

FALL
1985

Nature Detectives



"Who's been here?" "What were they doing and why were they doing it?" "When did it happen?" Nature Detectives try to answer questions like these by looking for clues and evidence of the activities of creatures in the outdoors. Have you ever wondered about teeth marks on the trunk of a tree, or strange footprints in the snow or mud? If you have, then you are already a nature detective.

THEME:



Fall Festivals

Party time! From now until the end of the year there are lots of excuses to celebrate! Some festivals, like Halloween and Thanksgiving, have very well known traditions. Others, like the Winter Solstice, were celebrated in olden times, but nowadays have mostly been forgotten. Many of the traditions of these holidays have to do with nature and wildlife.

Rattling bones...werewolves....witches....vampires....what's the truth about them? A skeleton may seem gruesome, but without one you would just be a 'blob'. Wolves are very real, but werewolves only exist in ghost stories.

Vampires do suck blood, but they are tiny bats, only about 5 inches long, nothing like Dracula! Witches - just people in olden times who knew about making medicines from plants - which might have seemed like magic to people who were made well again!

Wild turkeys, corn, pumpkin - what a feast it must have been, that first Thanksgiving. The first settlers had to learn much about the wild foods that were so important for their survival - after all there was no popping to the supermarket then! A good harvest meant food to eat during the cold, hard days of winter.

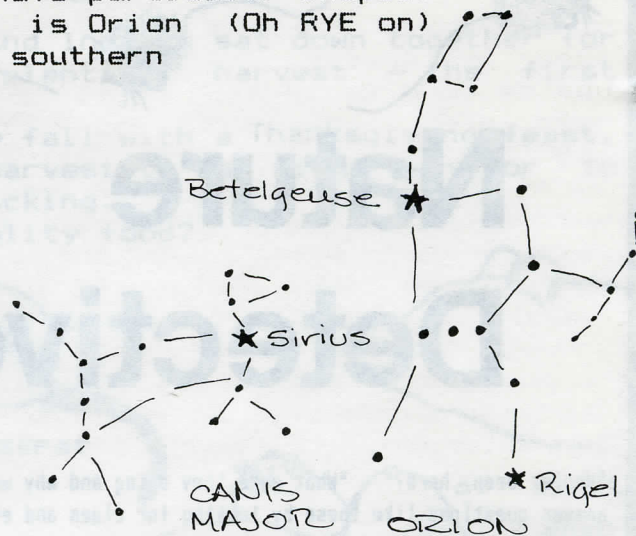
Wonderful when the days begin to get longer again! It brings hope for new life in the spring. That's why, long ago, people celebrated Winter Solstice - they had survived the shortest day and were grateful for the sun.

So as the holiday season comes - think about nature behind the traditions.



Autumn Sky Pictures

Constellations are groups of stars which have particular shapes. One of the most beautiful constellations is Orion (Oh RYE on) the Hunter, which becomes visible in the southern sky during fall and winter. This large group of stars is easy to find with the three stars which make up the hunter's belt. On the hunter's shoulder is Betelgeuse (Beetle juice), a red supergiant. On the opposite heel is Rigel (Rye jel) a blue supergiant. Below Orion's belt is the sword which contains the Orion Nebula, a swirling cloud of gas and dust. Nebulas are birthplaces for new stars. If you follow the line of Orion's belt to the east (left looking south), you will find bluish-white Sirius - the brightest star in the sky which is part of Canis Major, the Big Dog.



Heavenly Calendar

Fall Equinox - the hours of daylight and night are equal. This happens both in the spring and fall. The fall equinox happens on September 22, the first day of fall.

Harvest Moon - the full moon near the fall equinox is called the harvest moon - this year on September 28. This full moon is especially showy because it stays low on the horizon for longer than usual.

Hunter Moon - the full moon following the harvest moon - this year October 28. For a special show that night, the earth's shadow will pass over the moon - a lunar eclipse!

Solar Eclipse - turn around is fair play - on November 12 the moon's shadow will pass over the sun for a solar eclipse!

Winter Solstice - the shortest day, longest night of the year. Many cultures have had special rituals or ceremonies to chase away the cold, dark winter days and welcome the longer warmer days of spring.



Star Show

Even if it is cloudy you can still have your very own star show! You will need:-

A tin can with both ends removed (make sure the can opener leaves smooth edges).

A piece of foil large enough to cover the end of the can.

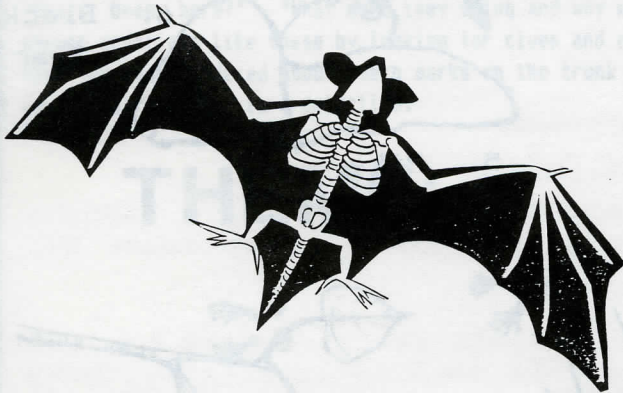
A picture of your favorite constellation. Cover one end of your can with foil, keep it tight with an elastic band. Draw or trace a picture of your favorite constellation the same size as the end of the can. Put the drawing over the foil and carefully mark the positions of the stars by pricking through the foil with a sewing pin or very sharp pencil (careful!) - a bigger hole makes a bigger star! Stick a flashlight into the open end of the can. Go to a dark room, turn on the flashlight - and you have your own star show.

Bats, Bats, Bats!

No Halloween story is complete without ghosts, witches and BATS. They seem mysterious and frightening - swooping around at night, hanging upside down in caves, roosting in attics and abandoned buildings. But bats aren't dangerous and most stories about bats aren't true. They aren't blind. They don't get tangled in people's hair. Bats resemble furry mice with wings, and are the only truly flying mammals. Flaps of skin between their hands, feet and body form their wings.

Bats aren't blind but they do have poor vision, so they use echolocation (ek oh low KAY shun) to find food and avoid obstacles while flying at night. They send out a constant stream of super-sonic sounds through their mouth or nose and listen for the echoes that bounce back when the sounds hit an object. One bat can catch 12 mosquito sized bugs in a minute!

In Colorado, there are 17 different species of bats. One we don't have is the vampire bat, which only lives in Central and South America. Vampire bats have given all other bats a bad reputation. Using its razor-sharp teeth, the vampire bat makes a shallow, painless cut in the skin of its prey, usually a cow or donkey. It then laps up the blood, often drinking its weight in blood - about 1 ounce - each night. Now that you know more about bats, maybe you won't go "batty" when you see one next Halloween!



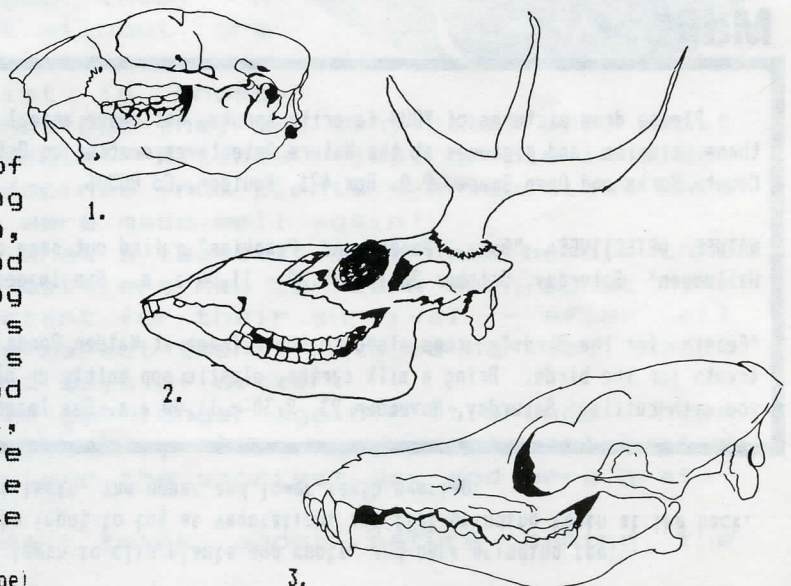
X-ray Eyes

Just suppose you could look at your body like an X-ray machine can! You would see the scariest trick or treat costume ever --- your own skeleton! It is the frame that makes you the shape you are, that protects your brain and insides, that has muscles fastened to it that let you run and jump. Many animals have skeletons like us. Birds have light, hollow bones so they won't be too heavy to fly. Bats have very, very long finger bones that support the membrane that makes their wings, and a tiny hooked thumb to climb with. Snakes have masses of ribs for their long bodies and unlocking jaws so they can swallow large prey. All vertebrates (animals with backbones) have the same basic bones - just varying in detail - so if you find bones when you are hiking, see if you can piece together the evidence (look at size, at teeth, at skull shape) of whose remains you have found.

Scary Skulls

If werewolves existed, what kind of skulls would they have? Strong jaws with pointed "canine" teeth, like dogs, foxes, coyotes and wolves. These are the tearing teeth that all meat eating animals (carnivores) must have. Animals that live on grass, leaves and twigs, (herbivores), have flat, grinding back teeth and may have sharp "nibbling" teeth at the front. Can you tell who these scary skulls belong to?

(Answers at the bottom of the last page)



Skulls are not drawn to scale.

Thanksgiving

The year 1621, December 13, Pilgrims and Indians sat down together for three days of feasting to celebrate a plentiful harvest - the first Thanksgiving.

People aren't the only ones to celebrate fall with a Thanksgiving feast. Many creatures gather the bountiful harvest to eat right away or to store in their "pantries" for winter snacking.

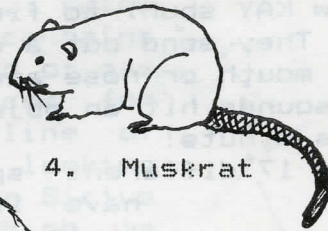
Can you match the animal with its speciality food?



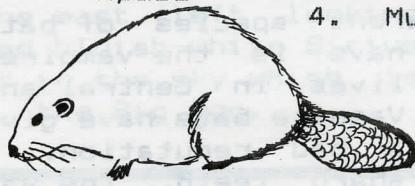
1. Chickaree



2. Harvest Mouse



4. Muskrat



3. Beaver



5. Pika



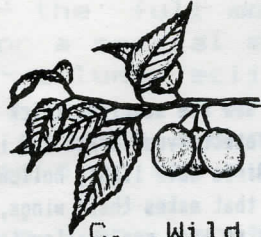
6. Black Bear



A. Flower stems



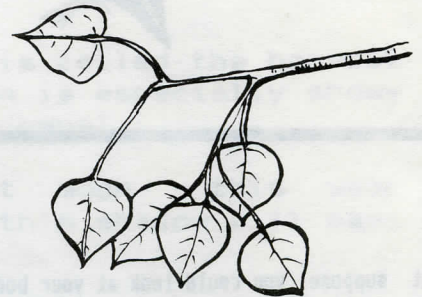
B. Pinecones



C. Wild Plums



D. Cattails



F. Aspen branches



E. Seeds

Harvest Quiz answers: - 1-B; 2-E; 3-F; 4-D; 5-A; 6-C;

Mailbox

Please draw pictures of YOUR favorite spooky, halloween animal and a story about why you think it is scary! Let's share these stories and pictures at the Nature Detectives meeting on October 26th, or send them to Nature Detectives, Boulder County Parks and Open Space, P.O. Box 471, Boulder, Co 80306.

NATURE DETECTIVES: "Bats, Bones and Pumpkins" - find out some of the TRUE facts behind the spooky and scary objects of Halloween! Saturday, October 26 from 9.30 - 11.00 a. m. See Images calendar for details.

"Feasts for the Birds" - come along to the A-frame at Walden Ponds Wildlife Habitat to spend some time making Thanksgiving treats for the birds. Bring a milk carton, plastic pop bottle or pine cones if you can. Little kids - bring a parent to help you with cutting! Saturday, November 23, 9.30 - 11.00 a.m. See Images calendar for details.

1. Prairie dog has front 'chisel' teeth to clip plants and roots, and back grinding teeth.
2. Elk has only bottom teeth at the front to tug at vegetation, and flat grinding teeth at the back.
3. Coyote has pointed meat tearing teeth, the upper and lower teeth overlap.

SCARY SKULLS ANSWERS

