

Welcome to the Outdoors

Your senses can teach you a lot. Look closely at things you might otherwise bypass. Listen for sounds that tell you about creatures you cannot see. Smell the earth, air and sea, and think about how animals and insects identify their surroundings. Read field guides or magazines to learn more about the natural world. Keep notes, take pictures or make sketches. You can colour the pages of this brochure.

Take time to consider what you will need to be safe in British Columbia's protected areas, and always tell someone where you are going. Leave your pet at home. Since many animals are easily disturbed by dogs, you will experience more of nature without your furry friend.

Before you go, remember: you are visiting the home of many animals, plants and other creatures. Be a gentle guest. Leave the berries for the birds to eat, and let the insects pollinate the flowers. Everything around you has a purpose.

If you take time to quietly look, listen and smell, maybe you will discover what that purpose is.



Answers

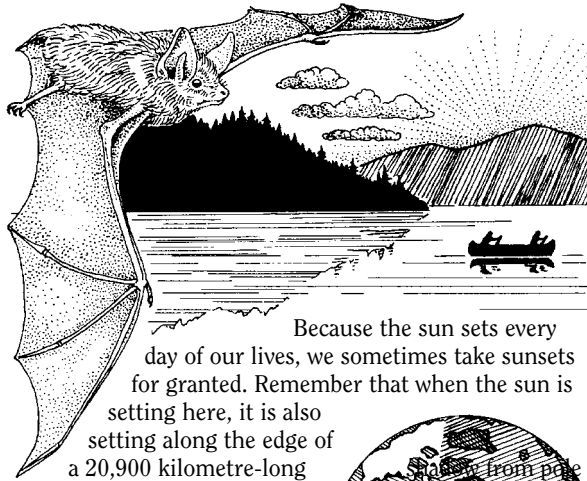
Animal Tracker

- A. Muskrat B. Mink C. Mule Deer D. Raccoon
E. Great Blue Heron F. Beaver G. Glaucous-winged Gull
H. Spotted Sandpiper

Cone Clues

- A. Ponderosa Pine B. Western Hemlock C. Douglas-fir
D. Western Red Cedar E. Lodgepole Pine
F. Western White Pine G. Alpine Fir

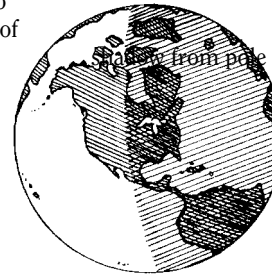
Discover the Dusk



Because the sun sets every day of our lives, we sometimes take sunsets for granted. Remember that when the sun is setting here, it is also setting along the edge of a 20,900 kilometre-long to pole.

Look closer at what happens when the sun goes down. Listen to birds and other creatures that sing after dark. Time how long it takes for the stars of the Big Dipper to appear.

Experiment with seeing in the dark. It takes 20 minutes for our eyes to adjust. Improve your night vision by putting red cellophane over your flashlight. Sit in the dark quietly and watch the sky for bats foraging for insects among the treetops, or hunting low over a river or lake. We generally cannot hear the sounds a bat makes at night as it hunts for food. What other night creatures can you see or hear?



For More Information

BC Parks

<http://wlapwww.gov.bc.ca/bcparks>



Ministry of Water, Land
and Air Protection



Things to Do Outdoors



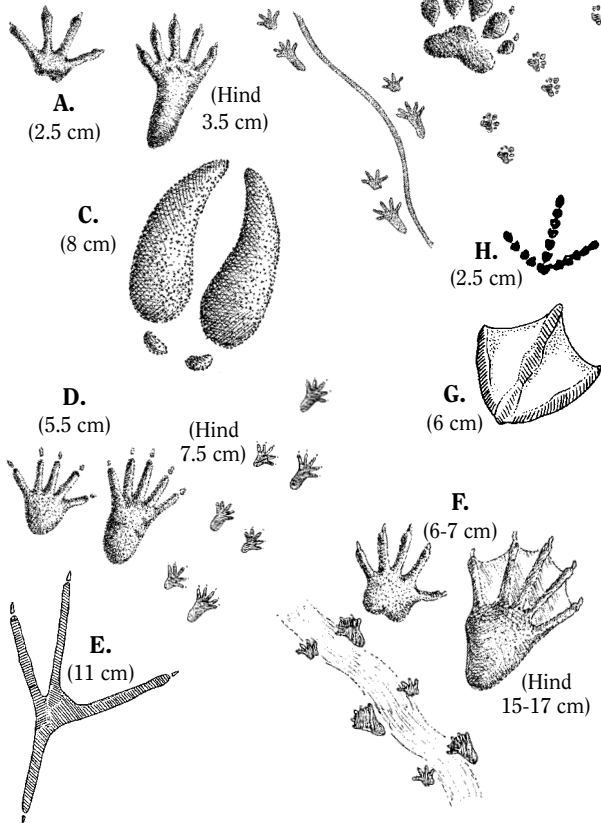
This brochure describes activities you can enjoy on a visit to British Columbia's protected areas. All you need is curiosity to learn more about nature.

Be an Animal Tracker

Look for these signs in wet mud or sand along lakes, streams or the sea. Since many animals are active early in the day or late at night, check for tracks in the morning. Make sketches of as many kinds of tracks as you can find.

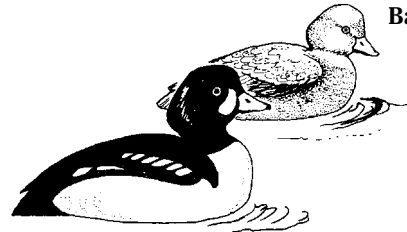
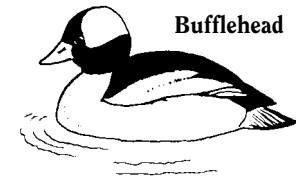
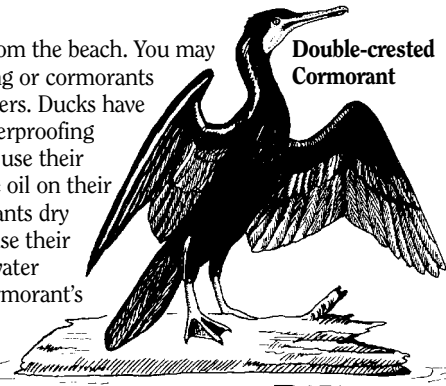
Try to guess the animals from their tracks.

Answers on inside cover panel.

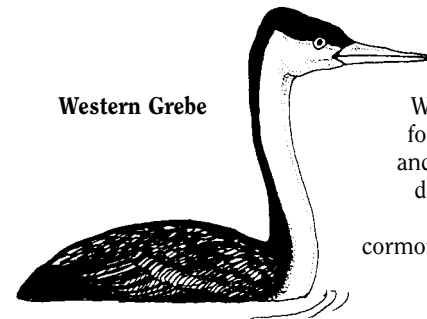
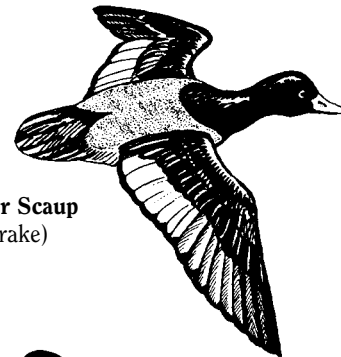
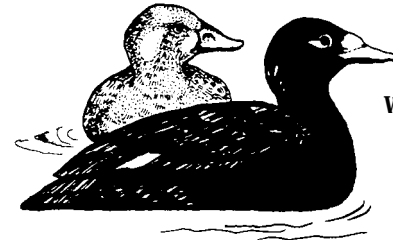


Spot the Swimming Birds

Scan the water from the beach. You may see ducks preening or cormorants drying their feathers. Ducks have oil glands for waterproofing themselves. They use their bills to spread the oil on their feathers. Cormorants dry their wings because their feathers are not water repellent. The cormorant's wettable feathers make it easier to dive for food.



Barrow's Goldeneye (Drake)



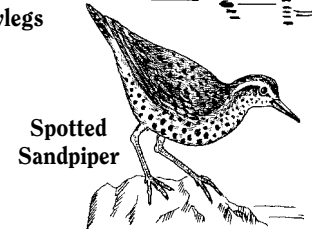
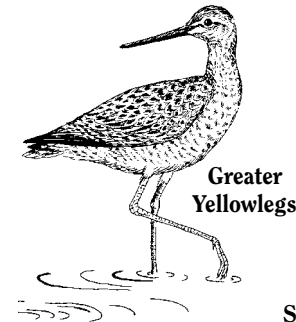
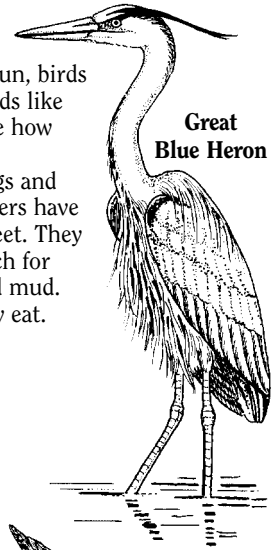
Beneath the waterproofed feathers, soft, downy underfeathers insulate ducks from cold water.

While scoters dive for clams, mussels and shellfish, scaup dive for seaweeds. Both grebes and cormorants are experts at catching fish.

Go Birding on the Beach

Beaches attract people and birds for different reasons. People are there for sun and fun, birds for food and rest. Look for birds like the ones pictured here. Notice how they differ from sea birds.

Wading birds have long legs and big feet, while shoreline runners have short, sturdy legs and small feet. They use their slender bills to search for food deep within the sand and mud. Watch awhile to see what they eat.



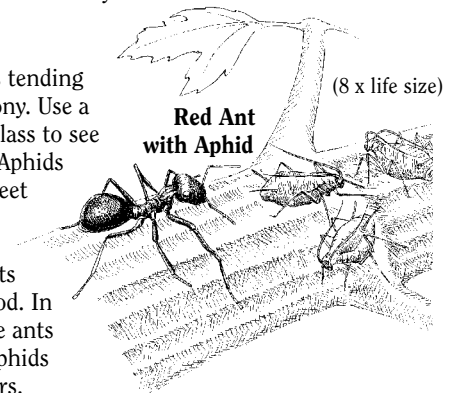
Get to Know Your Ants

Find an ant on a hot day and follow it for at least ten minutes.

Look for ants tending an aphid colony. Use a magnifying glass to see them better. Aphids produce a sweet liquid called honeydew, which the ants collect for food. In exchange, the ants protect the aphids from predators.

Ants have jobs like we do. Is your ant hunting? Tending its young? Bringing food home? Protecting the colony? Ants may look different based on the jobs they do. Draw a few different kinds.

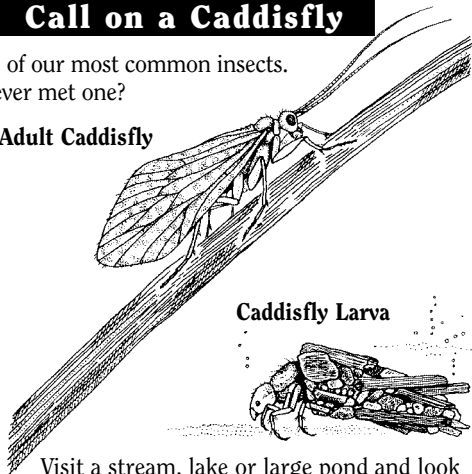
Watch ants carrying food and building materials to their colony. Notice how they keep their trails tidy for easier travel.



Call on a Caddisfly

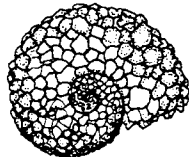
This is one of our most common insects. Have you ever met one?

Adult Caddisfly



Caddisfly Larva

Visit a stream, lake or large pond and look for a creature walking on the bottom like this one. The juvenile caddisfly spends this early stage of its life in water.



If you watch these insects, you will see that different types of caddisfly larvae make cases in different shapes and sizes. The materials used in case construction also identify different caddisfly species. Caddisfly larvae fasten the case together with silk or saliva. They build cases to blend in with their surroundings and to protect themselves against predators.

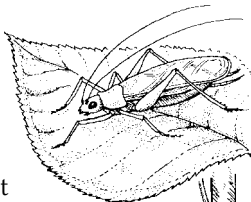
Listen to Insect Songs

On hot summer days or evenings, you can often hear insect songs.

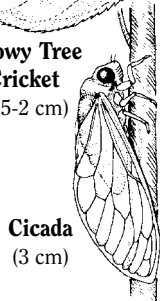
Listen for male snowy tree crickets during summer evenings in British Columbia's interior.

You can use their chirps to determine the temperature. Count the number of chirps a single cricket makes in 15 seconds and add 40 for the temperature in Fahrenheit. (These crickets have not changed over to Celsius yet!)

Cicadas spend up to 17 years underground. When they emerge, male cicadas sing in dry pine and Douglas-fir forests on hot days for only a month before they die.



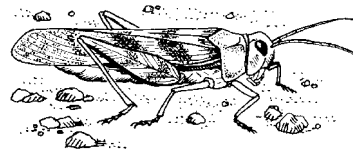
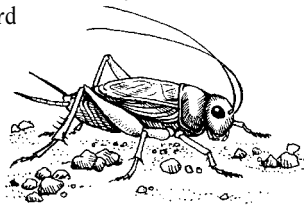
Snowy Tree Cricket
(1.5-2 cm)



Cicada
(3 cm)

The black field cricket is common in many areas of the province where it can be heard singing day or night.

Field Cricket
(2.5 cm)



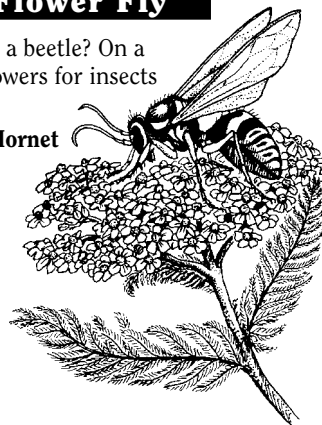
Pallid-wing Grasshopper
(3.5 cm)

The pallid-wing grasshopper is one of the few grasshoppers that makes sounds – called stridulation – while flying.

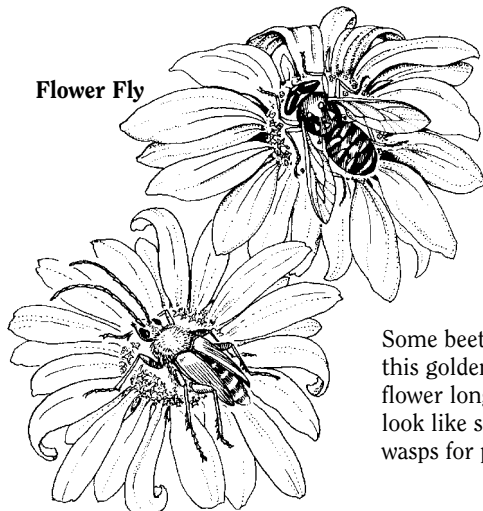
Find a Flower Fly

Is it a wasp? Is it a fly? Is it a beetle? On a warm, sunny day, watch flowers for insects with yellow and black stripes. Wasps have four wings, long antennae and stingers. Flower flies have two wings, short antennae and no stingers. An insect with bright warning patterns may have a poisonous sting or a nasty taste.

Hornet



Flower Fly



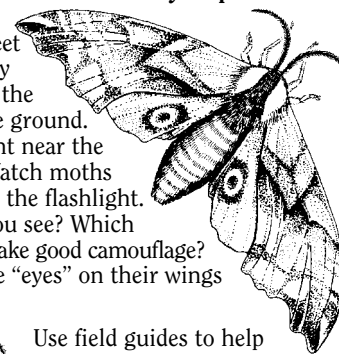
Longhorn Beetle

Some beetles, like this golden-haired flower longhorn, look like stinging wasps for protection.

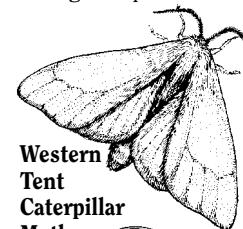
Attract Moths

Choose a warm, moonless night with little or no wind. Hang a white sheet outside, facing into any breeze. The bottom of the sheet should lie on the ground. Place a bright flashlight near the middle of the sheet. Watch moths land on the sheet near the flashlight. How many kinds do you see? Which colours and patterns make good camouflage? How many moths have “eyes” on their wings to frighten predators?

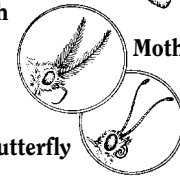
Cerisy's Sphinx Moth



Use field guides to help you name large or brightly-coloured moths. Small moths can be harder to identify. There are two easy ways to tell moths and butterflies apart. Most moths have feathery antennae and flat wings. Butterflies, on the other hand, have wiry antennae with knobs and upright wings.

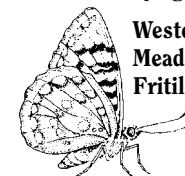


Western Tent Caterpillar Moth



Butterfly

Moth



Western Meadow Fritillary

Needle a Pine Tree

Pine needles grow in clusters of two, three or five, depending on the species. Find a pine. Can you name the tree from its needles?

Ponderosa Pine
(12 cm or longer)

Ponderosa pine has three long needles.

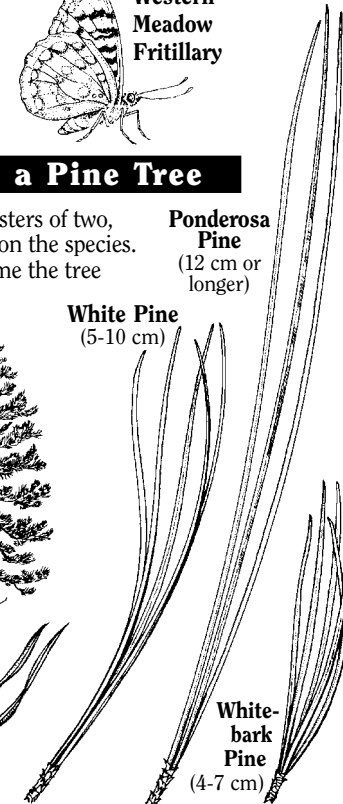
White Pine
(5-10 cm)

Whitebark pine grows in many shapes on exposed mountain sites.



Lodgepole pine is the most common pine in British Columbia.

Lodgepole Pine
(2-7 cm)

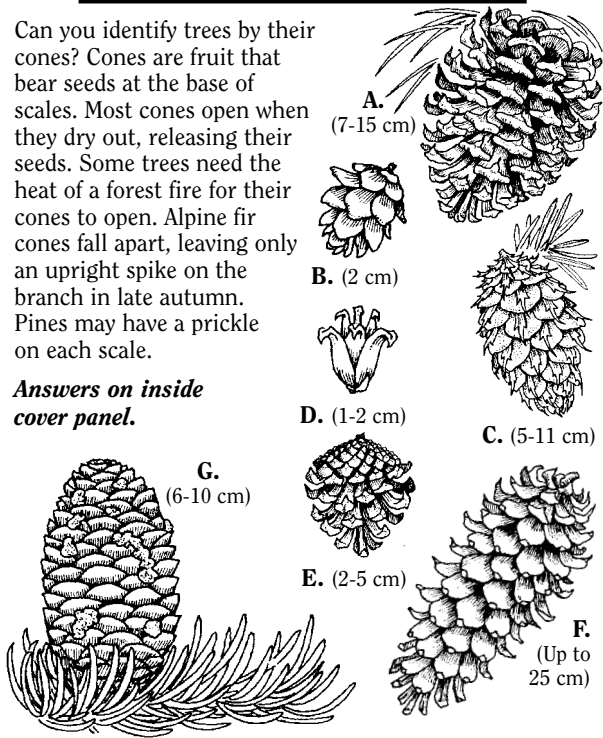


Whitebark Pine
(4-7 cm)

Let Cones Be Your Clues

Can you identify trees by their cones? Cones are fruit that bear seeds at the base of scales. Most cones open when they dry out, releasing their seeds. Some trees need the heat of a forest fire for their cones to open. Alpine fir cones fall apart, leaving only an upright spike on the branch in late autumn. Pines may have a prickle on each scale.

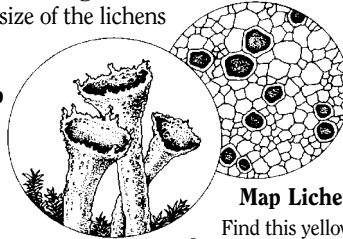
Answers on inside cover panel.



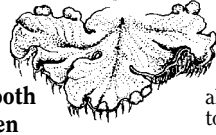
Look Closer at Lichens

A lichen is actually two organisms – a fungus and an alga – living in symbiosis. The alga produces food for the fungus. In exchange, the fungus provides a moist environment for the alga, protecting it from drying out. Some lichens are pioneers, or the first living things in new or disturbed areas. Lichens can also be indicators of air quality. Through the science of lichenology, the age of things can be determined by the size of the lichens growing on them!

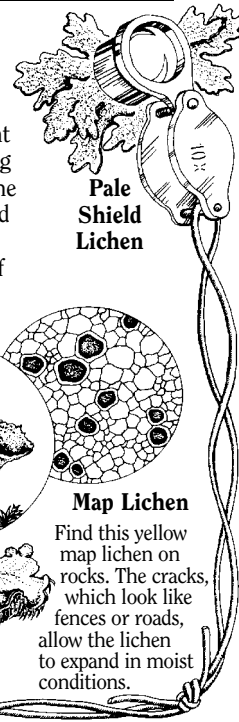
Pixie Cup Lichen
(x 2)



Dog-tooth Lichen



Pale Shield Lichen



Map Lichen

Find this yellow map lichen on rocks. The cracks, which look like fences or roads, allow the lichen to expand in moist conditions.

Keep an Eye on the Sky

Cirrus clouds are made of ice particles

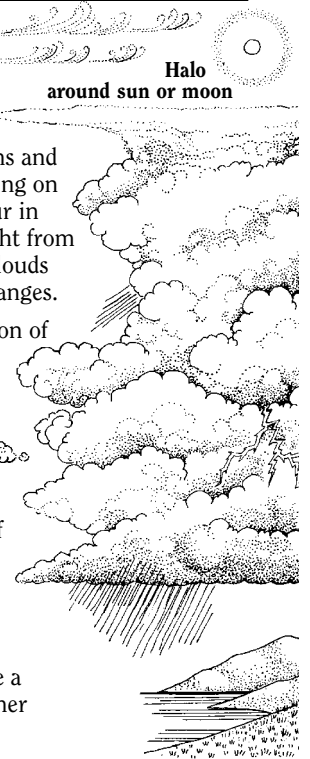
Halo
around sun or moon

Clouds come in many forms and colours. They vary depending on the amount of water vapour in the air and the angle of light from the sun. Certain types of clouds can warn us of weather changes.

Write or sketch a description of the clouds today, then see what the weather is like tomorrow at the same time.

Note what the wind is like before and after the type of clouds change.

As the air moves from a high-pressure system to a low-pressure system before a storm, it usually gets warmer and windier.



Go on a Beach Hopper Hunt

A beach hopper is not a flea, even though it jumps like one. These small sand dwellers are related to crabs, shrimps and other crustaceans. They eat drift algae, such as storm-loosened bull kelp. Look for beach hoppers under high-tide debris and in tide pools. See what else is in the seaweed and under bits of wood. You may spot red mites, spiders and flies.

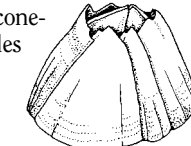
Follow a beach hopper at the high tide line. It burrows early in the day and emerges later to forage among the kelp. The beach hopper orients itself to the moon as it moves between the upper and lower beach.



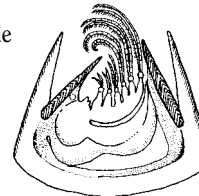
Study a Barnacle

Barnacles are tiny sea animals that live in cone-shaped shells. Find a tide pool with barnacles attached to submerged rocks. If you look closely, you may see a barnacle sweeping the water with feathery plumes. These plumes, which are actually their legs, act like fishing nets for catching food.

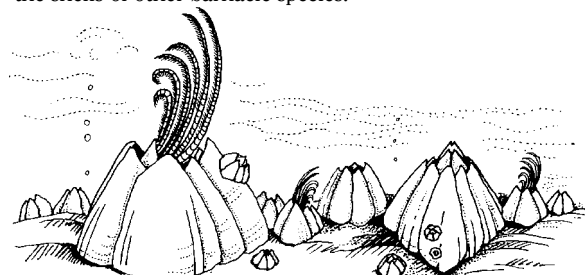
If you could peek inside a barnacle, you would see a shrimp-like creature upside down on the floor of its shell. The shell is made of hard calcium carbonate to protect the barnacle from predators. Barnacles cement their shells to rocks with the strongest glue known to exist. Barnacle larvae sometimes attach themselves to the shells of other barnacle species.



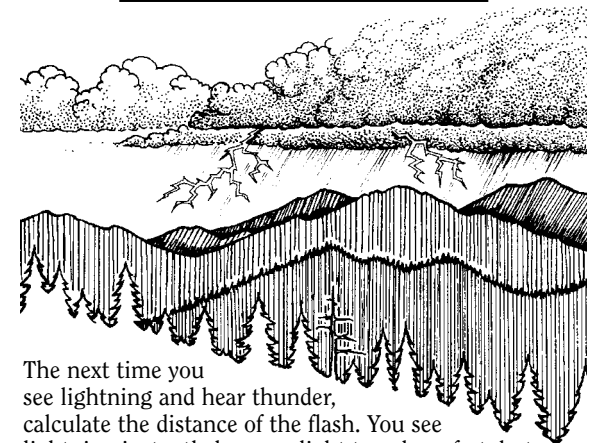
Common Acorn Barnacle



Cross-section



Measure a Storm



The next time you see lightning and hear thunder, calculate the distance of the flash. You see lightning instantly because light travels so fast, but it takes thunder about three seconds to travel one kilometre. Count the seconds between a flash of lightning and the sound of thunder: "One thousand, two thousand..." If you count nine seconds, the lightning is three kilometres away. If the flash and the thunder are close, make sure no one is swimming! Water conducts big electrical discharges.