



GOOD BUGS, BAD BUGS

Grade Level

2-8

Length of Lesson

30 minutes

Objective

By the end of this lesson, students will be able to identify various beneficial and harmful insects commonly found in flower and vegetable gardens.

Materials

- Large bug cards, cut apart
- Copies of student Organization Sheet
- Small bug cards, cut apart

Standards

NGSS

2-LS4-1; 3-LS2-1; 3-LS4-2-3; 4-LS1-1; 5-PS3-1; MS-LS2-2

Lesson Summary

This lesson is designed to help students recognize the different types of common bugs that can be found in our flower and vegetable gardens and identify if they are beneficial or harmful for the plants in our gardens.

Suggested Sequence of Events:

1. Set Up: Print enough copies of the large bug cards and small bug cards for students to play in groups of 2-3. To save time, cut out cards ahead of time.
 - Print 2 copies of each page of the large bug cards for each group. Print double-sided with our logo on the back.
 - Print 1 copy of the small bug cards page for each group.
 - Print on cardstock and laminate for continued use over time.
2. Read [Up in the Garden, Down in the Dirt](#) by Kate Messner to capture student interest.
3. Read through the [IAITC Pollinator Ag Mag](#) to learn more about native Illinois Pollinators. Interactive online versions can be found on our website.
4. Complete the activity following the procedures:
 - Put students into groups of 2-3 and give each group a set of the memory cards. If they are not already pre-cut, have students cut the cards apart.
 - Give students some time to play the memory game. Encourage them to read the information on the front side of the cards.
 - When they are finished playing, give each group a copy of the organization sheet and a set of the small bug cards. Have students put the small bug cards in the correct 'beneficial' or 'harmful' category. They can use the large bug cards for help.
5. Whole class discussion and reflection of activity.

TEACHER RESOURCES

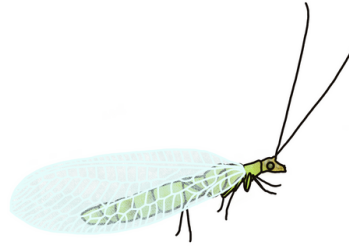
Extension Ideas

- Go into more detail about beneficial bugs and discuss *how* those bugs are beneficial. Are they pollinators, decomposers, or predators? Do they remain the same type of beneficial bug from their larval stage to their adult stage?
- Learn more about pollination and how it happens. How is this beneficial to plants?
- Learn more about the similarities and differences in bug life cycles.
- Raise butterflies in your classroom.
- Create a classroom vermicomposting bin and teach kids about composting and how worms help speed up this process! Use our "[Classroom Vermicomposting](#)" lesson for directions on setting up your bin.
- Learn about the process of decomposition and recycling important nutrients.
- For older students, have them research one of the bugs. Are there different species of this type of bug? Which species are more commonly found in Illinois?
- Look into the scientific name of these bugs. Where do scientific names come from? Look into Latin prefixes and suffixes.
- Any bug can become a pest if the population grows out of control and causes damage to buildings, landscape, vegetables, etc. Use the bugs in this lesson to talk about how we can use bugs to help with pests before spraying pesticides.
- Bugs are everywhere, but are they the same? Learn about the differences between beetles, insects, and arachnids!
- Bugs are found on almost every continent. Compare and contrast bugs from around the world.
- Bugs are full of protein! Learn more about entomophagy and buy some bug [treats](#) for them to try!
- Read through [Secrets of the Garden](#) by Kathleen Weidner Zoehfeld and talk about food chains, food webs, and the transfer of energy throughout them.
- Read through [Buzzing With Questions](#) by Illinois Author Janice Harrington and learn about the amazing research from scientist Charles Henry Turner.
- Go to agintheclassroom.org to contact your County Ag Literacy Coordinator for free classroom sets of our Ag Mags!

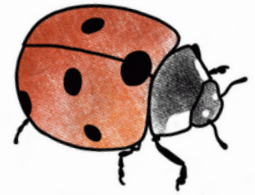
Illinois Ag in the Classroom: Large Bug Cards, page 1



Earthworm: Adult
Beneficial



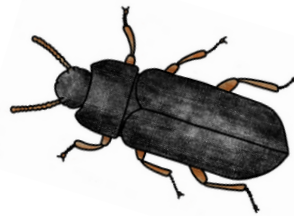
Lacewing: Adult
Beneficial



Ladybug: Adult
Beneficial



Roly Poly: Adult
Beneficial



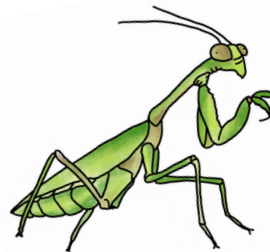
Ground Beetle: Adult
Beneficial



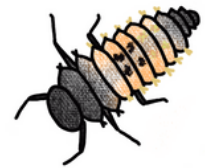
Honeybee: Adult
Beneficial



Butterfly: Adult
Beneficial



Praying Mantis: Adult
Beneficial



Ladybug: Larva
Beneficial



Earthworm: Larva
a.k.a. Hatchling
Beneficial



Lacewing: Larva
Beneficial



Roly Poly: Juvenile
Beneficial



Butterfly: Larva
Beneficial



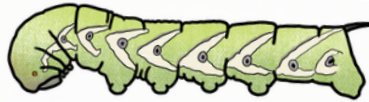
Ground Beetle: Larva
a.k.a. Mealworm
Beneficial



Honeybee: Larva
Beneficial



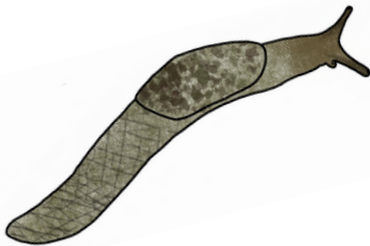
Praying Mantis: Nymph
Beneficial



Tomato Hornworm: Larva
Harmful



Squash Beetle: Adult
Harmful



Slug: Adult
Harmful



Aphid: Adult
Harmful



Cutworm: Larva
Harmful



Striped Cucumber
Beetle: Adult
Harmful



Thrips: Adult
Harmful



Cabbage Worm: Larva
Harmful

Illinois Ag in the Classroom: Large Bug Cards, back side





Beneficial



Harmful



Illinois Ag in the Classroom: Small Bug Cards

