



# Science Mural

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<b>Grade</b>	2
<b>Subject</b>	Science
<b>Topic</b>	Life systems: animals

## Description

This lesson explores animals through their shape, their habitat, the way they move, the way they eat, the way they use their environment to meet their needs, their care for their young. Students will draw and cut out pictures of various animals, the shelters where they live, their food, their babies, and place them on a large piece of painted craft paper to make a mural.

## Curricular Expectations

Please see the lesson plan preview for the expectations/outcomes for your province.

## Materials

- White paper (11X 17), approximately 10 sheets per student
- HB sharp pencil
- Pencil sharpener
- Eraser
- Scissors
- Felt pens
- Colouring crayons
- Glue stick
- Craft paper
- Fun tack
- Large mural paper (30 X 12) for mural backdrop
- Acrylic paints (red, blue, yellow, black, white. Brown)
- Small containers for paint
- Paintbrushes
- Wet rags
- Water in container
- Paper towels

## Space Requirements

Classroom



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### Getting Ready

- Tell students they are going to study many things about various animals and that they are going to draw them and cut out their drawings to place them on a mural.
- Discuss with students the characteristics of living plants and animals. What do animals need? Food, water, a sheltered place. What do they do that shows they are alive? They eat, drink, move, have babies, do activities together, build shelters, groom themselves and their young.
- Show them photos and pictures of a variety of animals. What do they have in common? Head, body, eyes, ears, mouths, breathing openings, legs, fins, gills. Some have specialized features: wings, tail and antenna. What covers their body? Skin, feathers, hair, scales.
- What patterns do they see in living things?
  - Bilateral symmetry in animals, insects, birds, human beings, etc.
  - Repetition: ears, eyes, wings, antlers, claws, fins, fur, gills, hooves, horns, paws, scales, shells, spots, stripes, tentacles, tusks, wings, etc.
  - Geometric patterns: spirals in snails, oval shapes in eyes, circles in eyes.
  - Repeated patterns in snake and fish scales, polygon shaped scales on turtles' backs.
- How do different animals care for their young? Birds lay eggs and keep them warm in nests. Mammals give birth to live animals and raise them until they can fend for themselves.
- Discuss with students where animals live. They all have their favourite places and they are very different, depending on the species. In holes in the earth: mice. In trees: birds. In houses: humans. On the ground: lions. At the bottom of the pond: worms. In the ocean: fish. In the air: insects, birds.

### Development

#### Habitat

- Divide the students into groups of two. Give each group a habitat: the sea, the shore line, a pond, a lake, a forest in Canada, a park, a swamp, a tree in the city, a river in the country, a farm, a house with pets, a desert, the Arctic, a mountain.
- Discuss what elements you find in different kinds of environments. Show photos or pictures of various habitats to students.
  - Desert: rocks, sand, dry earth, very little plants, specialized plants such as cacti.
  - Forest: trees, rocks, rich earth made from decomposing leaves.
  - Swamp: water, weeds, bull rushes, water plants, water lilies, floating debris, algae, shells at the bottom, dead branches and leaves.
  - Park land: grass, bushes, flowers, papers, rocks.
- Ask students why plants are important to many animals. After discussion, they find out that they are important for food and shelter.
- Ask them what kinds of animals live in the forest. Students make a list that could include: squirrels, rabbits, birds, deer, bears, mice, many different insects, worms, centipedes, foxes.
- Ask students what kinds of animals live in the other habitats.
- Students make lists of their animals under the correct habitat.

#### Winter: hibernate, migrate or stay and change

- Ask students what animals do in the winter in Canada. Help them arrive at the answers: migrate to warmer places in the South, hibernate, grow more hair to keep warm, store foods, go deeper underground.
- Show pictures and photos of animals. Ask students to identify the features: head, eyes, fins, tail, etc.



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- Explain why many birds migrate in the fall. The trip can be dangerous, so many birds travel in large flocks. For example, geese fly in noisy, "V"-shaped groups. Other kinds of birds fly alone.
- Animals migrate for different reasons. The reasons are as follows.
  - better climate
  - better food
  - safe place to live
  - safe place to raise young
- return to the place where they were born.
- Insects also migrate. Some butterflies and moths fly very long distances. For example, Monarch butterflies spend the summer in Canada and the Northern U.S. They migrate as far south as Mexico for the winter, by flying for many days over the North American continent.
- Other animals remain and stay active in the winter. They must adapt to the changing weather. Many make changes in their behavior or bodies. To keep warm, animals may grow new, thicker fur in the fall. On weasels and snowshoe rabbits, the new fur is white to help them hide in the snow.
- Food is hard to find in the winter, so animals that stay in their environment do a variety of things to survive:
  - Some animals, like squirrels, mice and beavers, gather extra food in the fall and store it to eat later.
  - Some, like rabbits and deer, spend the winter looking for moss, twigs, bark and leaves to eat.
  - Other animals eat different kinds of food as the seasons change. The red fox eats fruit and insects in the spring, summer and fall. In the winter, it can not find these things, so instead the fox eats small rodents.
- Animals may find winter shelter in holes in trees or logs, under rocks, rotting branches or leaves, or underground. Some mice even build tunnels through the snow. To try to stay warm, many animals like squirrels and mice may huddle close together.
- Cold-blooded animals like fish, frogs, snakes and turtles have no way to keep warm during the winter. Snakes and many other reptiles find shelter in holes or burrows, and spend the winter inactive, or dormant. This is similar to hibernation.
- Water makes a good shelter for many animals. When the weather gets cold, they move to the bottom of lakes and ponds. There, frogs, turtles and many fish hide under rocks, logs or fallen leaves. Some, like the frogs may even bury themselves in the mud. They become dormant which means that they slow down their activities. Cold water holds more oxygen than warm water, and the frogs and turtles can breathe by absorbing it through their skin.
- Insects look for winter shelter in holes in the ground, under the bark of trees, deep inside rotting logs or in any small crack they can find. One of the most interesting places is in a gall. A gall is a swelling on a plant. It is caused by certain insects, fungi or bacteria. They make a chemical that affects the plant's growth in a small area, forming a lump. The gall becomes its maker's home and food source.

Animals that hibernate are:

- bats
- woodchucks
- snakes
- bears
- During the hibernation the animals live off of the fat that is stored in their body



## Application

### Drawing of the animals and their shelter or nest

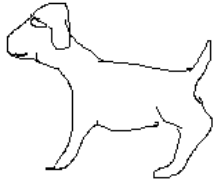
- Tell students they are going to learn how to draw various animals, cut them out and place them on a mural depicting their habitat and painted on craft paper.

**Please take a moment to review the  
"Animal Drawing" video**

- Discuss where animals live, and why they live where they are. Because it meets their needs for protection, warmth, safety, closeness to food sources. Students make drawings of the various shelters, such as a nest, a hole, a tree hole, a spider web, etc. They also think of the animals they want to draw that live in that nest.
  - A hole in the ground (Gopher, squirrel, rabbit, mole, skunk, worm, ants).
  - A hollow log (raccoons, red fox, skunk).
  - A beaver lodge.
  - Bee hives.
  - Dens.
  - Caves (bats, tigers, bears, crabs).
  - Tree homes (monkeys, squirrels, owls, snakes).
  - Crevices.
  - A spider web.
- Ask students to draw pictures of their animals, of their babies, their homes, and the food they eat.
- Ask students to observe the heads of various animals, then the body, the legs, the tail. Show them how to draw the various parts.
- As a game, you could show cut out drawings of various animal body parts: heads, legs, tails, etc. Ask students to put the right parts together to reconstitute the body of the correct animal.
- To draw the animals, ask students to practice on a piece of scrap paper first and then do the good copy on white paper.
- Students may colour the animals using crayons, coloured pencils, felt markers or paint if the animals are large enough.
- Once the animals are finished, they can cut them out and have them ready for positioning on the mural.
- You could draw pictures such as these on the board or have them displayed on chart paper for students to use as models.



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### The background mural paper

**Please take a moment to review the  
"Creating the Background" video**

- The background of the mural is first drawn on a large sheet of craft paper. It could include one habitat or several different habitats, such as a shore line, a forest, the sea, a field, a desert, a swamp, all in the same background, depending on its size.
- Students use HB pencils to draw the lines of the scenery
- Once the background is drawn with pencils, have it painted, using large brush for large areas such as the sky and the sea.
- Details of the scenery are added using smaller brushes. Let the background dry completely. Plants, rocks, logs, nesting areas beaver dams can then be added with paint or as cut-outs from drawings previously done.

**Please take a moment to review the  
"Completing the Mural" video**



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- Then have students position their cut out animals on the mural paper. Once a place has been decided, they can paste it on the paper, using fun tack or a rolled up piece of masking tape.
- They can look at pictures of animals from the site <http://www.enchantedlearning.com/coloring/amphibians.shtml>
- The mural is displayed in the classroom or the school for other students and parents to see.

### Closure

- Students explain the position of their animals on the mural: land animal, underground animal, sea animal.
- They may want to build some interaction among their animals, two at a time, by creating dialogues.
  - It could be a conversation between a mother bear and her cubs, on how to find fish for food in a river.
  - It could be an argument between ants all trying to use the same path to get back to the colony.
  - It could be the female Emperor Penguin making sure her male mate is going to care for the egg for a few weeks while she goes back to the sea to eat some fish.

### Extension

- The same types of activities can be developed for the plant kingdom.
- In that case, more time is spent on the patterns and habitats of plants.
- The reproduction of plants and their life cycle can be part of that extension
- New lesson?

### Resources

<http://www.torontozoo.com/Animals>

<http://www.billybear4kids.com/index.html>

<http://buschgardens.org/index.asp>

<http://www.enchantedlearning.com/coloring/amphibians.shtml>

<http://www.hitchams.suffolk.sch.uk/habitats/index.htm>

<http://bogglesworld.com/files3/animalbodypartsintro.doc>