	P	M	A	L	U	L	W	C	S	A
D	E	E	R	S	G	O	R	F	E	E	R	T	C	I	F	I	C	A	P	E	A	S	A	B
B	E	A	V	E	R	E	F	C	S	H	O	W	Y	M	I	L	K	W	E	E	D	H	E	T
F	L	P	N	Q	T	Z	K	E	S	U	O	R	G	D	E	F	F	U	R	Q	O	I	P	S
Q	K	Z	M	T	F	E	L	W	G	O	U	J	V	A	L	L	E	Y	Q	U	A	I	L	Y
L	S	H	O	L	R	M	B	A	E	Q	Y	S	C	Z	U	T	L	Z	A	L	L	V	B	B
T	U	Q	Y	O	J	H	A	E	N	I	P	U	L	I	D	D	O	T	B	X	Y	W	G	D

The Ultimate Acorn Stash



The King of Butterflies



Test Your Pacific Lamprey Knowledge

DOWN

1. suction
2. spawn
3. nutrients
6. migrate
9. filter
11. eel

ACROSS

4. Pacific
5. anadromous
7. juvenile
8. redd
10. parasites

Aerial Fish Hunters

A. Speed = 300 ft ÷ 5 seconds = 60 ft/second

B. Yes

Provolt's Orchard History

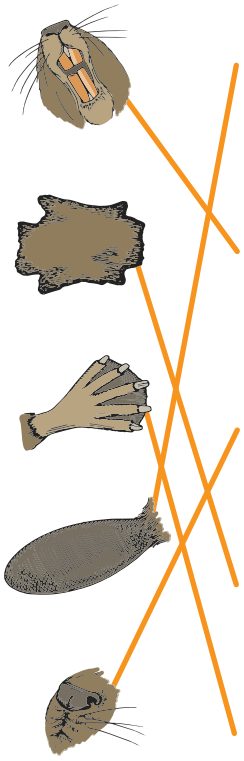
A. 1,200 lb x 15,000 seedlings/lb
= 18,000,000 seedlings

B. 18,000,000 seedlings ÷ 500 seedlings/acre
= 36,000 acres

A Native Oregon Reptile

Western pond turtles are native to **OREGON**. They live in lakes, ponds, **STREAMS**, and rivers. They prefer **SLOW-MOVING** water with plenty of places to bask in the sunlight. Turtles can live up to **FIFTY** years. They are the world's oldest living reptiles, dating back 215 **MILLION** years. The turtle's **SHELL** is critical to the animal's survival, as it protects them from their many predators. The top shell is called the **CARAPACE**. The bottom shell is called the **PLASTRON**. The carapace and plastron include numerous squarelike divisions. These are called **SCUTES**. Scutes are made of **KERATIN**, which is the same main material in human hair and fingernails and animal horns. A turtle's shell grows as the turtle grows. The scutes **SHED** to make room for newer and larger scutes.

Impressive Skills of a Large Rodent



This is broad and flat and serves as a rudder to help beavers steer while swimming. Beavers also use it to slap the water to warn other beavers of predators.

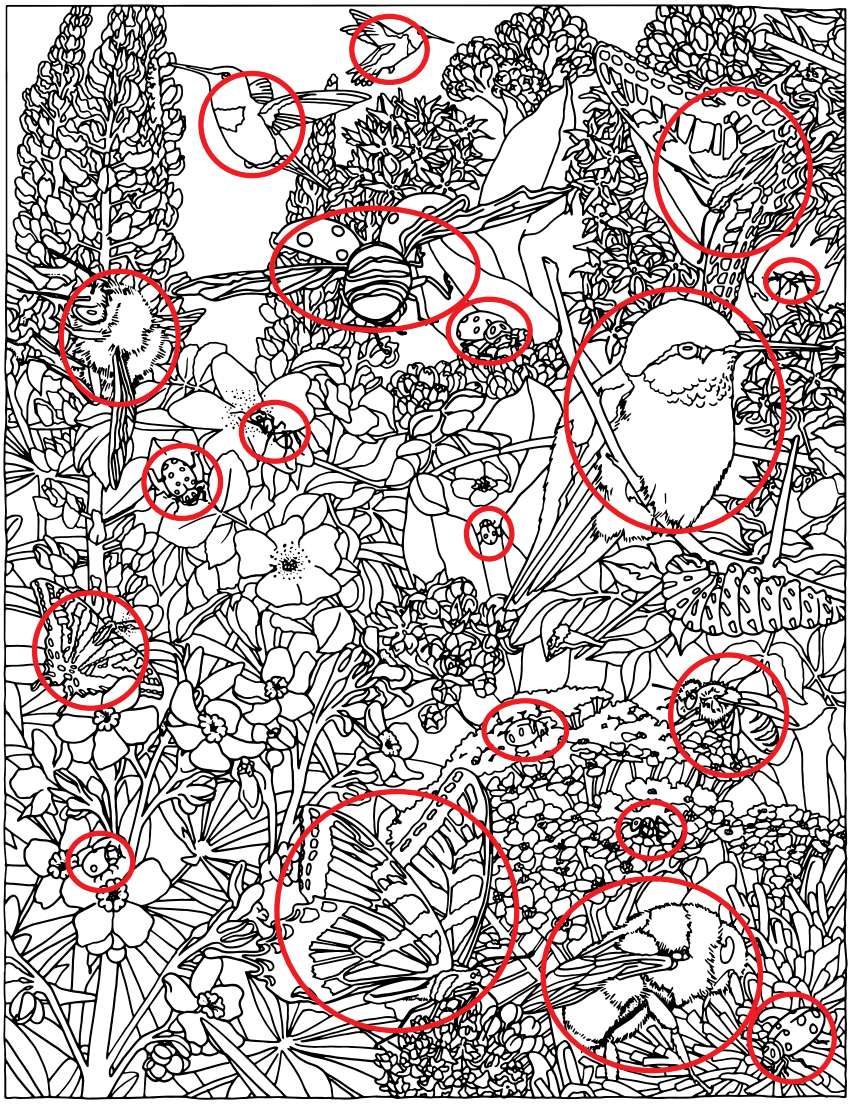
Beavers use these to cut down trees for dams. Beavers also use them to eat leaves, roots, and bark, which are a part of their diet.

Beavers can hold their breath and stay under water for 15 minutes! They are able to close this part of their body to keep water out.

Beavers produce an oil, which they spread over this part of their body. This helps keep water off their skin so they can stay warm.

These are webbed and help propel the animal through the water.

Point Out the Pollinators



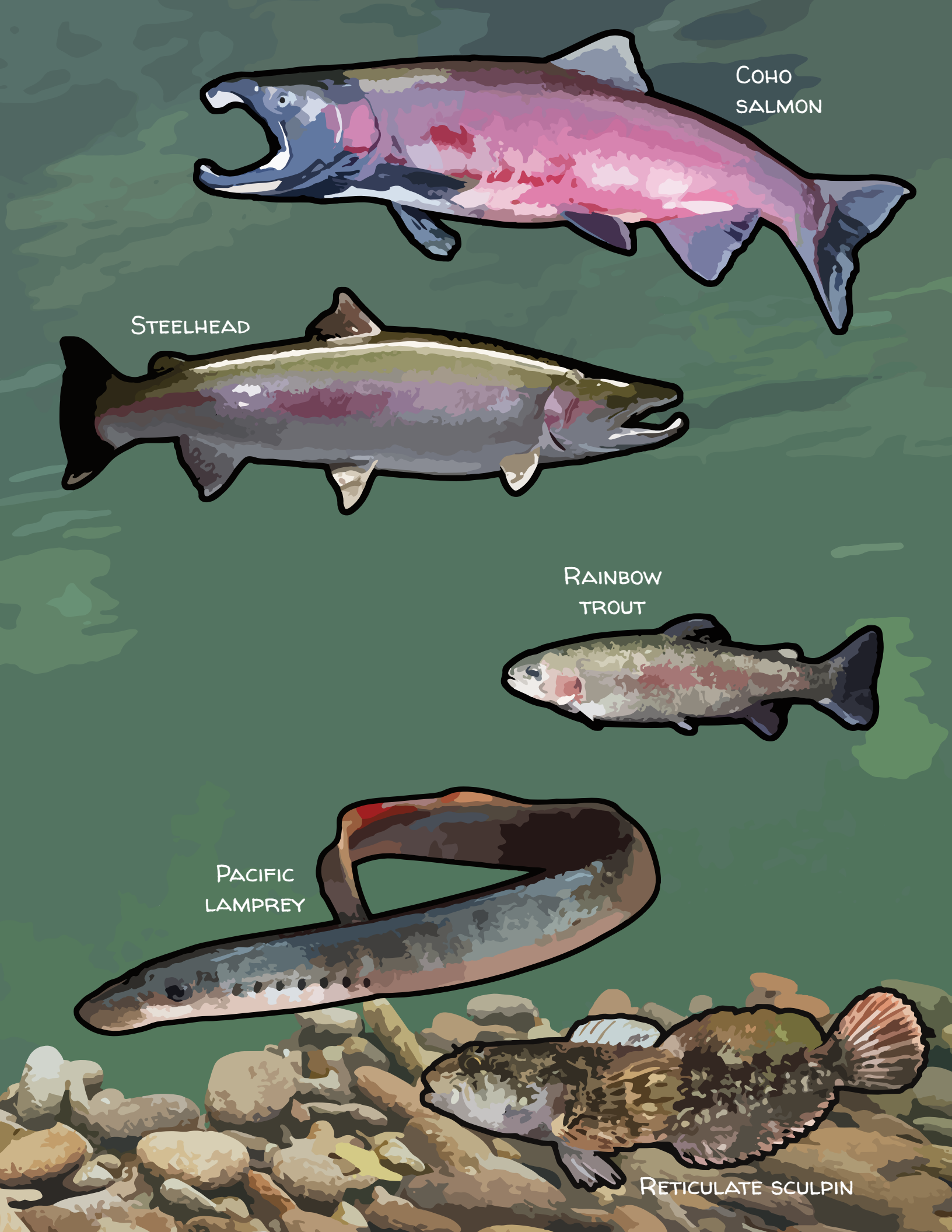
BUREAU OF LAND MANAGEMENT

JUNIOR RANGER

**As a Bureau of Land Management Junior Ranger,
I promise to:**

- Do all I can to help preserve and protect the natural and cultural resources on our public lands.
- Be aware of how my actions can affect other living things and the evidence of our past.
- Keep learning about our important heritage.
- Share what I have learned with others.

Ranger Signature _____ **Date** _____


Coho salmon
Steelhead
Rainbow trout
Pacific lamprey
Reticulate sculpin

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