Fur, Feathers, and Ferns

Adventure Requirements

Complete Requirement 1 plus three others.

Complete the following requirements.

1. While hiking or walking for one mile, identify six signs that any mammals, birds, insects, reptiles, or plants are living near the place where you choose to hike or walk.
2. Visit one of the following: zoo, wildlife refuge, nature center, aviary, game preserve, local conservation area, wildlife rescue group, or fish hatchery. Describe what you learned during your visit.
3. Name one animal that has become extinct in the last 100 years and one animal that is currently endangered. Explain what caused their declines.
4. Observe wildlife from a distance. Describe what you saw.
5. Use a magnifying glass to examine plants more closely. Describe what you saw through the magnifying glass that you could not see without it.
6. Learn about composting and how vegetable waste can be turned into fertilizer for plants.
7. Plant a vegetable or herb garden.

Parent Corner

This adventure is designed to teach your Scout about wildlife and the biological life cycle; life, death, and predation. Because of the nature of these concepts, it is important that you assist your Scout with understanding some of these fundamental ideas in the best way possible.

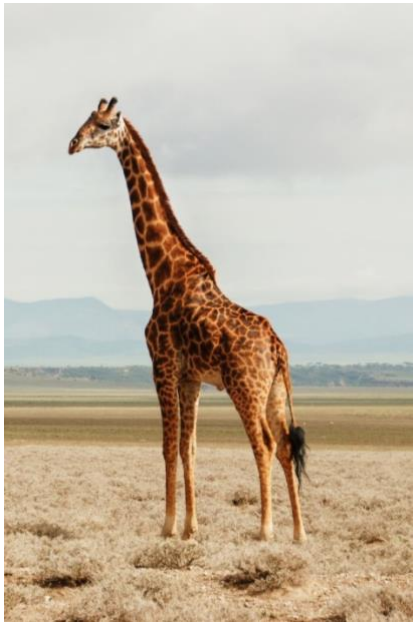
Fur, Feathers, and Ferns

Requirement #2: Zoo Tour

Materials Needed
- Pencil

Instructions

Watch the zoom tour video or visit the Monterey Bay Aquarium via webcams.



1. What animal did you like the best?

2. In the video, what animal did you see on the tour that didn't belong in the zoo?

3. Which animal was the most colorful?

Pee Wee Says

"Why is a Tiger orange? Tigers, like most predators, use coloring as camouflage. Their orange color with black stripes allows them to blend easily in the jungles or in grass."

Fur, Feathers, and Ferns

Requirement #3: Extinct and Endangered Animals

Materials Needed
- Pencil

Instructions

1. Read about the California Condor here.
2. Read about food chains and complete the food chain activity.

Zanzibar Leopard

The Zanzibar leopard is a large cat species on Unguja Island in the Zanzibar archipelago, Tanzania. At one time it was the island's largest terrestrial carnivore (meat eater) and apex (top) predator. After not seeing any Zanzibar leopards in the wild, it was considered extinct by a scientist. One of the reasons the leopard disappeared as people were afraid of them and hunted them. However, in 2018, a wild Zanzibar leopard was seen on a game Cam, meeting that there is still hope for the species.

Threatened: *Species is likely to become endangered if people don't work to protect it.*
Endangered: *Species is likely to become extinct in all or major part of its natural habitat.*
Extinct: *A species is no longer exists.*

Pee Wee Says

"Want to see a real California Condors from the comfort of your home? Check out these Condor Cams"

Food Chain

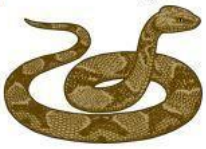
A series of organisms that depend on each other as sources of food.

FOOD CHAIN

Top

Bottom

The eagle ate



the snake, which ate

the frog, which ate

the caterpillar, which ate

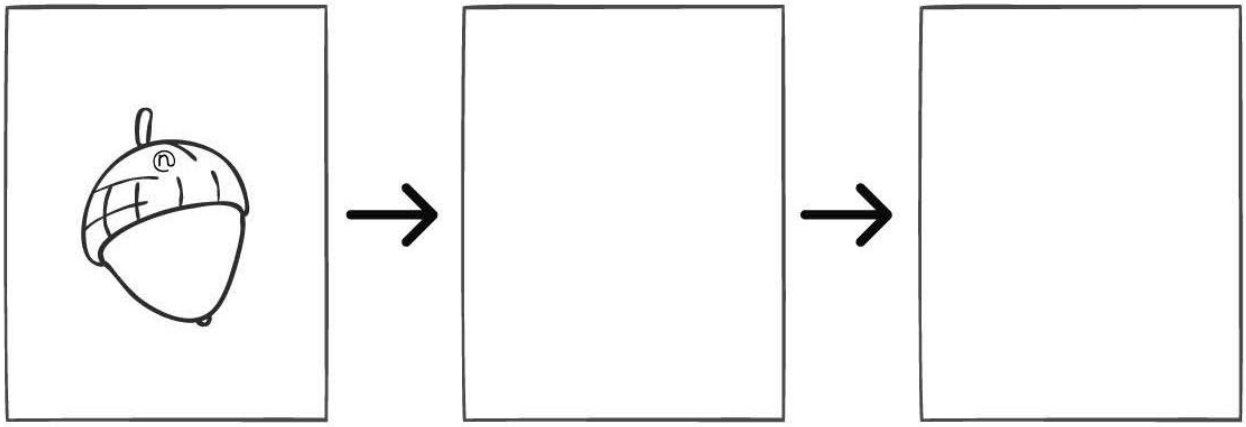
the leaf.

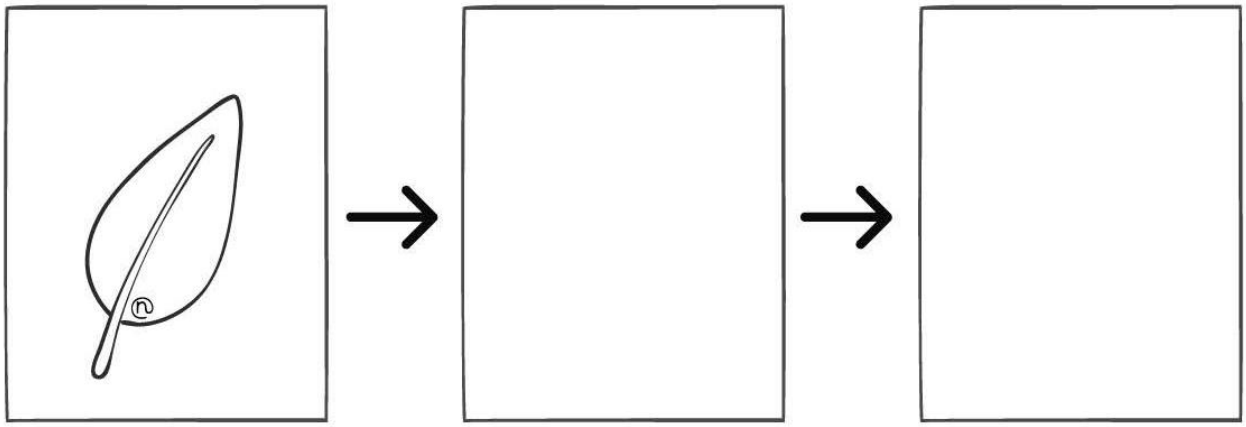
Humans, lions, and eagles, are at the top of the food chain.

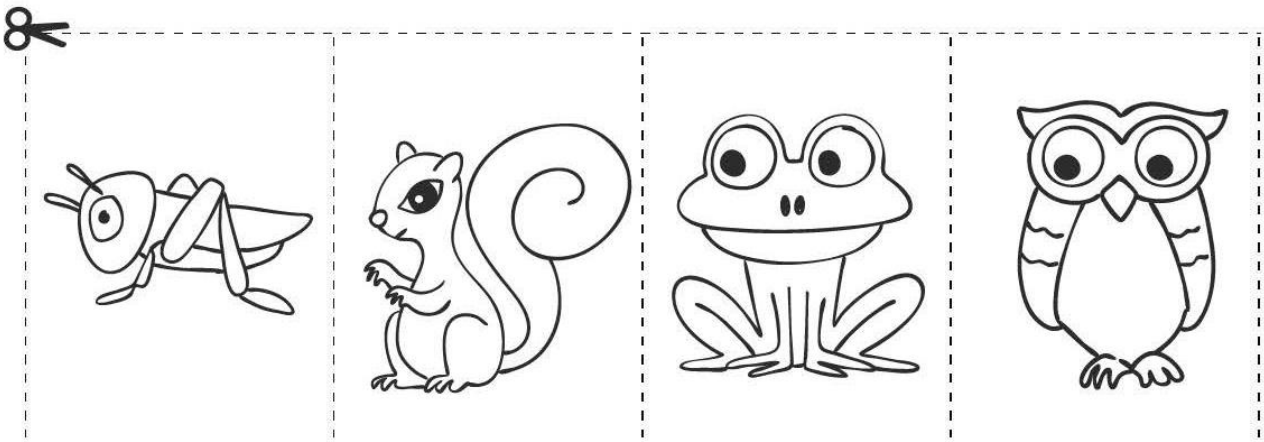
Plants are at the bottom.

My Simple Food Chain.

Which animals fit the food chains below?
Cut and paste to complete the food chains.







Fur, Feathers, and Ferns

Requirement 4 & 6: Composting & Observing Wildlife

Materials Needed
- Pencil

Instructions

1. Watch the videos associated with Composting.
2. Read the resources pages on Composting to learn more.
3. Complete the two activities from Do the Rot Thing by Central Vermont Waste Management.

Pee Wee Says

"Adding compost to your garden can suppress plant diseases. It can also eliminate the need for chemical fertilizers."

RANK ADVENTURES

Resources

COMPOST DEMONSTRATION SITE
Stop by Emma Prusch Memorial Park at 647 South King Road, San Jose to see various compost bins and a worm compost bin. Open all daylight hours.

FREE WORKSHOPS
Sign up for our backyard composting workshops! Call the Rotline for a current schedule.

BOOKS
Backyard Composting, 1992. Harmonious Technologies, Harmonious Press, Ojai, CA, 96 pp.

Let it Rot!, 1975. Stu Campbell, Garden Way Publishing, Pownal, VT, 144 pp.

Rodale Book of Composting, 1992. G.Gershuny, Saint Martin's Press, New York, NY, 278 pp.

THE ROTLINE 408-918-4640
The Rotline answers compost questions.

ABOUT THE MASTER COMPOSTER PROGRAM
The Home Composting Education Program teaches a ten week training course in backyard composting to interested volunteers once a year. Training consists of approximately 50 hours of classroom and hands-on instruction. Volunteers agree to give back 50 hours of volunteer service in the form of composting workshops and other educational outreach. For more information contact:

County of Santa Clara
Home Composting Education Program
1553 Berger Drive, Building 1, San Jose, CA 95112
408-918-4640
compost@pln.sccgov.org

Brought to you by the Recycling and Waste Reduction Commission and your City

Printed on 100% post-consumer recycled paper with soy based ink.
X9041 REV 504

Basic Composting

Turn your garbage into gold!

It's smart—it's recycling.

Santa Clara County
Home Composting Education Program

~

408-918-4640

Recycling & Waste Reduction Commission of Santa Clara County

Why compost?

Composting is nature's way of recycling. It is a satisfying way to turn your fruit, vegetable and yard trimmings into a dark, crumbly, sweet-smelling soil conditioner.

COMPOSTING:

- ~ Saves you money by lowering garbage bills and replacing store-bought soil conditioners.
- ~ Helps garden and house plants by improving the fertility and health of your soil.
- ~ Saves water by helping the soil hold moisture and reducing water runoff.
- ~ Benefits the environment by recycling valuable organic resources and extending the life of our landfills.

The 4 "R's" of the yard:

REDUCE the amount of yard trimmings you make by planting slow-growing, drought-tolerant plants.

REUSE yard trimmings by grasscycling (mowing more often, and leaving the clippings on the lawn) and by mulching fallen leaves and chipped prunings (spread them 6" deep on paths and around trees and shrubs).

RECYCLE remaining yard trimmings by composting. This brochure shows you how.

RESTORE the environment with thriving gardens. It all starts at home!

Compost works for you

Not only does composting help the environment, but it can help your garden, yard, and house plants too! When compost looks like soil and smells sweet and earthy, it is ready to use. Here are some of the most common ways to use compost:

IN THE GARDEN

Before planting, mix a 4" to 8" layer of compost into newly reclaimed or poor soils. Mix a 1/2" to 3" layer of compost into annual garden beds at least once a year. Compost will add nutrients and beneficial microbes, hold water, and improve plant growth.

AROUND THE YARD
Spread a 1" to 6" layer of coarse compost on soil as a mulch, or spread a 1/2" layer of sifted, weed-seed-free compost on turfgrass as a top-dressing. These can be done any time of year to improve soil fertility and reduce watering needs.

ON HOUSE PLANTS
Sprinkle a thin layer of compost over house plant soil to provide nutrients. You can also make a great potting soil by mixing one part compost with two parts sand and/ or soil.

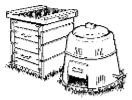
DON'T HAVE A GARDEN?
You can still make compost and use it on a house plant, give it to a friend, sprinkle it around a street tree, or use it in a community garden.

RANK ADVENTURES

Choose a System

SYSTEMS FOR FOOD & YARD TRIMMINGS

Rodent-resistant bins



- For fruit, vegetable & yard trimmings (using "mixed" compost recipe)
- For yard trimmings alone (using "no-fuss" recipe)
- Bins require sides, lid, & no holes bigger than 1/4"

Open piles & simple bins

- For yard trimmings ONLY
- Requires "active" composting (chopping & weekly turning to keep animals out)
- Usually inexpensive or free

SYSTEMS FOR JUST FOOD TRIMMINGS

For more information, see the Worm Composting & Other Methods brochure.

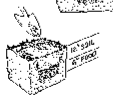
Worm bins

- Most fun! Takes some time & effort
- For indoors or outdoors
- Produces excellent fertilizer

Closed-Air Systems

- Low maintenance
- Prone to odor & insect problems

Underground Composting



- Requires digging a hole each time you add new materials
- No harvesting necessary

Remember... Whenever you compost fruit & vegetable trimmings, use a container with sides, lid, and no holes bigger than 1/4", or bury food scraps at least one foot under the soil surface.

Follow the Basics

Thanks to friendly bugs and worms, composting is as easy as "1-2-3"—no matter which recipe you use!

1. **CHOP** materials if you want them to break down more quickly.
2. **MIX** "browns" (dry, woody materials) with "greens" (moist, green materials).
3. **MAINTAIN** air & water balance by keeping compost as moist as a wrung-out sponge.

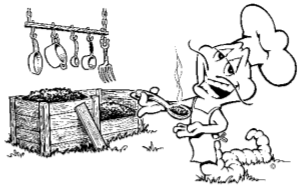
Browns, greens, air & water are the "big four" that will keep every compost pile happy.

DO COMPOST	DON'T COMPOST
Most sawdusts	Meat, bones, or fish
Chopped, woody prunings	Dairy products or grease
Fine needles	Grains, beans or breads
Fallen leaves	Dog, cat or bird feces
Tea bags	Sawdust from plywood/ treated wood
Citrus rinds	Diseased plants (in cold piles)
Coffee grounds & filters	Fruit & vegetable trimmings (in open piles/ simple bins)
Lawn clippings & young weeds	
Fruit & vegetable trimmings	
Herbivore manures	

GREENS

BROWNS

Hot compost happens when you follow the basic "1-2-3" carefully, and the pile is about a cubic yard (3'x3'x3'). Heat can accelerate composting and kill weed seeds and plant diseases, *but is not necessary*. Cold, slow piles are just as good. If your pile is large enough, moist, and well chopped, but not heating up, you can turn it and mix in some greens like grass clippings or an organic nitrogen fertilizer. For faster hot composting and better weed-seed kill, turn or mix your hot pile about once a week.



Recipes FOR RODENT-RESISTANT BINS

"No-fuss" Compost:

For yard trimmings ONLY. Requires a rodent-resistant bin to prevent animal nesting.

Ingredients:
Yard trimmings only (browns & greens), water as needed.

Directions:
Feed chopped or unchopped yard trimmings into bin as you generate them. Maintain compost by keeping it as moist as a wrung-out sponge. Harvest rich, brown, finished compost from the bottom and center of the pile after 12 to 18 months.

"Mixed" Compost:

For fruit, vegetable & yard trimmings together. This recipe requires a rodent-resistant bin and active maintenance to prevent animal nesting and feeding.

Ingredients:
Fruit, vegetable & yard trimmings (browns & greens), water as needed.

Directions:
Feed yard trimmings to your pile as you generate them by chopping them first into pieces 6" or smaller. Food scraps need to be buried and mixed into the center of the pile. Never dump and run! Be sure to mix in enough browns to balance your greens. Feed as often as you like. Maintain compost by turning or mixing it about once a week. Keep it moist as a wrung-out sponge. Harvest rich, brown, finished compost by sifting out coarse, unfinished materials after 3 to 8 months.

A RECIPE FOR OPEN PILES

"Active" compost:

For yard trimmings ONLY. In open piles & simple bins, active maintenance prevents animal nesting.

Ingredients:
Yard trimmings only (browns & greens), water as needed.

Directions:
Feed yard trimmings to your compost by chopping them into pieces 6" or smaller, then mixing them into the pile. Feed as often as you like. Be sure to balance browns with greens. Maintain pile by turning or mixing it about once a week. Keep it as moist as a wrung-out sponge. Covering it with a plastic tarp will help keep it moist. Harvest rich, brown, finished compost by sifting out coarse, unfinished materials after 3 to 8 months.

TROUBLESHOOTING

Symptoms	Problems	Solutions
Pile not composting	Too dry	Add water until slightly damp & turn (mix)
	Too much brown matter	Add fresh green matter or organic nitrogen fertilizer & turn
Pile smells rotten/ attracts flies	Too wet/ too many food scraps or lawn clippings	Turn & add browns (dry, woody materials) or dry soil
	Food scraps exposed	Bury & mix food scraps into pile
	Non-compostables	Remove meat, dairy, grease, etc. & turn
Rodents in pile	Foodscraps in open bin/ holes larger than 1/4 in./ non-compostables	Use traps or bails; rodent-proof bin, remove meat, grease, etc. & turn

Compost Critters Information Sheet

Pill Bug or Roly Poly

I am an isopod, which means I have ten pairs of legs that look very similar to each other. I eat old leaves and veggie scraps. I am about ½ inch long and I roll up in a ball if I am disturbed. Some people think that I look like a little armadillo. I am a grayish, dark color.

Centipede

I move quickly on my many legs. I have 15-137 segments with a pair of legs on each. I am a fierce hunter. I love to eat earthworms. I use my pair of poison claws to help keep my prey from getting away. I am about 1 to 2 inches long. I am usually reddish brown.

Ant

I am an insect with 6 legs. I help to decompose by breaking materials into smaller particles. I create tunnels, and move soil into clumps. Some people would rather not have me around their homes. I am black, brown, or red.

White Worm

I look like a frayed piece of thread. I am a skinny, white worm. I am ½ to 1 inch long. I am related to an earthworm. I like to eat rotting food after the other bugs get to it. You might think of me as one who likes to finish off the job.

Bacteria

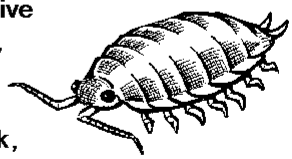
We are so tiny that you can't even see us. We are everywhere. I am colorless. I can eat almost anything. Some of us live together in groups and others don't.

Mold

I am a fungus. I am related to mushrooms. Most of us live on old food. You might see me on old food in your home or your worm bin.

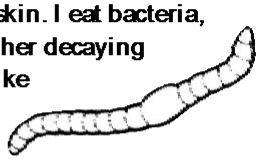
Sow Bug

I have 10 pairs of legs. That makes me an isopod like my cousin the Roly Poly. I eat vegetation and old leaves. My ½-inch-long body is oval and flat with flattened plates, but I can't roll up into a ball like Roly Poly. I am related to crayfish and lobsters. I breathe with gills so I must live in a damp, moist place. I am a dark, grayish color.



Earthworm

I am a long, thin, soft-bodied animal. My body is made up of little segments. I do not have legs or eyes. I sense light and I breathe through my skin. I eat bacteria, fungi, and other decaying materials. I like dark, moist places.



Fruit Fly

I am a very small fly. People don't like me, but I don't bite, sting, or make buzzing sounds. I don't harm earthworms either. Sometimes you will see me around a worm bin if a person forgot to bury their food. I like to lay my eggs where it's moist and warm.

Compost Critters Information Sheet

Slug

I have muscular discs on my underside that are adapted for creeping and crawling. I lay egg masses that look like jello. I eat living material but will make an appearance from time to time in your compost pile to eat fresh garbage and garden trimmings.

Mite

I am tiny. It would take 25 of us to cover an inch-long line. My body is round and fat so it's hard to see my 8 legs. I eat plant materials such as mold and soft tissues of leaves. Some of us eat the manure of other organisms. I am usually white or brown.

Millipede

I have so many legs you would have a hard time counting them. My name means "thousand legs," but I don't have that many. I am very shy and I roll up into a ball to avoid danger. I am a vegetarian and eat soft, moist, decaying plants. I am dark-red in color and am 1 to 3 inches long.

Springtail

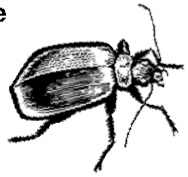
I am a tiny insect less than 1/16 inch long. I eat molds and decaying materials. I have a little spring that helps me jump high into the air. I am white in color.

Collembola

I am a close relative of the springtail but I can't jump. I am tiny, and less than 1/16 of an inch long. I eat molds and decaying matter. I am white in color.

Beetle

I am an insect with shiny, black, tough wings and am about ½ inch long. I am a predator and eat slugs, snails, and soft insects such as caterpillars. I live beneath stones, boards, and other moist places.



Snail

Like my friend, the slug, I am a mollusk and creep around on my muscular belly. I carry on my back a spirally curved shell. I also have a broad retractable foot and a distinctive head. Like slugs, I prefer to eat living material, but I will also show up in your compost pile or worm box from time to time for lunch.

Spider

I am related to mites and have 8 nifty legs. I am one of the least appreciated animals in the garden and compost. I feed on other insects and work hard to help control pests that will hurt a garden.

Worm Cocoon

You can find me in a worm bin or compost pile. Before I have hatched, I am clear and yellowish and the shape of a lemon, and 1/8 inch long. After I have hatched I turn pea green. Two or more baby worms are hatched at once.

COMPOST CRITTERS WORKSHEET

Circle Me If You Can Find Me


collembola


springtail


mite

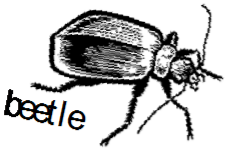

slug


wormcocoon


sow bug


fruit fly

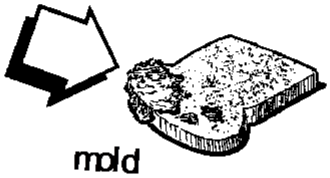

white worms

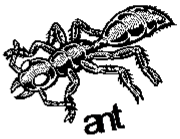

beetle


redworm

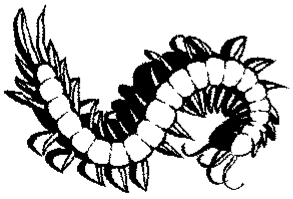

spider


snail


mold


ant

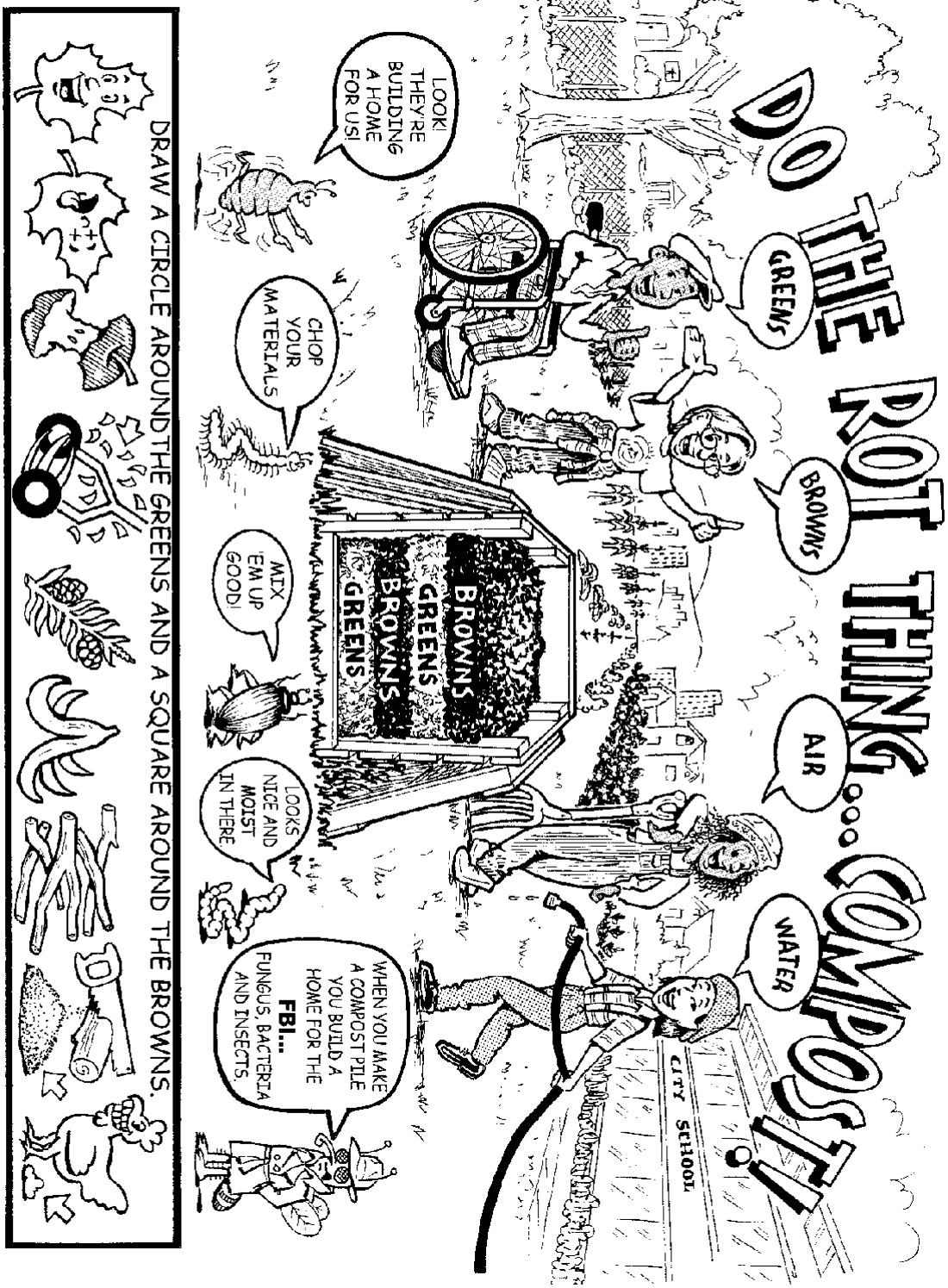

millipede


centipede


bacteria


pill bug

BASIC COMPOSTING WORKSHEET



Fur, Feathers, and Ferns

Requirement 1: Hike

Materials Needed
- Magnifying glass
- Pencil

Instructions

1. Before attending an outdoor activity, make a list of the things you should take along on the activity (your personal gear).
2. Make a list of equipment that the group should bring along in addition to a scout's personal gear for the activity.
3. Review the wildlife tracks in the next few pages and complete the activity.
4. With your leader or family, identify an area to hike that is approximately 1 mile
5. Take a one-mile hike. While on your hike, user magnifying glass to examine tracks and plants closely.
6. On your hike observation sheet, identify signs that indicate that birds, insects, animals and reptiles are living near the place where you chose to hike or walk. Don't forget to write down signs of interesting plants and rock formations along your hike.

Do not forget your 6 Essentials!

The Cub Scout 6 Essentials are:

1. First-aid Kit
2. Water Bottle
3. Flashlight
4. Sun Protection
5. Whistle
6. Trail Food

Pee Wee Says

"A good place to spot wildlife is along shorelines (rivers, lakes, etc.). Even if you don't see any animals, you'll probably find lots of footprints where they've come down to get a drink."


Tracks of North American Wildlife
Caribou
Black Bear
Beaver
Bobcat
Gray Wolf
Muskrat
River Otter
Bighorn Sheep
Porcupine
Mountain Lion
Striped Skunk
Badger
Coyote
Raccoon
Gray Squirrel
Grizzly Bear
Opossum
Bison
Fisher
Wolverine
Deer
Gray Fox
Elk
© Kim A. Cabrera www.bear-tracker.com


COMMON ANIMAL TRACKS
Badger
Bear
Beaver
Cat
Cow
Crow
Dog
Duck
Eagle
Ferret
Fox
Frog
Gerbil
Goat
Hedgehog
Heron
Horse
Lynx
Marten
Moose
Mouse
Otter
Owl
Partridge
Pig
Pigeon
Rabbit
Raccoon
Rat
Sparrow
Red Deer
Roe Deer
Sheep
Squirrel
Weasel
Wolf

Match the animal paw prints.

Print out and draw a line from the animal name to the print.

Raccoon

Great Blue Heron

Porcupine

Skunk

Gray Fox

Red Tailed Hawk

Great Horned Owl

Bobcat

My Hike Observation Sheet

Birds 	
Insects 	
Animals 	

My Hike Observation Sheet

Reptiles 	
Plants 	
Rocks and Interesting Formations 	

Animal print answers

Great Blue Heron

Raccoon

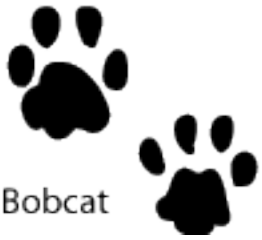
Gray Fox

Red Tailed Hawk

Skunk

Porcupine

Great Horned Owl



Bobcat