Life Cycles and Insects

Insects are a critical part of any ecosystem and display many fascinating behaviours and transformations. There are over 20,000 species of insects in Alberta alone, and 10 quintillion insects on earth!

About Insects

An insect is a specific type of animal that has certain features and body parts. An insect will always have 3 body parts (head, thorax, and abdomen), 6 legs, 2 antennae, 2 eyes, and often (but not always) 2 or 4 wings. Other animals, such as spiders, are in a different family and are not insects. All animals have different tools, or "adaptations", to help them survive. Even their basic body parts may look different depending on their needs. Some insects may have strong legs for jumping (like grasshoppers), where some may be used for digging or swimming.

While growing, many insects go through metamorphosis, which means the animal physically changes after hatching and usually includes a rather large change in their body structure. There are two different types of metamorphosis, complete and incomplete. An insect that goes through a complete metamorphosis goes through four stages: an egg, larva, pupa, and then adult. A butterfly, for example, starts as an egg, then hatches into a caterpillar (larval stage), forms a chrysalis (pupal stage) and then finally becomes an adult butterfly. An insect undergoing incomplete metamorphosis only goes through three stages: an egg, nymph, and then adult. A dragonfly is an example of an insect that goes through incomplete metamorphosis.

Pollinators

A pollinator is an animal that moves pollen from one plant's flower to another plant's flower. This fertilizes the plant and allows it to make seeds and fruit. Examples of pollinators include species of bees, butterflies, hummingbirds, flies, moths, wasps, ants, and beetles. The reason that pollination is important is because it helps plants reproduce, and we all need plants in order to survive. Consider all the things we use plants for, like food, clothing, and shelter.

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Activity 1: Build a Basic Insect

In this activity you will learn some of the special traits that different insects have to help them survive.

Activity 2: Am I an Insect?

Here you will study a variety of bugs and determine if they are insects or not. Spend a few minutes looking at each bug and see if you can spot some unique features about each, and what they might be used for!

Activity 3: Life Cycle Matching Game

In this game you will look at the similarities and differences between four insects in each stage of their complete metamorphosis.

Activity 4: Bee Pollination Demonstration

In this activity you will use a bee puppet to show students how pollination works.

Activity 5: Am I Pollinated or Not?

Hold up pictures of these common food items and have students give a thumbs up if they think we need pollinators to help them grow. Then reveal the answers on the back to the class.

Activity 6: Am I a Flower Helper?

A pollinator is an animal that moves pollen from one plant's flower to another plant's flower. This fertilizes the plant and allows it to make seeds. In this game you will decide if you think different animals are good pollinators or not.

Activity 7: Salad Scramble

When we eat our fruits and vegetables we are eating different parts of plants. Can you use your detective skills to figure out which parts of the plant each of these fruits and vegetables comes from?

Activity 8: Food Web Kerplunk

In this activity you will discover what might happen if all the insects and bugs on the planet disappeared.

Activity 9: Food Chain Cup Stack

In this game you will learn about 10 different food chains and how energy transfers from plants to animals and back again.

Activity 10: Bee Habitat

Calgary is home to more than 200 native species of bees, and most of them are solitary and do not live in colonies. In this activity you will learn about making bee homes other than hives, and how you can help our local native bees!

Activity 11: Pollinator Water Station

Every plant and animal needs water to survive. Pollinators are often very small and have a hard time finding water in small amounts. Therefore, you can make your very own watering station to attract pollinators to your backyard and help them survive.