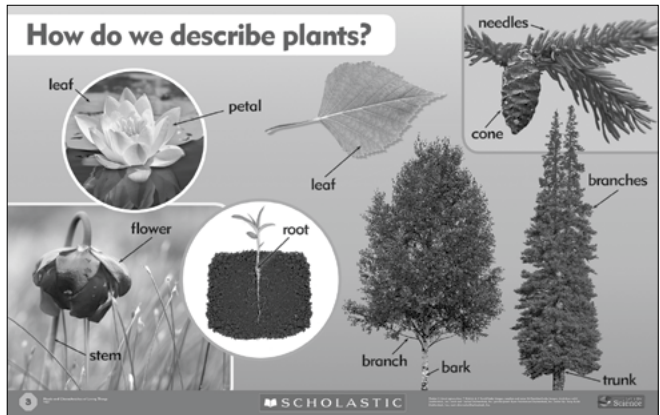
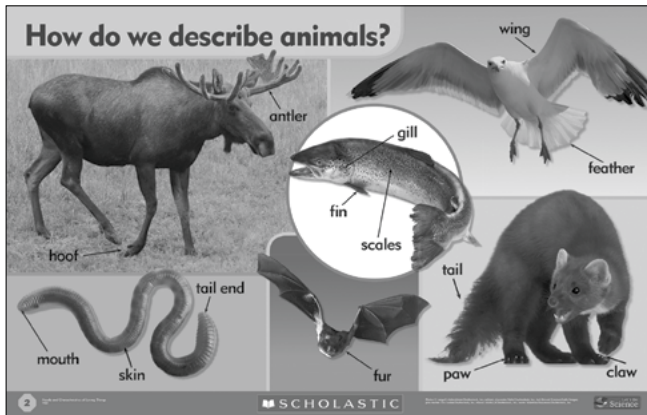


How Do We Describe Living Things?



Focus: Students will observe a variety of living things and record their observations, focusing on physical characteristics.

Specific Curriculum Outcomes

Students will be expected to:

- 7.0 make and record observations and measurements [GCO 2]
- 3.0 communicate using scientific terminology [GCO 2]

Performance Indicators

Students who achieve these outcomes will be able to:

- use appropriate vocabulary to describe a familiar living thing orally
- record observations about a living thing using words and images

NOTES:

Attitude Outcome Statements

Encourage students to:

- recognize the role and contribution of science in their understanding of the world [GCO 4]
- willingly observe, question, and explore [GCO 4]

Cross-Curricular Connections

Math

It is expected that students will:

- demonstrate an understanding of measurement as a process of comparing (by matching) [1SS1]

English Language Arts

Students will be expected to:

- communicate information and ideas effectively and clearly, and to respond personally and critically [GCO 2]
- respond personally to a range of texts [GCO 6]

Getting Organized

Components	Materials	Before You Begin	Vocabulary
• Science Card 2 • Science Card 3 • IWB Activity 2 • BLM <i>Plant Journal</i> • IWB Activity 3 Literacy Place: • <i>Is This a Moose?</i> (Shared Reading–Analyzing Strategy Unit) • <i>The Best Pet</i> (Shared Reading–Evaluating Strategy Unit) • <i>Plant a Seed</i> (Guided Reading, Level H)	• materials for mini-centres including photographs of plants and animals, digital images and videos, sample animal coverings, plant parts, books and magazines, whole plants, class pet • fast-growing seeds such as beans • cotton balls • clear containers such as plastic cups OR clear, re-sealable bags and tape • watering cans • students' Science Journals • interlocking cubes • sticky notes • cut-out pictures of living things, one for each student • index cards	• Invite an Elder to come and speak to the class about making observations when living on the land. • A week or more in advance test a few of the seeds you plan to use for the Growing Plants activity to ensure they will grow quickly and reliably. • The day before the Growing Plants activity, you may want to soak tough seeds such as corn, peas, or beans overnight to reduce germination time. • Record names of local living things on index cards.	• eye • bark • beak • branch • bud • cone • feather • fin • flower • fur • leaf • leg • mouth • needle • scales • seed • shell • skin • tail • teeth • trunk • wing

Safety

- Discuss safety procedures including washing hands after handling a class pet.

Science Background

- Observations are pieces of information about the world that we collect using our senses or using scientific tools and instruments.
- Making and recording observations are skills central to science. Many scientific processes begin with observations. Here are some examples of observation in action:
 - An ornithologist studying sparrows would be able to use his or her observations and a detailed knowledge of physical characteristics to distinguish between two similar but distinct species.
 - Doctors and veterinarians observe their patients to look for symptoms that will help them make a diagnosis.
 - People who gather wild plants or mushrooms to eat or use in traditional medicines also rely on the skill of observation to be sure they are collecting the correct species.
 - Aboriginal peoples can use their observation skills to identify safe and sheltered places to set up camp or places where animals gather, making them easier to hunt.
 - Charles Darwin made detailed observations about the different species of the Galapagos finches and other animals he studied on his travels and at home to develop his idea that some differences may improve the chances of survival and reproduction of a particular individual.

Possible Misconceptions

- Students may have difficulty distinguishing between physical characteristics that they can observe (this animal has wings) and inferences they can make based on background knowledge and what they observe (this animal can fly; this animal is a bird).

Use Science Card 2 to help students understand the difference. For example, an observation about the pine marten might be that it has sharp teeth and claws. An inference that you could make based on this observation is that it catches and eats other animals. It can be helpful to show that inferences are not necessarily correct. For example, consider the bat. It has wings, so you might infer that it is a bird, but it is not; it is a mammal. Similarly, an ostrich or a chicken has wings, so you might infer that it can fly, but it cannot.



ACTIVATE

Guess-the-Student Game

Choose a student in the classroom but do not tell the class whom you have chosen. Describe the student using observable characteristics (e.g., hair

colour and length, clothing type and colour), and have students infer which student you are describing. Draw out the difference between observable physical characteristics and other characteristics, such as personality traits, name, or favourite TV show.

Guess-the-Living Thing Game

Use observable physical characteristics to describe a familiar animal, such as a dog, cat, mouse, or goldfish. Use characteristics such as size, body covering, colour, type and number of limbs (legs, tail, fins, etc.). Have students infer what living thing you are describing. Focus on physical characteristics that can be observed rather than other features of the animal, such as diet, habitat, or behaviour. Begin adding terms describing physical characteristics to the Word Wall.



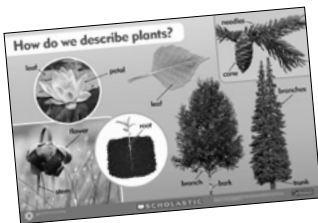
CONNECT



Describing Plants and Animals

Display Science Card 2. Read the title question: *How do we describe animals?* Then invite students to describe what they observe for each animal. The local animals depicted are a moose, a seagull, an Atlantic salmon, a pine marten, a little brown bat, and an earthworm. Draw out observations by asking questions such as:

- Which animals have fur?
- What other kinds of body coverings do you see?
- How many legs does each animal have?
- Which animals have wings?
- How would you describe the feet of the pine marten? the moose? the seagull?
- Which animal (or animals) has a beak? fins? gills? a tail?
- What body parts do all of the animals have in common?



Repeat the activity with Science Card 3. The local plants depicted are a water lily, a pitcher plant, a birch tree, and a black spruce tree. Draw out observations by asking questions such as:

- Which plants have leaves? Which plant has needles?
- Which plants are the biggest? Which are the smallest? How do you know?
- How would you describe the flowers of the pitcher plant? of the water lily?
- What colours do you see on each plant?
- Do all of the plants have roots? What do roots do?

As you discuss the photographs on Science Cards 2 and 3, add new terms to the Word Wall that will help students describe the physical characteristics of animals and plants, such as body parts of animals and names for parts of plants.



Observing Living Things

Set up plant and animal mini-centres to enable students to practise observing and describing living things using words and pictures.

- Cut out photographs of a variety of plants and animals—consider mounting them on cardboard or laminating for durability.
- Collect digital images and videos of living things on a tablet for students to view.
- If possible, bring in examples of animal coverings, such as fur, feathers, and snakeskin so that students can use their sense of touch to make observations.
- If possible, bring in examples of different plant parts, such as several examples of tree bark, leaves, evergreen needles, flowers, and buds.
- Provide books or magazines that have photographs of various living things.
- Display any class plants or bring in some plants (e.g., a cactus, a spider plant).
- If you have a class pet, bring it into the Curiosity Centre for observation, if possible.

Encourage students to think about questions they have as they practise observing and describing living things at the plant and animal mini-centres. These questions can be recorded on sticky notes and attached to the I Wonder Wall.



IWB Activity:

- Students can use
- Activity 2: *Parts of living things* to identify
- and label parts of trees
- and animals (see the
- Teacher's Website).



Literacy Place Connection:

In *Is This a Moose?* by Jenny Armstrong, students are exposed to a variety of different Canadian animals and their identifying features. In *The Best Pet* by Tony Stead, a class comes up with imaginary pets that combine physical characteristics of two different animals. Revisit or read these texts with students and provide prompts for discussion, such as:

- What kinds of body coverings do you see?
- What body parts do any of the animals have in common?
- What body parts are different

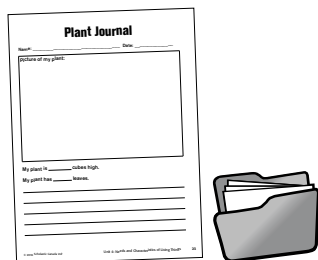


Observing on the Land

Invite an Elder to speak to the students on the types of observations that people make when out on the land, in order to identify good camping spots or fishing sites, for example. Relate these observations back to scientific observation and discuss the similarities and differences.

Growing Plants

Provide cotton balls, beans (or other quick-growing seeds), and identical clear containers (e.g., glass jam jars, plastic cups) to students. Have students label their containers. (As a space-saving alternative to jars or cups, consider



germinating the seeds in clear, re-sealable bags taped to the classroom window.)

Each student should fill a container about 2/3 full with cotton balls. Next, they should place a seed in the jar about half way down in among the cotton. The seeds should be against the wall of the container for easier observation. Finally, students should carefully add water to the container so that their cotton balls become damp but not soaked.

Grow two or three extra plants in case a student's seed does not germinate, and for later use (see Note below).

Using their Science Journals or copies of BLM *Plant Journal*, students can record their observations of their growing plants every two to three days using words or sentences, and sketches. Encourage students to use interlocking cubes to measure and record the height of their plants.

You may choose to set up a graph for the class to record the growth of their plants. You could use sticky notes: each sticky note could represent one cube of growth. Or, draw plants on large graph paper, one for each student. Students can colour in the plant to a height that represents their own plant. (E.g., one graph line represents one cube.)

Remind students to keep their plants healthy and growing by watering consistently to ensure the cotton balls remain damp but not soaked.

Note: Grow all plants using the same method, since they will be used in a controlled experiment later in the unit.



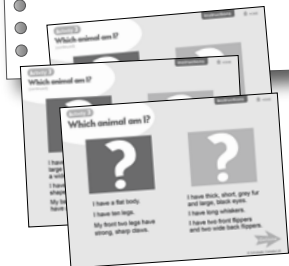
Literacy Place Connection:

Plant a Seed (Guided Reading, Level H) explains how students can grow radishes from seeds.

CONSOLIDATE

IWB Activity:

- Invite students to read the descriptions of animals, predict the animal, then check their predictions using
- Activity 3: *Which animal am I?* (see the Teacher's Website).



What Am I?

Tape pictures of living things to students' backs or attach them to construction paper headbands. Have students walk around the classroom, asking questions with yes or no answers (e.g., Am I green? Do I have fur?) to identify what plant or animal they "are."

Describing Living Things

Provide index cards with the names of familiar, local living things. Students should take turns picking an index card and then describing the observable physical characteristics of the living thing on the card in such a way that other students can guess what they are describing. This activity can be done in the context of a game such as 20 questions (students should ask questions about physical characteristics only) or a drawing game, in which the describing student makes a sketch of the animal or plant.



Focus Animal

Have students write a description and make a sketch of their focus animal in their Science Journals. In small groups, students can use verbal description and visual aids such as photographs to describe their focus animals to one another.

EXPLORE MORE

Plant Growth Video

Students may use the time-lapse feature on a smartphone or tablet to create a stop-motion video of their growing plant.

Narration

Students may choose a video clip or digital image of a living thing and record narration in which they describe its physical characteristics.

Plant Journal

Name: _____ Date: _____

Picture of my plant:

My plant is _____ cubes high.

My plant has _____ leaves.
