



INSTRUCTIONS TO TEACHERS

Bee Life

Grade 2 Science and Technology Unit

bees  matter

Bee Life

Instructions to Teachers

This unit is a **Science and Technology** lesson plan for *Understanding Life Systems: Growth and Changes in Animals*. Over a duration of 30 minutes, the lesson will take grade 2 students through an overview of the life and structure of honey bees.

Concepts this will teach students include: recognizing insects, diagramming anatomy, considering the life habits of insects.

The materials included are:

- [Blackline Master: The Honey Bee Life Cycle](#)
- [Blackline Master: Honey Bee Anatomy Worksheet](#)

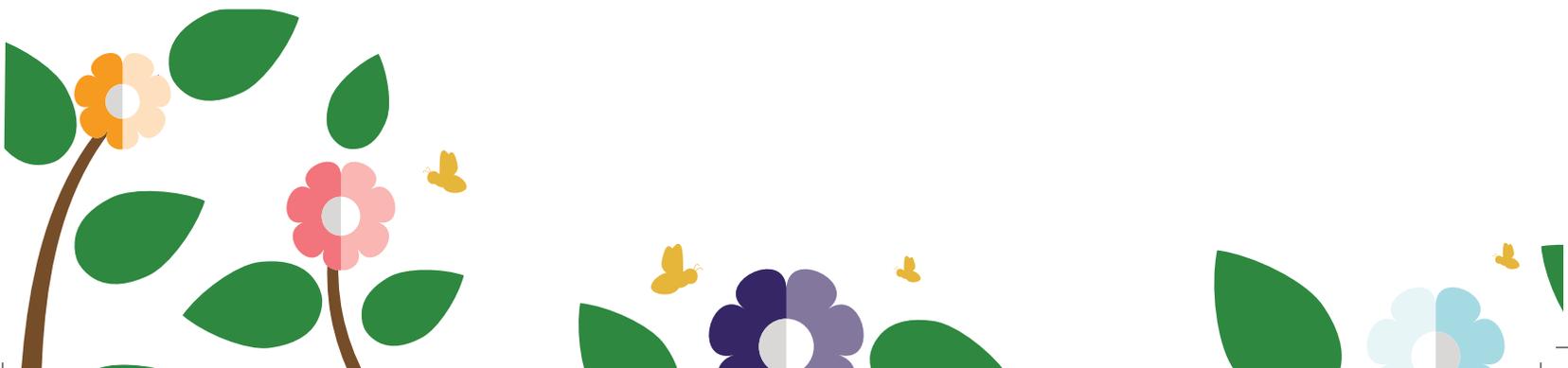
Based on the Ontario curriculum, we've identified four Specific Expectations that this unit will meet as described in the curriculum guides (and in more detail on the next page): **2.2, 2.3, 2.4, 3.1**.

Prior to the lesson, make copies of each of the *Bee Life* Blackline Masters for all of your students and attach them together in a hand-out package. Determine if you will be using the Honey Bee Anatomy Worksheet as an assignment and if so, keep it separate from the other materials.

During the lesson, ensure each student has all the relevant materials. Draw a diagram on the board of a bee, included with *Honey Bee Anatomy Worksheet*, but don't label any of the parts. Instead, in a list next to the drawing, include a list of the terms that students will learn:

- **Head**
- **Thorax**
- **Abdomen**
- **Stinger**
- **Legs**
- **Eye**
- **Antenna**
- **Wings**

As you explain the material in the Blackline Masters, add the simple function next to each of the words to define them. Draw lines from the words to the parts of the bee to reinforce the parts and their names.



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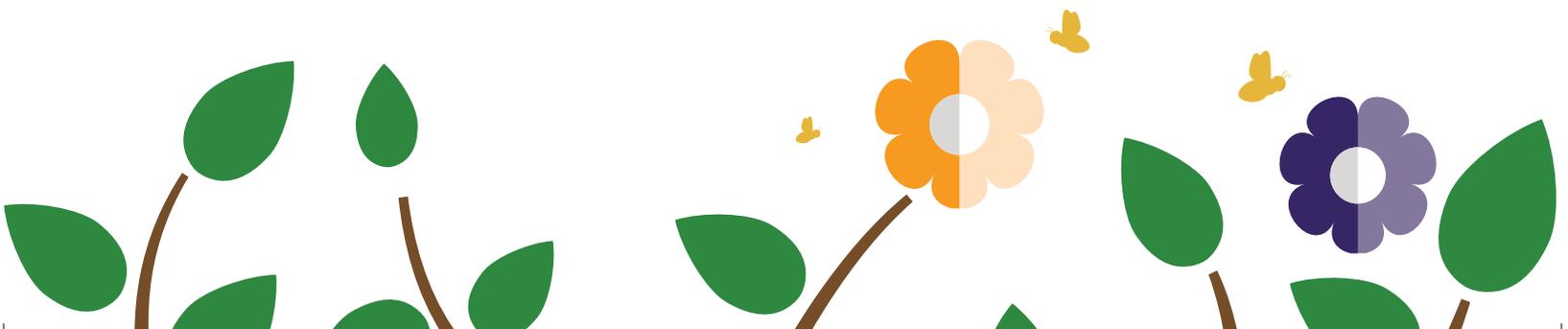
Curriculum Expectations

Grade 2 Science and Technology – *Understanding Life Systems: Growth and Changes in Animals*

Growth and Changes in Animals focuses on investigating the distinct characteristics of animals related to appearance, behaviour, growth, and change. Students will study a variety of animals and identify important similarities and differences among them. As well as making the obvious physical comparisons, students will look at ways in which human activities have an impact on specific animals and their survival, and ways in which the animals' environment has an impact on their development. They will also examine the importance of animals and the need for humans to protect animals and the places where they live.

By the end of Grade 2 Science and Technology, students will be able to:

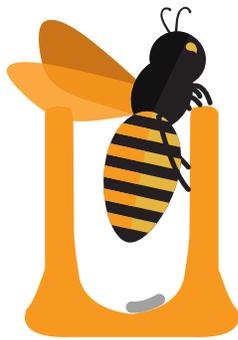
- 2.2:** observe and compare the physical characteristics (e.g., fur or feathers; two legs or no legs) and the behavioural characteristics (e.g., predator or prey) of a variety of animals, including insects, using student-generated questions and a variety of methods and resources
- 2.3:** investigate the life cycle of a variety of animals (e.g., butterflies, frogs, chickens), using a variety of methods and resources
- 2.4:** observe and compare changes in the appearance and activity of animals as they go through a complete life cycle (e.g., frog, butterfly)
- 3.1:** identify and describe major physical characteristics of different types of animals (e.g., insects, mammals, reptiles)



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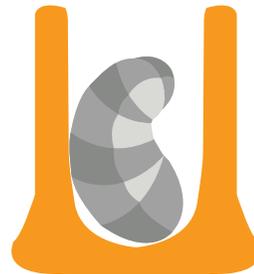
The Honey Bee Life Cycle

Egg



The **queen** lays an **egg** into a **cell** in the honeycomb.

Larva



The **egg** hatches into a young **larva**, which gets fed by other honey bees.

Pupa



The **larva** spins a **cocoon** around itself and becomes a **pupa**.

Adult



In its **cocoon**, the **pupa** develops into an **adult**, and then leaves the **cell**.



Honey Bee Anatomy

Honey bees are **insects**. Their bodies are divided into a **head**, a **thorax** and an **abdomen**. On their **head**, they have two **antennae**, which they use to “smell” their surroundings. They also have very complicated **eyes**, and they can see in many directions at once.

The **thorax** is the middle section of a honey bee, connected to six **legs** and two **wings** on each side. Honey bees use their legs to walk, and also to carry **pollen**, which they turn into a food called “bee bread”.

Stay away from the **abdomen!** That’s where a honey bee’s **stinger** is, but they will only use it to defend themselves.



Fill in the diagram above with the words that match the parts of the **honey bee**:

head
thorax

abdomen
stinger

legs
eye

antenna
wings



Honey Bee Anatomy

Answer Key

Fill in the diagram with the words that match the parts of the **honey bee**:

head
thorax

abdomen
stinger

legs
eye

antenna
wings

