

Focus on: Ants and Bees

This lesson is meant to support the unit on Structures and Functions of Living Organisms. It can be done to generate background knowledge prior to teaching the unit, during the unit to reinforce lessons, or as a follow up to the butterfly unit to meet the objective of comparing a variety of animal life cycles. How you guide your students will depend on the information you have already taught and the information you want to introduce. Please remember that many gardens run on a yearly cycle and it will be easier to find more animals in the garden during the peak growing season.

Clarifying Objectives:

2.L.1.1 Summarize the life cycle of animals including:

- Birth
- Developing into an adult
- Reproducing
- Aging and death

2.L.1.2 Compare life cycles of different animals such as, but not limited to, mealworms, ladybugs, crickets, guppies or frogs.

2.L.2.1 Identify ways in which many plants and animals closely resemble their parents in observed appearance and ways that they are different.

2.L.2.2 Recognize that there is variation among individuals that are related.

Key Vocabulary:

Definitions can be found at <http://learnersdictionary.com>

-Summarize
-Life Cycle
-Birth
-Developing
-Adult
-Reproducing
-Aging
-Death
-Compare
-Plant Parents
-Observed
-Appearance
-Variation
-Individuals
-Related
-Egg
-Larva
-Pupa
-Adult

Focus Question(s):

How is the life cycle of an ant similar to or different from a bee?

Materials:

School Garden

Garden Gloves to wear while exploring the garden especially if touching plants, soil, lifting pots, etc.

Science Notebooks

Activities:

1. Take students to the garden and have them see how many insects they can find. Have them record the names of the insects in their books.
2. When you return to the classroom, generate a class list of insects. (Most likely, bees and ants will be on that list. If not, you can join in the conversation and add them!)
3. Discuss what students already know about bees and ants. How are they similar? How are they different?
4. Tell the class you are going to further investigate bees and ants to learn more about their life cycles. Although it is common to see the adult stage of both of these insects in the garden, it is not common to see the other stages of their life cycles.
5. While watching the following videos, have students take notes in their student notebooks. Have them record the different stages of the life cycle of the insect and have them start to think about the ways ants and bees are similar or different.
6. You may want to show the videos on different days rather than in one long session.
7. The Life Cycle of a Honeybee – Reading Rainbow:
<http://app.discoveryeducation.com/player/view/assetG uid/332E6869-FDE3-4769-AD90-21FA06541465>
8. The Life Cycle of an Ant – Magic Schoolhouse:
<http://app.discoveryeducation.com/player/view/assetG uid/D9E3159A-09B4-4CC0-867A-21A43952F68A>
9. Have students complete a Venn diagram in their science notebook comparing the ants and bees.
10. Discuss the students' notes from the 2 videos and their Venn diagram. Use Guiding Questions and Key Vocabulary to help the discussion.
11. Be sure to answer the Focus Question: *How is the life cycle of an ant similar to or different from a bee?*

Guiding Questions:

- How is the life cycle of an ant the same as a bee?
- How is the life cycle of an ant different from a bee?
- What are the different life cycle stages of an ant?
- What are the different life cycle stages of a bee?
- Why don't we see the egg, larva, and pupa stages of these insects in the garden?
- Why is it important for these life cycle stages to be hidden and protected?
- What other ways are bees and ants the same?
- What are some other ways they are different?
- Do you think all different kinds of bees and all different kinds of ants have the same life cycle?
- Why? Why not?
- Do you think all different kinds of bees and ants take care of their young the same way as the bees and ants in the videos we watched?
- Why are honeybees important to our garden?
- What role do ants play in the garden? (*Ants are considered a garden pest because they defend and protect aphids, mealy bugs, and whiteflies in order to harvest the sweet honeydew that they secrete. Also, if the ants are fire ants, they can sting. However, ants do help to aerate the soil by tunneling in the ground*)
- Evaluate the benefit or risk of having ants in the garden. Do we want them there?