Name: __________________________
Overall Expectations
- demonstrate an understanding of the similarities and differences among various types of animals and the ways in which animals adapt to different environmental conditions
- investigate physical and behavioural characteristics and the process of growth of different types of animals
- identify ways in which humans can affect other animals

Specific Expectations
* All specific expectations are covered by this unit and are mentioned at the end of each activity. The following are specific expectations that are met throughout the unit but are not specifically mentioned: LS11: plan investigations to answer some of these questions or find ways of meeting these needs, and describe the steps involved.

Materials Box

| A variety of books about animals |
| Magic School Bus: Inside a Beehive (video tape © Scholastic Inc., 2001) |
| The Very Hungry Caterpillar by Eric Carle (ISBN 0-399-29853-4) |
| Magic School Bus: All dried up (video tape © Scholastic Inc., 2001) |
| Magic School Bus: In the Arctic (video tape © Scholastic Inc., 2001) |
| Carnivorous, Herbivorous, and Omnivorous teeth made of fimo or crayola model magic |
| Voices from the Wild by David Bouchard (ISBN 1551-92040-9) |
Dear Parent or Guardian,

We are beginning our next Science and Technology Unit, Life Systems, Growth and Changes in Animals. By the end of this unit, your child will:
- demonstrate an understanding of the similarities and differences among various types of animals and the way in which animals adapt to different environmental conditions
- investigate physical and behavioural characteristics and the process of growth of different types of animals
- identify ways in which humans can affect other animals


Home Links:
To help your child further their understanding of this science unit, here are some fun activities for you and your family:
- visit the Metro Toronto Zoo or another local zoo.
- visit a petting farm or petting zoo.
- research information on any pets that you own.
- visit a wildlife reserve or nature centre.
- visit the WWF kids treehouse at www.wwfcanada.org/satellite/wwfkids

Happy Adventures,

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Growth and Changes in Animals
Animals

Draw a picture of your favourite animal:

Write about your favourite animal:

____________________________________________________________

____________________________________________________________

____________________________________________________________

____________________________________________________________
Cut out the animal stickers and sort them into their classes:

<table>
<thead>
<tr>
<th>Mammals</th>
<th>Reptiles</th>
<th>Insects</th>
</tr>
</thead>
</table>

What are some common characteristics:

- ______________________
- ______________________
- ______________________
- ______________________

What are some common characteristics:

- ______________________
- ______________________
- ______________________
- ______________________

What are some common characteristics:

- ______________________
- ______________________
- ______________________
- ______________________

Grade 2 LSactivity001 covers:

LS1: identify and describe the major physical characteristic of different types of animals (e.g., mammals, reptiles, insects)

LS3: classify a variety of animals using observable characteristics (e.g., size, body covering, teeth).

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Growth and Changes in Animals
Life Cycles

As a class let’s watch Magic School Bus: Inside a Beehive.

Write down some interesting facts about the life cycle of bees:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

As a class let’s read The Hungry Caterpillar, by Eric Carle.

Label the life cycle of the butterfly below:

<table>
<thead>
<tr>
<th>As a class let’s read The Hungry Caterpillar, by Eric Carle.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Let’s label the life cycle of a gerbil:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How are the life cycles of the bee and butterfly similar?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How are the life cycles of the gerbil and butterfly different?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Draw your life cycle:

Grade 2 LSactivity002 covers:
LS6: compare the life cycles of some animals that have similar life cycles (eg. bee and butterfly) and some that have different life cycles (eg. gerbil and butterfly)
LS12: use appropriate vocabulary in describing their investigations, explorations, and observations (eg. use the words egg, caterpillar, larva, chrysalis, and adult in describing the metamorphosis of a butterfly)
LS13: record relevant observations, findings, and measurements, using written language, drawings, and concrete materials (eg. make accurately labelled drawings showing the life cycle of an animal)
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# Growth and Changes in Animals
## The Frog

Let's label the life cycle of a frog:

<table>
<thead>
<tr>
<th>Life Stage</th>
<th>Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egg</td>
<td></td>
</tr>
<tr>
<td>Tadpole</td>
<td></td>
</tr>
<tr>
<td>Frog</td>
<td></td>
</tr>
</tbody>
</table>

What are the changes that a frog’s body goes through while it’s growing up:

- |
- |
- |
- |
- |
- |
- |
- |
- |
- |
- |
- |
- |
- |
- |

What does a tadpole do:

- |
- |
- |
- |

What does a frog do:

- |
- |
- |
- |

---

Grade 2 L5activity003 covers:

LS5: describe changes in the appearance and activity of an animal as it goes through a complete life cycle (e.g., mealworm)

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Growth and Changes in Animals
What We Need to Grow Up

<table>
<thead>
<tr>
<th>What do frogs need to grow up?</th>
<th>What do you need to grow up?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What changes when a frog grows up?

What stays the same?

Draw a picture of you as a baby:

What changes when you grow up?

What stays the same?

Draw a picture of you as an adult:

Grade 2 LSactivity004 covers:
LS7: identify constant traits (e.g. number of legs) and changing traits (e.g. weight) in animals as they grow, and compare the appearance of young and mature animals of the same species
LS15: describe features of the environment that support the growth of familiar animals (e.g. water and insects in a frog’s environment)
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Growth and Changes in Animals
Animals and their Environments

Animals have special tricks to help them survive during certain seasons. These special tricks are called adaptations.

As a class let’s watch Magic School Bus: All dried up and Magic School Bus: In the Arctic.

Let’s fill out the chart below:

<table>
<thead>
<tr>
<th>Animal</th>
<th>Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Lizard" /></td>
<td></td>
</tr>
<tr>
<td><img src="image2.png" alt="Weasel" /></td>
<td></td>
</tr>
<tr>
<td><img src="image3.png" alt="Polar Bear" /></td>
<td></td>
</tr>
<tr>
<td><img src="image4.png" alt="Dog" /></td>
<td></td>
</tr>
<tr>
<td><img src="image5.png" alt="Bird" /></td>
<td></td>
</tr>
<tr>
<td><img src="image6.png" alt="Bear" /></td>
<td></td>
</tr>
<tr>
<td><img src="image7.png" alt="Bug" /></td>
<td></td>
</tr>
</tbody>
</table>

Grade 2 LSactivity005 covers:
LS2: identify and describe behavior characteristics that enable animals to survive (e.g., migration, dormancy, hibernation)
LS8: describe ways in which animals respond and adapt to their environment (e.g., weasels change color for camouflage in summer and winter; mammals living in colder climates have longer fur)
LS16: identify and compare the effects of the seasons on animals (e.g., some animals grow a thicker coat in cold weather)
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Growth and Changes in Animals
The Teeth of It

<table>
<thead>
<tr>
<th>Carnivorous teeth look like:</th>
<th>Herbivorous teeth look like:</th>
<th>Omnivorous teeth look like:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the teeth:</td>
<td>Describe the teeth:</td>
<td>Describe the teeth:</td>
</tr>
<tr>
<td>___________________________</td>
<td>___________________________</td>
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<tr>
<td>___________________________</td>
<td>___________________________</td>
<td>___________________________</td>
</tr>
</tbody>
</table>

How do carnivores eat their food:  
__________________________  
__________________________  
__________________________  

How do herbivores eat their food:  
__________________________  
__________________________  
__________________________  

How do omnivores eat their food:  
__________________________  
__________________________  
__________________________  

Beaver’s teeth never stop growing! They never get too long though, because beavers are always wearing their teeth away by cutting down trees with them. They use these trees to build their homes in ponds. Draw a beaver making its dam below:

---

Grade 2 LSactivity006 covers:
LS4: compare ways in which animals eat their food (eg. tear flesh, crack shells), move, and use their environment to meet their needs (eg. gather grass and twigs to build nests)
LS10: ask questions about and identify some needs of different animals with which they are familiar, and explore possible answers to these questions and ways of meeting these needs (eg. examine different kinds of teeth and explain how their shape enables an animal to bite, tear, or grind its food)

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Growth and Changes in Animals
The Very Hungry Caterpillar

As a class let’s read The Very Hungry Caterpillar, by Eric Carle.

Materials:
1) a tree branch
2) green construction paper
3) crayola model magic
4) glue gun

Method:
1) With the Crayola model magic, create your own special caterpillar.
2) Make leaves out of the green construction paper.
3) Glue the leaves and your new special caterpillar friend to the tree branch.

Write a story about your very hungry caterpillar:

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# Growth and Changes in Animals

## Mama Mia!

<table>
<thead>
<tr>
<th>Animal</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>A mommy bear has 1 to 4 babies during the winter. The baby bears have no fur, they are blind and they are less than 2 kg. They stay with their mom until they are 3 years old.</td>
<td></td>
</tr>
<tr>
<td>Alligators lay eggs in a nest of mud and dead leaves. After 9 weeks the mother alligator returns to the nest to help the baby alligators out of the nest. The baby alligators are able to defend and feed themselves, and spend no more time with their mothers.</td>
<td></td>
</tr>
<tr>
<td>Human mommies usually give birth to their children in hospitals. Human children live with their parents for a long time while they’re growing up, playing with friends and going to school. A human is considered an adult when they turn 18.</td>
<td></td>
</tr>
<tr>
<td>The sea turtle mommy chooses a sunny spot on the beach and digs a hole in the sand. She lays her eggs in that hole. The sea turtle mother never returns.</td>
<td></td>
</tr>
</tbody>
</table>

With the information above let’s graph how long each animal spends with their parents:

<table>
<thead>
<tr>
<th>(In years)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bears</td>
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<tr>
<td>Alligators</td>
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</tr>
<tr>
<td>Humans</td>
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<tr>
<td>Sea Turtles</td>
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</tbody>
</table>

Grade 2 LSactivity008 covers:
LS9: compare ways in which different animals care for their young (eg. bears, alligators, sea turtles)
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Imagine that you’re at a pet store and that you can pick whatever animal you want!

Draw your new pet here:

How are you going to take care of your new pet:

________________________________________
________________________________________
________________________________________
________________________________________
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________________________________________

What kind of food does your new pet eat?

________________________________________
________________________________________
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________________________________________

Grade 2 L.Sactivity009 covers:
LS18: demonstrate an understanding of the requirements of small animals for survival (eg. by maintaining an aquarium or a terrarium)
LS20: demonstrate awareness of ways of caring for animals properly (eg. avoid handling them too much; research nutritional requirements)
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Growth and Changes in Animals
Old McDonald had a farm, EI EI Oh!

Draw a picture of a farm:

How does the farmer take care of his animals?

How do these animals help us?

Grade 2 L.Sactivity010 covers:
LS21: describe how humans produce food by raising livestock (eg. pigs, chickens, cattle)
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Growth and Changes in Animals
Endangered Species

As a class let’s read Voices from the Wild, by David Bouchard and illustrated by Ron Parker.

What does endangered species mean?

Endangered Species: ___________________________________________________________

Do you know of any animals that are extinct? ______________________

Do you know of any animals that are endangered today?

As a class let’s make a list of how we can help save endangered animals. Write the list on your special notepad below:

Grade 2 LSactivity011 covers:
LS17: describe ways in which humans can help or harm other living things (eg. protecting endangered species)
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Animals Certificate

This certificate hereby certifies

_________________________

as a Grade 2 Animal expert.

_________________________  __________________
Principal                  Teacher

Share your science booklet with at least one family member at home. After you have shared complete the following:

1) Cut out your Animal Certificate.
2) Get the person you shared your science booklet with to fill out the form below, detach it and bring it back to school.

C ................................................................................................................

_________________________
shared their science booklet with the following family members:

_________________________

Parent’s Signature

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