

## Vocabulary

# BE A BUG

<b>Aphid</b>	Any of various small, soft-bodied insects that have mouthparts especially adapted for piercing, and feed by sucking sap from plants. Aphids are able to destroy plants and crops, and have small animals and other insects, like ladybugs, as natural predators.
<b>Abdomen</b>	The last segment of the body in insects.
<b>Antenna</b>	One of two jointed limbs on an insect's head, used to smell and to feel.
<b>Environment</b>	The air, water, minerals, organisms, and all other external factors surrounding and affecting a given organism at any time.
<b>Exoskeleton</b>	A hard outer structure, such as the shell of an insect or crustacean, that provides protection or support for an organism.
<b>Habitat</b>	The place where animals are born, live and die.
<b>Head</b>	Segment of the insect that bears the eyes, antennae, and mouthparts.
<b>Insect</b>	A grown-up arthropod that has three body segments (head, thorax, and abdomen), six legs, and usually wings.
<b>Investigate</b>	To study, search for, or question something.
<b>Observe</b>	To see, notice, or watch something carefully, and to learn from it.
<b>Pollination</b>	The transfer of pollen from the anther to the stigma of a plant, which can be done by wind or insects like bees and butterflies. Pollination is necessary for plant reproduction.
<b>Produce</b>	To make or manufacture.
<b>Protect</b>	To keep from injury or danger.
<b>Segment</b>	One of the parts of an insect's body. Insects have three segments.
<b>Thorax</b>	The middle part of a bug's body, which bears the legs and wings (if any).

## Activity: My Own Backyard

Students will explore spatial relationships when they create a drawing of their own backyards, or of the school's backyard.

### Materials

Construction paper, one for each student  
Scrap paper for collage materials,  
Oil pastels or crayons and markers  
Glue

### Procedure

1. Gather students together and pose the question, "What does a backyard look like?" Ask students to think about their backyards, if they have one, or the "backyard" (playground) of the school. Some students may want to think of a backyard at a relative's home. Ask students to close their eyes and visualize what they see in their backyard. After a few moments, students may open their eyes. Ask for a few volunteers to describe their backyards.
2. Explain to students that they will return to their desks or tables and create a drawing of their backyards. Encourage them to work so that someone who has never visited their backyard could get an idea of what it is like.
3. Distribute materials. Each student should receive one piece of construction paper. Each group or table should receive glue to share, an assortment of oil pastels or crayons, and scrap paper for collage.
4. First, students can draw the outline of what they find in their backyard on the construction paper. Don't forget to include fences, rock piles, grass, sidewalks, garages, dumpsters, and doghouses.
5. Next, students can add color by either using crayons or collage materials. For example, a grassy area can be represented by green paper glued on to look like grass, or the area can be colored in with a green crayon. Encourage students' creativity!
7. Display each student's backyard drawing in the classroom.

# BE A BUG

## Alignment with State Goals

### State Goal 3

Write to communicate for a variety of purposes.

### State Goal 17A

Locate, describe and explain places, regions and features on the Earth.

### State Goal 26

Through creating and performing, understand how works of art are produced.

## Activity: Plant Patrol

In the Insect Investigators workshop students learn about the different things insects do to take care of plants. This activity will help students think about how they can care for plants by dividing into plant teams, taking on special tasks, and watching their work grow.

### Materials

Potted plants– one per group  
Watering cans or water bottles  
Rulers  
Poster board to make the chart  
Paper and crayons to make sketches

### Procedure

1. Gather some small plants that will be tended and observed by the class.
2. As a class, discuss ways one can care for plants like watering them, making sure there is adequate sun and being gentle with their blossoms and leaves. Divide the class into plant teams of about four students with one plant assigned to them.
3. Have students observe their plants closely, pick a name, and make sketches of how the plant looks on the first day.
4. Assign a task to each group member, including:
  - A water monitor, to water the plant as needed
  - A bug inspector, to make sure the plant is pest free
  - A sunlight expert, to move the plant into the sun as needed
  - A measurement specialist, to observe and report growth
5. Explain what each task entails and decide on a schedule that fits your class, such as doing assigned tasks each morning or every other day.
6. Create a chart where measurements can be recorded and tasks like watering and moving the plant into the sun can be checked off. Use this chart to ensure each group member is helping to grow a healthy plant.
7. Have groups make new sketches and try out different roles as the plants grow.

# BE A BUG

## Alignment with State Goals

### State Goal 7A

Measure and compare quantities using appropriate units, instruments and methods.

### State Goal 11 A

Know and apply the concepts, principles and processes of scientific inquiry.

### State Goal 12B

Know and apply concepts that describe how living things interact with each other and with their environment.

## Activity: Emotional Insects

The beautiful works of Eric Carle are a great way to include read-aloud books in a study of insects. Chose an insect-themed Eric Carle book like *The Grouchy Ladybug* or *The Very Lonely Firefly*. The insects in Carle's books have such personality and emotion and help to cultivate a love for living things.

### Materials

An Eric Carle insect themed book  
Drawing paper and crayons

### Procedure

1. Chose a book to read aloud. Show the book cover to the class, and read the title aloud. Ask what they think the book might be about.
2. Read the book, emphasizing the insect's emotions with your voice.
3. Ask your students: What did main character feel? Was she happy or sad? Was he lonely or afraid? Introduce the idea that, in the book, the insect had a feeling or an emotion. List some other feelings we have.
4. Have students think about a kind of insect they like and imagine what they might feel. Perhaps a butterfly would feel proud of her beautiful wings or a grasshopper would be happy because he likes to hop.
5. Give students the materials they need to draw a picture of an insect in a situation where they feel something.
6. Have students dictate what is happening in the situation, what the insect feels, and why.
7. Bind the pictures together and add them to the class library.

# BE A BUG

## Alignment with State Goals

### State Goal 3

Write to communicate for a variety of purposes

### State Goal 4

Listen and speak effectively in a variety of situations

### SEL Goal 1A

Identify and manage one's emotions and behavior.

## Activity: Make an Insect

One of the most interesting things about insects is the variety of appearances! Invite students to creatively make a 3-D insect using their imagination and some basic information about insects.

### Materials

Pictures of insects or plastic insect models  
Recycled art materials like toilet paper tubes, bottle caps and buttons  
Art materials like pipe cleaners, tissue paper and beads  
Glue  
Scissors

### Procedure

1. Discuss what an insect looks like. On the board, make a web of your students' ideas about an insect's body and appearance.
2. Pass out pictures of insects or insect models and give students a few moments to look closely at them. Using the pictures or models as a guide, help students make conclusions about the number of legs, body parts and other features of insects. Add these conclusions to the web.
3. Make special mention of the fact that although all insects may have six legs that certainly doesn't mean they all look the same!
4. Explain that everyone will get to make a unique 3-D bug. They should keep in mind what they know about insects but also use creativity to design an insect from their imagination.
5. Pass out materials and give plenty of time for students to build their insects. Encourage them to make up a name for their insect.
6. Once finished, have each student share the name of the insect with the class.
7. Display the insects in the room with a label of each creature's name.

# BE A BUG

## Alignment with State Goals

### State Goal 12

Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.

## Activity: Bug Body Song

Insects have bodies that are different than ours. Use the familiar song *Head, Shoulders, Knees and Toes* to teach about an insect's body.

### Materials

Chalkboard

### Procedure

1. Sing *Head, Shoulders, Knees and Toes*
2. List what body parts were mentioned in the song on the board. Then, talk about the fact that insects have different bodies from us and so they have a different song. Discuss the different parts of an insect's body including the Head, Thorax, and Abdomen. Draw a diagram on the board as you discuss this.
3. Teach your class the new insect song and practice the motions together.

### Insect Song

*Head (touch head)*

*Thorax (touch shoulders)*

*Abdomen, Abdomen (touch stomach)*

*(Repeat 2 times)*

*6 Legs and Wings and*

*Eyes and Mouth (touch body parts)*

*Head Thorax, Abdomen, Abdomen!*

# BE A BUG

## Alignment with State Goals

### State Goal 12A

Know and apply concepts that explain how living things function, adapt and change.

## Activity: Schoolyard Hunt!

Students will use investigation skills to explore their school's backyard.

### Materials

Worksheet  
Crayons and pencils  
Clipboards  
Magnifying glass

### Procedure

1. Invite parents to come on a mini-field trip outside.
2. Review or introduce your class trip to the Chicago Children's Museum's Big Backyard exhibit. Backyards are great places for using senses to explore all the things going on in the air, on the ground and all around.
3. Split students into groups to explore the school's playground or yard. Each student should receive a clipboard, pencil, and the "School Yard Hunt" worksheet, found on the next page, and draw their observations. If students are able, encourage them to use invented spelling to label their drawings. Otherwise, have adults assist in labeling pictures.
4. Give students some ideas to think about before they go on the hunt.  
(See Questions Below).

### Look, Listen, Smell, and Touch to explore your school's backyard!

Possible questions you can ask students to think about while exploring the school yard.

1. What is the weather?
2. What signs show the current season/time of the year?
3. What kind of animals do you find in the grass, trees, etc.?
4. What habitats for insects, birds, other animals do you find?
5. Are there trees? What color are they? What kind of leaves do they have?
6. Find flowers. What color are they? What kind? Where are they located? Pick the petals. Examine the parts of the flower. What do you find? Are there seeds?
7. Dig into the grass. Is grass everywhere or only certain parts of the school's yard? Is the grass all the same shade of green? Where is the most grass located? Why? How does grass help us or the animals/insects near the school?

# BE A BUG

## Alignment with State Goals

### State Goal 3

Write to communicate for a variety of purposes.

### State Goal 11

Uses senses to explore and observe materials and natural phenomena.

### State Goal 11.A.ECb


Collect, describe and record information.

# Schoolyard Hunt! Worksheet

Name: \_\_\_\_\_ Date: \_\_\_\_\_

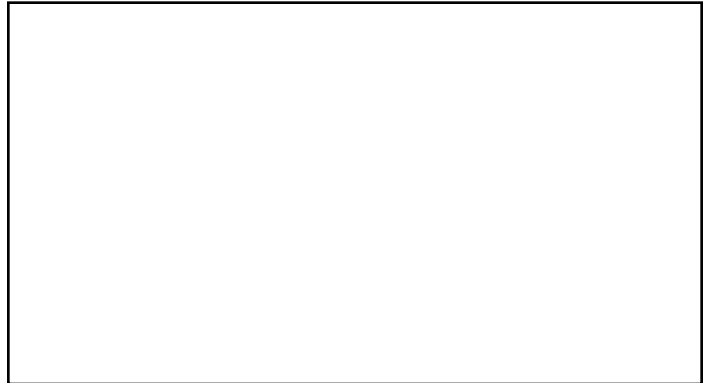
**I see** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**I smell** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**I hear** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**I feel** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# Be A Bug Workshop Resource List

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## Storybooks

- Allen, Judy and Tudor Humphries. *Are You a Butterfly?*
- Allen, Judy and Tudor Humphries. *Are You a Ladybug?*
- Carle, Eric. *The Grouchy Ladybug*
- Carle, Eric. *The Very Lonely Firefly*
- Green, Janice. *Backyard ABCs*
- Greenberg, David T. *Bugs!*
- Polisar, Barry Louis. *Insect Soup: Bug Poems*
- Rockwell, Anne. *Honey in a Hive*

## Nonfiction and Reference

- Amato, Carol A. *Backyard Pets: Activities for Exploring Wildlife Close to Home*
- Ansary, Mir Tamim. *Insects*
- DK Publishing. *Insects: DK Eyewitness Books*
- Gibbons, Gail. *Spiders*
- Johnson, Jinny. *Simon & Schuster Children's Guide to Insects and Spiders*
- National Audubon Society. *Field Guide to North American Insects and Spiders*

## Websites for Students and Teachers

University of Illinois Just for Kids

<http://www.urbanext.uiuc.edu/kids>

A kid-friendly, interactive website that teaches the basics about insects.

Carolina Biological Supply

[www.carolina.com](http://www.carolina.com)

This company's website allows teachers to purchase a variety of live insects for classroom observation and use.

KinderGARDEN: Aggie Horticulture Just for Kids:

<http://aggie-horticulture.tamu.edu/kindergarden/kinder.htm>

This website provides information and ideas for starting a school garden.

Spiders and Insects

<http://www.amonline.net.au/spiders/diversity/what/difference.htm>

This website presents clear information on the differences between spiders and insects including diagrams.