

Spring/Summer
1988



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:



Ready, Set, GROW!

V.I.P. VERY IMPORTANT PLANTS

Start with the sun. The sun is the source of energy for all living things. Only plants can capture energy from the sun and make food. Animals must get food by eating plants or by eating other animals that have eaten plants. How does this work?

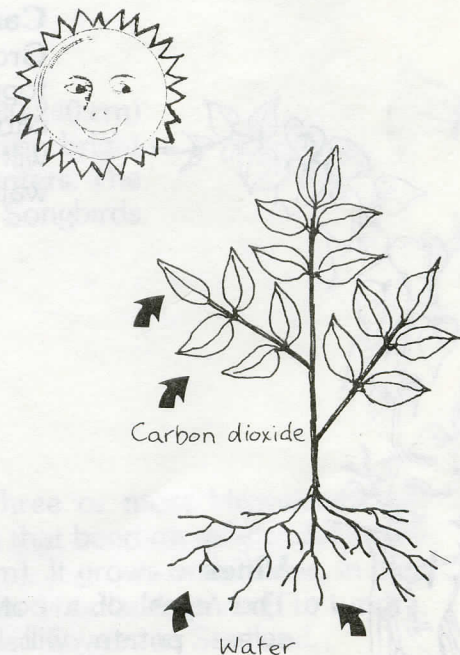
PHOTOSYNTHESIS Making things with light

Green plants can capture the sun's light energy because they have **CHLOROPHYLL** in their cells. Chlorophyll is what makes plants green.

Plants use the energy to make foods called carbohydrates out of simple building-block chemicals: carbon, oxygen and hydrogen. Plants get their carbon and oxygen from carbon dioxide gas in the air. The gas enters the leaf through stomata (little holes) in the leaf surface. They get water from the soil by the roots.

Using the carbohydrates the leaves make, and other chemicals from the soil, the plant has energy and materials to grow more roots, leaves, flowers and seeds.

Animals do their growing, and carry on their living, using energy that plants have captured. Without plants, animals could not exist.



LET'S GET GROWING

What you'll need:

SOIL

Use ready-made potting soil, which has peat, sand and perlite mixed in to make the best bed for seedlings. Or use crumbly, light garden soil.

SUNLIGHT

Grow your plants on a sunny windowledge or outside in a sheltered place after the frosts are gone.

WATER

Remember to water your plants regularly, but don't drown them. Let extra water drain away.

TLC

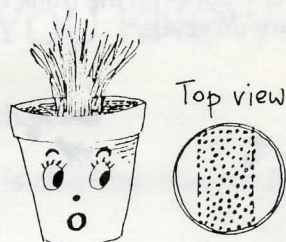
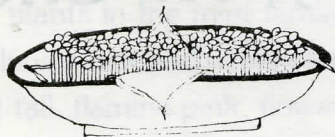
Tender-loving-care! Seedlings don't like drafts, sunburn, being dried-out, or being soggy. Some people think plants grow better when you talk to them. Do you believe that? Try it.

POTS

Milk cartons, styrofoam or paper cups, yoghurt pots, margarine tubs, coffee cans. Choose pots that can have drainage holes poked in the bottoms.

Cress

Sprinkle seeds evenly on layers of moist paper towel in a saucer. Keep damp. In a week you can eat cress sandwiches.

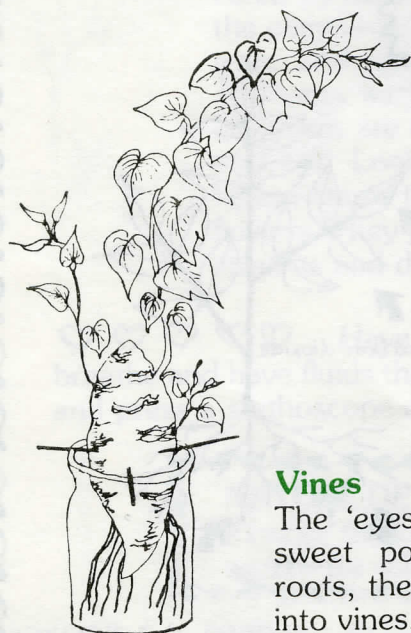
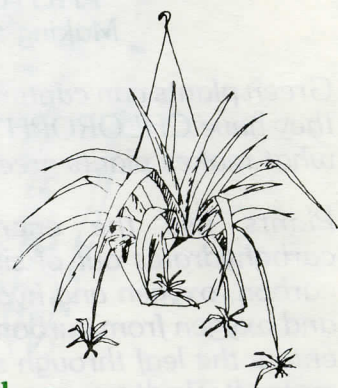
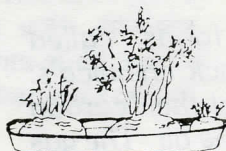


Birdseed

Spread seed on the top of a styrofoam cup filled with soil. Draw a face on the cup. As the seeds grow they make a fancy hairdo for your cup-person.

Carrots

Grow beautiful, ferny carrot tops from the top slice of a carrot. Eat the rest. They will grow for awhile in just water.



Vines

The 'eyes' of a potato or sweet potato will sprout roots, then shoots to grow into vines.

Spiders

Spider plants grow baby spider plants at the end of long stems. The babies can be cut from the parent and put in their own pots. Press the soil firmly around the new roots to anchor the plant in its new home.

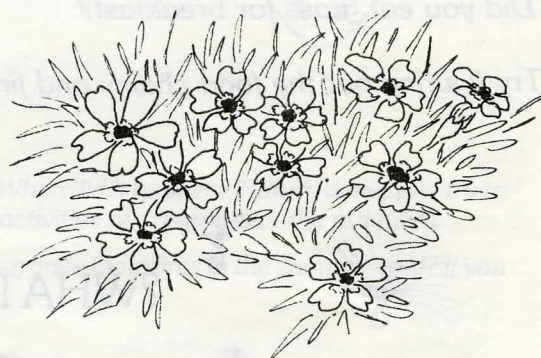
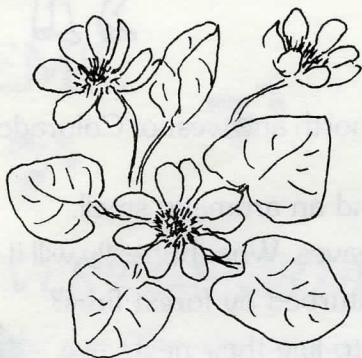
GROWING WILD

Wildflowers grow throughout Colorado--from the plains to the very tops of mountains, and from the wettest marshes to the driest, rockiest ridges. This spring and summer see how many wildflowers you can get to know. They may be wild, but they won't run away! So get as close as you can and notice the details. Does one kind of wildflower smell sweet and another smell skunky? Are the leaves smooth, or rough, or soft and fuzzy? Do all wildflowers have bright colors?

Here are four Colorado wildflowers you're likely to find if you look for them!

MARSH-MARIGOLD

You will find marsh-marigolds growing in or near water in the high mountains. The flowers have white petals and bright, yellow centers. The leaves are shiny green and heart-shaped. The entire plant is three to nine inches (8-22 cm) tall. Sometimes marsh-marigolds bloom in the melting snow!

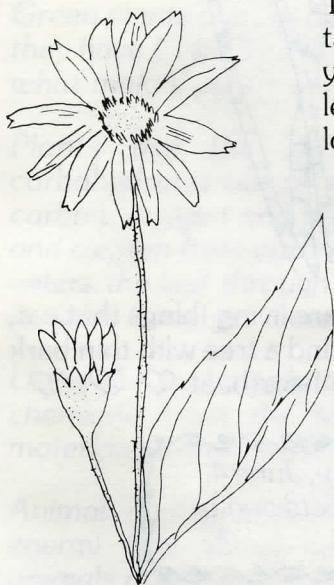


MOSS CAMPION

Moss Campion grows on mountain tops, above treeline. Because winds there are so strong and the air so cold, plants must grow close to the ground. This one forms mounds only one inch (2.5 cm) high. The tiny flowers are a vivid pink.

COMMON SUNFLOWER

The common sunflower grows 1-8' (30-240 cm) tall in fields and along roadsides. The bright yellow flowers have brown-purple centers. The leaves and stem are rough and hairy. Songbirds love to eat sunflower seeds.



HAREBELL

Harebell has three or more blue-violet, bell-shaped flowers that bend on tall slender stems (8-20", 20-50 cm). It grows on hillsides, in pine forests, in aspen woodlands and up to tundra. This bluebell also flowers in Scotland.



When you find these flowers, color them.

GRASS FOR BREAKFAST?

A grasshopper munches blade after blade of grass. The grasshopper is a **CONSUMER**. He gets the energy and raw materials he needs to live by consuming other living things (plants).

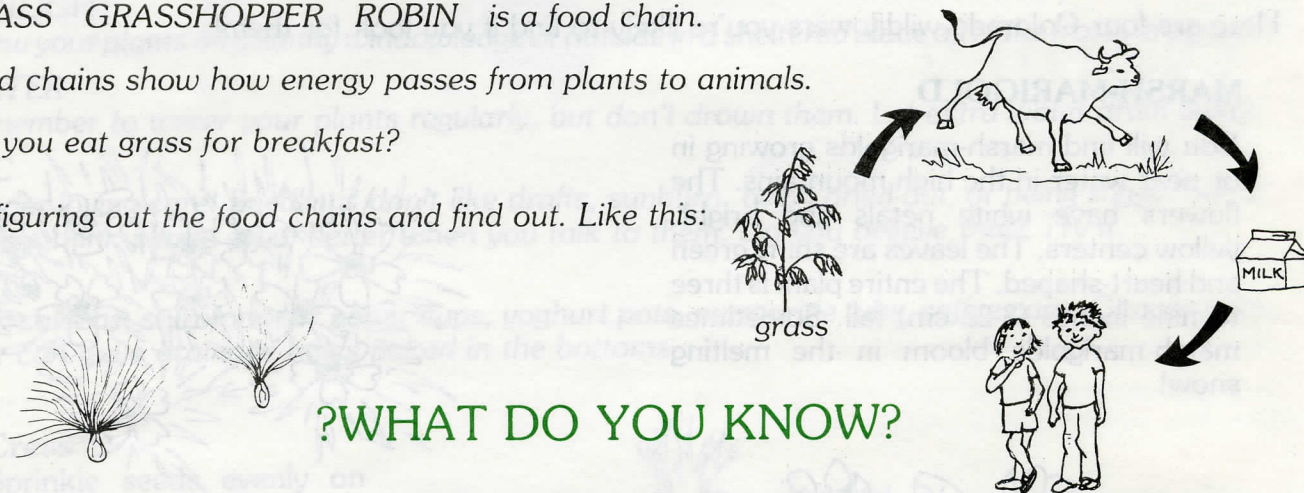
A robin gobbles up the grasshopper. He is a consumer, too. A consumer that feeds mainly on other animals is a **CARNIVORE**. A consumer that feeds mainly on plants is a **HERBIVORE**.

GRASS GRASSHOPPER ROBIN is a food chain.

Food chains show how energy passes from plants to animals.

Did you eat grass for breakfast?

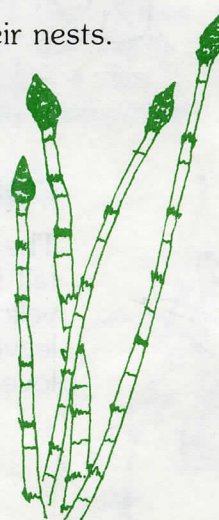
Try figuring out the food chains and find out. Like this:



- What is the largest living thing? (It is not a whale)
- The blue columbine, Colorado's state flower, is all white, north and west of Colorado. True or false?
- Most plants in the mint family have _____ stems and an aromatic smell.
- A yellow, black and white caterpillar eats only milkweed leaves. What butterfly will it become?
- What tall, flaming-pink, flowered plant grows in areas disturbed by forest fires?
- Goldfinches use the silky _____ of milkweed seeds to line their nests.

DINOSAUR DIET

Did you know that there are plants in Boulder County whose ancestors were eaten by dinosaurs? Millions of years ago the plants we call horsetails grew as tall as trees and were important in the diet of dinosaurs such as Apatosaurus. Today, horsetails are only one or two feet (30-60 cm) tall! Look for plants with straight, hollow stems that form joints and have no flowers. They grow on the banks of ponds, streams and ditches.



♡ ♡ ♡ ♡ ♡ Have you ever heard the heartbeat of a tree? Trees are living things that eat, breathe and have fluids that circulate much like your blood. This spring find a tree with thin bark and press a stethoscope against it. Be very still and listen for the tree's heartbeat. ♡ ♡ ♡

NATURE DETECTIVES: Walden Ponds A-Frame, Saturday, June 4.
Explore the world of plants, with experiments, growing projects and a search for wild plants in the marsh. See Images for details.

Answers: a) Giant sequoia trees b) True c) Square d) Monarch butterfly e) Fireweed f) Parachutes