CURIOSITY AT HOME

INSECT EXPLORATION

In today's activity, we'll explore what makes an insect, an insect, and get an up-close look at the bugs that live around you. Then learn about which insects pollinate which plants, based on color, shape and smell!

Planthopper

Sow Bug

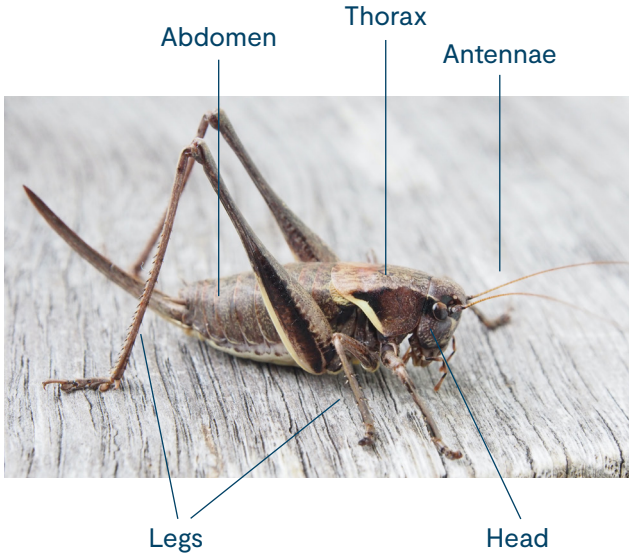
Ladybug

MATERIALS

- Colored pencils/markers/crayons
- White or light colored sheet, pillowcase, or t-shirt
- Science notebook or paper
- Something to write with
- **Optional:** Magnifying glass

PROCEDURE

- In your backyard or a nearby park, find a small tree, bush or shrub. Look for a medium-sized plant, whose trunk or branches you can reach. Make sure this tree or bush has room at its base for you to spread out a sheet.
- Spread out your sheet under the tree or bush, tucking it around the base of the plant.
- Grasp the trunk and shake the bush and its branches over your sheet. Give it a good shake for 10–20 seconds, while being careful not to bend or break the trunk.
- What did you notice falling down onto the sheet? Pull the sheet aside and spend some time observing any collected items. Do you see anything moving? Ask an adult to help you identify creatures that are safe to pick up (such as ladybugs, worms and sow bugs) if you would like to gently hold some.
- Use your science notebook to record the number, shape, size, and color, of each bug you observe on your sheet. Draw pictures of the creatures, if you'd like! What similarities and differences do you notice across all of the ones you found.
- Which of these creatures do you think are insects? You can identify an insect by looking for 3 main body parts (head, thorax and abdomen), 6 legs, and 2 antennae.



Experiment continued on next page...

Sow Bug photo courtesy of batwrangler.

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PROCEDURE *continued...*

- Now, try putting the sheet under a different type of tree, and repeat the previous steps. When finished, be sure to gently shake the insects and plant matter back onto the ground.
- Did one tree have more insects than another? Why do you think that is? Does it have to do with the amount of leaves on the tree? The tree's location? The vigor of your shake? Time of day? Record your observations and predictions in your science notebook.

TRY THIS

Do you think any of the insects you found are pollinators? Why or why not? What makes an insect a good pollinator? Most pollinating insects can fly, but some other insects, like ants and beetles, can also be pollinators.

Each pollinator has certain plants that it prefers to pollinate. Take a walk to a park, through a neighborhood, or in your yard and observe some flowers. Predict which pollinator might like to visit that flower. Do you think an insect pollinates this flower? If so, which insect? Why do you think so?

Use this chart to give you clues about which flying insect might visit that type of flower.

Insect Pollinator	Flower Color	Flower Shape	Flower Smell
Bee	Brightly colored usually blue, yellow or green. (bees cannot see red)	Symmetrical (one side of the flower is a mirror image of the other) Often tubular (long and narrow)	Sweet smell or a minty fragrance
Fly	Pale and dull to dark brown, purple Sometimes flecked with white see-through patches.	Funnel shaped or complex traps	Bad odor, like rotting meat, dung, sap, or blood
Butterfly	Bright, including red and purple.	Narrow tube with spur, wide landing platform.	Faint but fresh
Moth Night time pollinators	White or dull colors. Blooms are open late afternoon or night.	In clusters, wide landing platform.	Strong, sweet perfume fragrance.

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DID YOU KNOW

Insects are very important pollinators for many plants. This relationship benefits both plants and insects; it's a win-win! Plants need pollinators, like insects, to transfer their pollen so they can reproduce. Insects get to eat nectar and pollen from flowers, which keeps them alive.

Some plants mimic animal smells to attract pollinators! Red Trillium is a beautiful flower with a smell like rotting flesh. Although humans might find this scent repulsive, flies are drawn to these brilliant red blooms. The deep red color and foul odor resemble decaying meat and attract flies who eat the pollen of the flowers. Typically, no nectar is produced in fly-pollinated flowers. This is an example of co-evolution.

Red Trillium

Bed Orchid (another example of co-evolution).

Red Trillium photo courtesty of dmott9

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3–5 GRADE EXPLORATION

Explore the following questions and write your observations in your science notebook.

- Did you find any flowers a bee might prefer on your walk? Honey bees communicate with other members of their hive through physical movement. When a honey bee returns to the hive after foraging, they signal to other bees where they found food through dances. Other honey bees learn how far to go to find food, and the direction of the food source depending on the dance they witness. These dances range from small figure eight patterns, to rapid movements. In this activity, you and a friend or member of your household will use dance to communicate like bees!
  - Choose an item to hide.
  - One person will hide the item (you can do this in your home, yard or in the park), while the other person covers their eyes so they don't know where the item is hidden.
  - The finder opens their eyes, and the hider uses only physical movements to describe where the item is hidden. The finder cannot use words to show that they understand. The hider can only perform this dance at the "hive" (starting location), so finders: make sure you have an idea before you start your search!
- Where else might you go on an insect hunt? Have an adult help you look for new places to find insects, perhaps under a rock, in a log, or flying in the air. What kinds of insects did you find in the different insect hunt locations? Did you notice any patterns? Why do you think insects prefer certain places to live or certain flowers to pollinate? Draw pictures of the insects you found and where you found them in your science notebook.

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