

Focus on: Squash Bug Life Cycle

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.

Key Vocabulary:

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

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

Focus Question(s):

How is the life cycle of a squash bug the same or different from the life cycle of a butterfly?

Materials:

School Garden

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

Science Notebooks

Activities:

1. Pass out the following article for students to read. (in groups or with partners) Show the video clips from the article to give students a better idea of what to look for in the garden:
<http://extension.umd.edu/growit/insects/squash-bug>
2. Discuss the article and the videos and share findings.
3. FYI: The squash bug is a type of stink bug and can be found on squash plants, pumpkins, cucumbers, watermelons, and cantaloupe. They hide on the underside of lower leaves and near the base of the stem. Get a watering can and carefully water the stem where it enters the ground. They will come running up onto the plant and will be easy to catch. Pick off any bugs and squash them. Look for eggs. They are usually found on the underside of leaves. They must be picked off and squashed. Be careful not to break the fragile leave stems. Also, you can catch squash bugs by putting a board on the aisle beside the plant. The squash bugs will hide under it at night and can be easily picked up and disposed of in the morning.
4. Tell students we will be visiting the garden to look for the different life cycle stages of the squash bug. Remind students that the squash bug at all life cycle stages is VERY harmful to our school garden since it can destroy our squash plants such as zucchini, squash and pumpkin. Therefore, after we observe them, we will squash them to protect the plants. We want to help our garden grow! (Squash bugs are not harmful to humans, but they will kill our plants.)
5. Ask: *What are some tips for helping us to find the most squash bugs?* (Move slowly, speak quietly, be patient, look closely, etc.) Remind students they will have to look VERY closely in the garden to find the life cycles. Encourage students to look on leaves, under leaves, in the soil, at the base of plants, everywhere!
6. Head to the garden to search for squash bugs.
7. When one is found, there will be a rush of other students who want to see it too. Remind them to walk and take turns looking at it without pushing. We don't want to harm the people, the animals or the plants in the garden.
8. When students find a squash bug or one of the stages of its life cycle, they should sketch it in their science notebooks and record their observations paying close attention to answering the Focus Question.
9. When you return to the room, watch the following video which tells about the different life cycle stages. The video is not about squash bugs, but it does explain the nymph stage which may not be familiar to students.
<http://app.discoveryeducation.com/player/view/assetGuid/FF8B9F83-9DC6-46DD-9F9F-EFCD4F83FF01>
10. Discuss the video and the students' findings in their science notebooks from their visit to the garden. Use the Guiding Questions and encourage the use of the Key Vocabulary.

Guiding Questions:

- What stages of the life cycle did we find in the garden?
- What stages didn't we find?
- Where did you find them?
- What did they look like?
- What did you learn from the videos or article?
- In what ways are the different stages the same?
- In what ways are the different stages different?
- How does this life cycle compare to other animal life cycles?
- Is this animal beneficial to have in our school garden? Why or why not?

11. For more information:

<http://growingsmallfarms.ces.ncsu.edu/growingsmallfarms-squashbug/>