# Animal Scene Investigators

Pre-/Post-Site Materials



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National Wildlife Federation *nwf.org* 

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Exploring Nature Science Education Resource exploringnature.org



# **Correlated State Standards**

Identified ELA and Science Standards are detailed below specific to this education program. Source: Forest Preserve District of Will County, the Council of Chief State School Officers (Common Core), and the National Research Council (Next Generation Science Standards)

ELA Standards				
Subject Codes	Grade 4	Grade 5	Grade 6	
Reading for Information (RI)	RI.4.7	RI.5.3		
Speaking and Listening (SL)	SL.4.1b-SL.4d SL.4.2, SL.4.3, SL.4.4	SL.5.1b-SL.5.1d, SL.5.2, SL.5.3, SL.5.4	SL.6.1b-SL.6.1d, SL.6.2, SL.6.3, SL.6.4	

NGSS Standards				
Disciplinary Idea	Grade 4	MS		
Engineering, Technology, and	4.LS1.1	MS.LS2.2		
Applications to Science (ETS)		MS.LS2.5		
		MS.LS2.3		



# **Recommended Reading**

Bruchac, Jim and C. Halfpenny, James, PH.D. "Scats and Tracks of the Northeast: A Field Guide to the Signs of Seventy Wildlife Species." Globe Pequot Press. 2001.

# Activities

# **Animal Burrows**

#### Goal:

Students will create models of different wildlife burrows and examine the functions of the burrows.

#### **Objectives**:

- Identify three species of animals that create burrows or dens for homes.
- Develop a model of the burrow or den for their species (model-scale).
- Provide a presentation and labeling of the model for classmates.

#### Grade Level: 6-12

Subject Areas: Science, math and geography

#### **Materials Needed:**

- Recycled materials to create a burrow
- Tape
- Scissors
- Glue

#### **Background:**

Wildlife use dens or burrows for many different reasons and purposes – shelter, protection, reproduction, etc. Some of the dens are temporary and others are more permanent – for the lifespan of the wildlife. Some wildlife create their own dens, like groundhogs, earthworms and other species, while others are opportunistic and borrow dens abandoned by others, such as burrowing owls.

#### Sampling of Wildlife that Have Dens/Burrows:

Wildlife that make underground dens include rabbits, skunks, mice, woodchucks, arctic ground squirrels, chipmunks, weasels, river otters, raccoons, muskrat, mink, beavers, opossums, moles, rats and groundhogs. Other denning animals include foxes, deer, bears, wolves, spiders, snakes and desert frogs. Here are some examples of wildlife that make dens, burrows, or other underground homes:

#### Ants

An ant colony is a home for ants that is usually underground and made up of several chambers connected by tunnels. They are built by the ants themselves; more specifically, the worker ants, who dig the tunnels and rooms, and then, carrying tiny bits of dirt in their mandibles, they deposit the dirt on the surface, sometimes forming an anthill in the process. The way an ant colony operates revolves around the function of the chambers, or rooms. Each room has a purpose: there are nurseries, rooms for storing food and even rooms specifically for mating.

#### Groundhogs

Groundhogs have both summer and winter dens, or burrows. The winter dens are usually built in dry, wooded areas and are two to four feet deep. It is here that the groundhog hibernates. Summer dens are built near grassy areas where food is plentiful. Dens typically have two entrances or more, one main entrance and one "peep hole" or escape route which offers protection from predators. There are separate areas for sleeping, nursing and potty facilities. Groundhogs line their dens with leaves and grasses and keep them clean.

#### **Prairie Dogs**

Prairie dogs are social animals that live in towns of up to 1,000 acres or more. Larger towns are often divided into wards by barriers such as ridges, lines of trees, and roads. Within a ward, each family or "coterie" of prairie dogs occupies a territory of about 1 acre. A coterie usually consists of an adult male, one to four adult females, and any of their offspring less than 2 years old. Members of a coterie maintain unity through a variety of calls, postures, displays, grooming and other forms of physical contact. Black-tailed prairie dog towns typically have 30 to 50 burrow entrances per acre, while Gunnison's and white-tailed prairie dog towns contain less than 20 per acre. Most burrow entrances lead to a tunnel that is 3 to 6 feet deep and about 15 feet long. Prairie dogs construct crater- and dome-shaped mounds up to 2 feet high and 10 feet in diameter. The mounds serve as lookout stations. They also prevent water from entering the tunnels and may enhance ventilation of the tunnels.



# **Animal Burrows Continued**

#### Procedure

Divide the students into groups of two, three or four. Each team will research different animals that make a burrow or den (underground).

Students will research information about:

- What is the species?
- Where do they live what is their habitat and range?
- What type of den or burrow do they create (single hole, multiple rooms, etc.)?
- How do they use the den or burrow (function)?
- How are they adapted to create the burrow?

After completing their research the team will sketch out and create a plan on how to make a model replica of the den or burrow for their wildlife.

Create a scale model of the den or burrow – including different chambers and their purposes. The model should be made from recycled materials or other materials that students can gather. They should be three dimensional models.

Students will label the model with the research they discovered about the wildlife and how the den/burrow functions.

Students then will create a PowerPoint or poster board display to provide information about the project to be presented (along with the model) to the class.

#### Extensions

Humans have learned many things from wildlife, from learning to fly and swim to replication of their wildlife homes.

Underground homes have been used for centuries. Students can investigate why underground homes are green. How

do they help a home owner with cost savings and other benefits? Students can compare what we have learned from wildlife to how underground homes or hillside homes use similar design.

Students can also design their own underground or hillside home – what would they create?



# What's Different?: Animal Tracking

It is not always easy to see mammals in the wild. Many are nocturnal and shy of humans. That is why looking for animal tracks can be a good alternative – they are a sign that animals have been traveling nearby. Tracking can be fun and done year round, though winter tracking is a lot easier because snow makes such a great medium for tracks. Check out all the animal tracks and see if you can spot some in an outdoor area near you!

When you see tracks, these are some good questions to think about:

- What kind of animal is it?
- Are the tracks big or small?
- · Are the tracks leading somewhere?
- Do the tracks stop suddenly?
- Do the tracks show more than one type of animal?

What's different? Circle eight things that are different in the two animal-tracking scenes on the right.

Which animal is this? This carnivore shown in the pictures on this page leaves a track with no visible toenails because it retracts them.

The animal is a



When there is snow on the ground, animal movements are traced out for us to see like a map. When the snow starts to melt, tracks start to break apart or appear bigger than they really are. For an extra challenge, check the tracks in different snow conditions.

## **Teacher Key**

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BOBCAT



#### Answer Key

- 1) The ptamigan and weasel are switched. 2) The last hare track has feet switched. 3) One deer track is reversed.
- 4) One coyote track is a deer track. 5) The hare is facing the opposite way. 6) A tree is missing.
- 7) The moon phase changes. 8) The deer's antlers are missing.



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