Life Cycles

Teacher's Guide

SASKATOON ZOO SOCIETY

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LIFE CYCLES

SUBJECT:
Science

GRADE:
2

CURRICULUM CONNECTIONS:
Grade 2:
Animal Growth and Changes

OVERVIEW:
Do all animals look like their Mom and Dad?

Students will look at the life cycle of a frog and a butterfly and determine the sequence of their life cycle. Then we'll look at the difference between a lizard, salamander and axolotl. What is one of the favourite foods of the lizards? Mealworms! But are they really worms or something else?

OBJECTIVES:
1. Students will be introduced to some physical characteristics of vertebrate and invertebrate animals.
2. Students will learn how some animals grow and change throughout their life cycle.
3. Through an activity students will learn how to sequence the life cycles of the butterfly and frog.
4. Through observation and teachings, students will compare and contrast animal life cycles of various vertebrate animals and with humans.

KEY VOCABULARY:
Larva: an immature form of many animals that differs from the adult

Pupa: an insect in its inactive immature form between larva and adult

Moult (molt): periodic shedding to make way for new growth

Life Cycle: the series of changes in the life of an organis

Amphibian: a vertebrate animal characterized by having smooth, moist skin and having an aquatic, gill-breathing larval stage that is followed (usually) by a terrestrial lung-breathing adult stage.

Metamorphisis: the process of transforming from an immature form to an adult form

BACKGROUND INFORMATION
This program will focus on the life cycle changes primarily of amphibians, but will also introduce an invertebrate life cycle of the Darkling Beetle (when available). Comparisons between lizard and salamander growth will be taught.

PRE-VISIT ACTIVITIES

Activity One

Display some baby pictures on a screen or on a board. How would the students describe these pictures? (look for words such as young, baby, two month old, etc). Now add in pictures of a child a bit older, how would they describe these pictures (toddler, kid). Keep going adding in pictures that look like teenagers and then adults. Ask, what are the stages of development for a human? Give students magazines and have them cut out people at different stages of development. Have them glue them onto a piece of paper in order from youngest to oldest. Have them explain why they selected their pictures and why they put them in the order they did. Use this opportunity to discuss words such as development, aging, growing and changing.

Activity Two

Ask students to think of other animals that go through development similar to humans. Write down their suggestions from dogs to cats to birds. What are the babies of these animals called? How do the baby forms differ from their adult? After this discussion, ask the students if there are any other animals that go through changes differently than what has already been discussed. Make a list on the board. If you want a fun song to learn, show students The Life Cycle Song on YouTube and see if any of the animals they listed were in the song. See if they can remember some of the words that were in the song such as larva, pupa, tadpole, etc. Have the students practice writing these words.

POST-VISIT ACTIVITIES

Activity One

There are so many great craft and science activities you can do with this topic. Suggestions: purchase a butterfly chrysallis online and set up a butterfly house and watch and track the development through graphing or through journalling. Create a butterfly life cycle craft using different shapes of pasta (small pasta for eggs, penne pasta for caterpillars, shells for pupa and the farfalle for butterflies).

Activity Two

In the program, the Saskatoon Zoo Society talked about how many vertebrate and invertebrate animals grow and develop similar or the same to us as humans. Indigenous people typically begin with a circle when explaining concepts. How could the students put in the life stages of humans in that circle? Draw a circle on the board and divide into four quadrants. Then write the words infant, youth, adult, senior/elder. If you start with the first quadrant going clockwise, what would the first stage be and so on? Why do you think the circle is used? Indigenous people use the circle as it has no beginning or end. How does that hold true for life? Does that life cycle keep going? How can the students explain that (adults have babies, or animals lay eggs and then the life cycle continues)? Have the students work in groups to make life cycle circles with animals that look different than humans. For example, If we used the circle for a butterfly, what would the first quadrant represent (egg), the second (larva or caterpillar), third (pupa or chrysallis), fourth (adult or butterfly). Draw or find pictures to represent each quadrant.