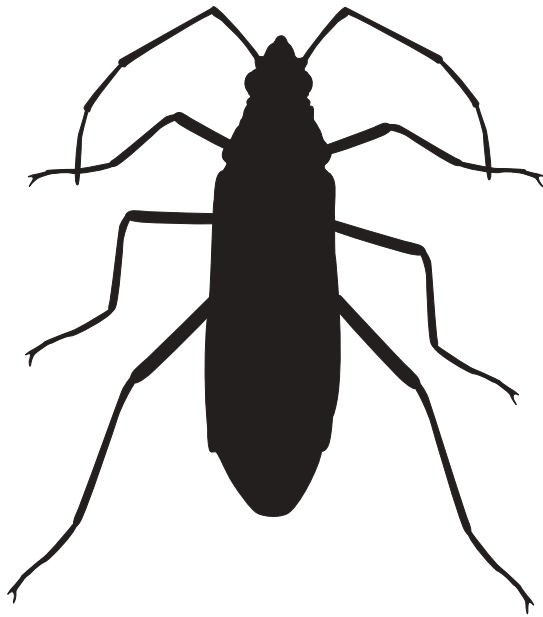




**THINK  
THEMES!**

# **INSECTS**



# Insects

## State Goals and Chicago Academic Standards & Frameworks

**State Goal 11: Have a working knowledge of the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.**

**Chicago Academic Standard A:** Understand that science involves asking and answering questions and comparing experimental results to what is already known.

### Curriculum Framework Statements:

- 3 Read and discuss science-related materials from a variety of sources.

**Chicago Academic Standard B:** Design and conduct simple scientific investigations in which observations are made, data are gathered and organized, and reasonable conclusions are drawn.

### Curriculum Framework Statements:

- 1 Select and use instruments to collect, organize, and present data related to a scientific investigation (thermometers, timers, magnifiers, balances, microscopes, calculators, and computers).
- 2 Gather data from investigation by applying a variety of scientific skills (e.g., measurement, reading, recording methods).
- 3 Organize observations and measurements into charts and graphs and communicate conclusions orally and in writing.
- 4 Use data based on observations from guided experiments to construct reasonable and accurate explanations.
- 5 Compare observations of individual and group results.

**Chicago Academic Standard C:** Understand and apply the concepts, principles, and processes of technological design.

### Curriculum Framework Statements:

- 1 Plan and construct simple physical structures to solve specific technological challenges (e.g., blocks to build bridges, towers from drinking straws).

**State Goal 12: Have a working knowledge of the fundamental concepts and principles of the life, physical, and earth/space sciences and their connections.**

**Chicago Academic Standard A:** Compare and describe life cycles, basic needs, characteristics, and component parts of organisms.

**Curriculum Framework Statements:**

- 1 Compare living things to non-living things; classify living things as plants or animals.
- 2 Describe stages in the life cycles of plants, insects, and vertebrates (e.g., bean plant, butterfly, frog).
- 3 Describe basic needs characteristics of living things (e.g., food, water, air, shelter, space).

**Chicago Academic Standard B:** Understand effects of organisms on the environment and some features that help them survive and reproduce after a change in their environment.

**Curriculum Framework Statements:**

- 1 Describe ways that offspring are much like their parents and one another.
- 2 Identify differences in appearance among individuals of the same population or group (e.g., hair color, eye color, height, hair texture).
- 3 Identify factors that affect animal and plant growth and reproduction (e.g., food, water, sunlight, fertile soil).
- 4 Compare plant and animal adaptations to the changing seasons (e.g., dropping leaves, migration, growing thicker coats).
- 5 Describe relationships among various organisms in their environment (e.g., predator/prey, parasite/host, food chains and webs).
- 6 Describe food webs in selected ecosystems (e.g., forest, desert, ocean).

**State Goal 16: Understand and analyze events, trends, individuals and movements shaping the history of Illinois, the United States and other nations.**

**Chicago Academic Standard C:** Explain and demonstrate the use of the tools of social science inquiry (e.g., documents, letters, textbooks, photos) used to investigate the past and locate events in time.

**Curriculum Framework Statements:**

- 1 Identify various reference sources (e.g., dictionary, encyclopedia, atlas) that can be used to access information.

**State Goal 17: Demonstrate a knowledge of world geography, as well as an understanding of the effects of geography on society, with an emphasis on the United States.**

**Chicago Academic Standard C:** Explain the relationship between the physical (e.g., climate, landform, resources) and human characteristics (e.g., settlements, population, language) of places and describe how they have changed over time.

**Curriculum Framework Statements:**

- 1 Identify the physical features in the local area and compare them to those in pictures of other places.

**Chicago Academic Standard E:** Explain the physical processes that shape the patterns of Earth's surface.

**Curriculum Framework Statements:**

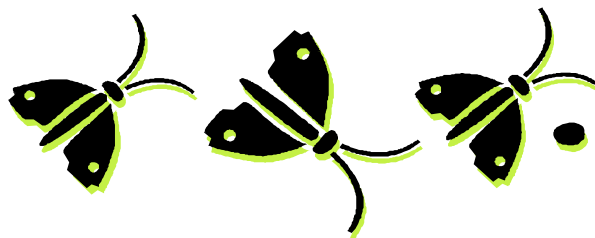
- 1 Identify the basic components of Earth's physical systems (air, water, plants, animals, soils, rocks).
- 2 Describe local environmental features and relate them to the physical system of which they are a part (rain as a part of the water cycle).

**State Goal 18: Understand, analyze, and compare social systems, with an emphasis on the United States.**

**Chicago Academic Standard B:** Define the roles of individuals and groups, such as family and community, who affect everyday life.

**Curriculum Framework Statements:**

- 1 Identify and explain some of the ways families function within the neighborhood and the local community.



# Insects

## Second Language Goals and Standards

(Adapted from CPS – ESL Goals and Standards PK-12)

**Goal I: To use the second language to achieve in all academic areas and settings.**

**Standard A:** Students will use the second language for personal and instructional interactions in the classroom.

**Performance Indicators:**

- 1d Acquire the vocabulary necessary for instruction.
- 1o Interact with target language-speaking peers.
- 1q Participate in simple dialogues.
- 1s Participate in cooperative groups verbally and/or non-verbally.
- 1t Follow simple oral directions.
- 2a Ask the teacher to restate, simplify and expand information and directions.
- 2f Interact in a small group.
- 2i Express ideas both orally and in writing.
- 2j Ask for and give directions both orally and in writing.

**Standard B:** Students will use the second language to obtain, process, construct, manipulate, provide and expand knowledge and information through spoken and written media.

**Performance Indicators:**

- 1d Record ideas through pictures.
- 1i Comprehend conversational sequence.
- 1k Classify objects according to number, shape, size, use, etc.
- 1m Attempt to convey gathered information in writing.
- 1n Illustrate a story.
- 1o Give general oral descriptions from pictures, charts, etc.
- 2e Create a booklet with illustrations for a content area project.
- 2f Participate as a speaker in small group activities to obtain information.
- 2g Construct a chart or other graphic organizer to show information.

**Standard C:** Students will use appropriate learning strategies to construct and apply academic knowledge.

**Performance Indicators:**

- 1h Use pictures for purposes of classification.
- 1j Use manipulatives and illustrations to elicit verbal understanding of various concepts.
- 2b Arrange events in chronological order.

- 2n Connect new information to prior knowledge and experience.
- 3b Rephrase, explain and expand oral or written information to check comprehension.
- 3c Collect and organize information.
- 3d Select materials from school resources to complete a project.
- 3k Scan entry in book to locate information for an assignment.

**Goal II: To use the second language for all social and personal purposes.**

**Standard A:** Students will use the second language to communicate and meet personal needs.

**Performance Indicators:**

- 1a Interact with others.
- 1b Share and request information.
- 1n Give and carry out common commands.
- 2c Participate as speaker/listener in group activities.
- 3a Practice new language while engaging in informal and formal conversation.

**Standard B:** Students will interact in and through spoken and written second language for personal expression and enjoyment.

**Performance Indicators:**

- 1a Recount events of interest/importance
- 1e Participate in games, activities, etc.
- 2a Engage in dialogue about events of interest/importance
- 3a Write about events of interest/importance.

**Standard C:** Students will use the second language to participate in social and business interactions

**Performance Indicators:**

- 2b Restate and clarify information.

**Standard D:** Students will use appropriate learning strategies to extend their communicative competence.

**Performance Indicators:**

- 2b Contribute information that is relevant for specific purposes.
- 2e Experiment with learned language chunks to construct meaning in oral and written forms.

THEME: **Change**  
TOPIC: **Insects**

CPS ACADEMIC GOALS/STANDARDS/Frameworks

11/B/5, 6      12/A/4      12/B/2

ACTIVITY 1

**KWL/ Insects Are Living Things**

Know	Want to know	Questions	Learned

Discussion on insects (name some insects) and what they are (definition):  
Insects are invertebrates. They do not have a spine or an internal skeleton.  
They have an outer skin (tough shell-like outer covering) called an  
exoskeleton. Their six legs are a distinguishing trait.

Shared reading activity: *The World of Ants* by Melvin Berger.  
Use a plastic model of an ant to show and describe the body parts and what  
their function is:

**Abdomen      Head      Thorax**

(Ant Diagram)

Have students match written words on index cards to an ant diagram.

CPS SECOND LANGUAGE GOALS AND STANDARDS

I/A/1d; 2j      I/B/1d, k, o; 2g      I/C/1h      II/A/1a  
II/B/2a

## MATERIALS

Plastic insect models  
Chart paper  
Markers  
Big book  
Index cards  
Ant diagram

## STRATEGIES

Whole group  
Small group  
Cooperative learning  
Word Banks

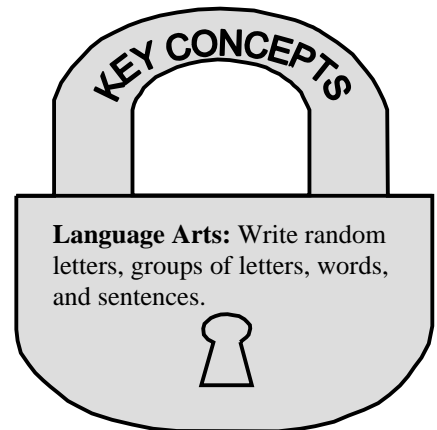
## RESOURCES

Shared Reading- Big book  
*The World of Ants* by Melvin Berger

## LITERACY CONNECTIONS

Students will draw and label the parts of an ant. Using inventive spelling and or dictation, the students will write one important fact they have learned about insects.

ant	<i>hormiga</i>	W O R D  B A N K
head	<i>cabeza</i>	
butterfly	<i>mariposa</i>	
abdomen	<i>abdomen</i>	
cricket	<i>grillo</i>	
thorax	<i>thorax</i>	
grasshopper	<i>saltamontes/chapulín</i>	
ladybug	<i>mariquita</i>	
moth	<i>polilla</i>	
spider	<i>araña</i>	
caterpillar	<i>oruga</i>	
bee	<i>abeja</i>	
fireflies	<i>luciernaga</i>	



THEME: **Change**  
TOPIC: **Insects**

CPS ACADEMIC GOALS/STANDARDS/Frameworks

11/B/5, 7      12/A/3      17/E/1, 2      18/B/1

ACTIVITY 2

**Habitats**

**Discussion:** Ask students “Where have you seen insects? Where do you think is a good home for an insect?”

Read *Amazing Insects* by Laurence Mound

Prepare a chart and list insects from the book in the categories below:

Dry Land	Cold Places	Hot Places	Water

Activity: Each student will make a bug catcher using the following materials:

clear plastic bottle  
cheesecloth  
rubber bands

CPS SECOND LANGUAGE GOALS AND STANDARDS

I/A/1d, t; 2i      I/B/1k, m; 2g      I/C/3d  
II/A/1b, n      II/B/1e

## MATERIALS

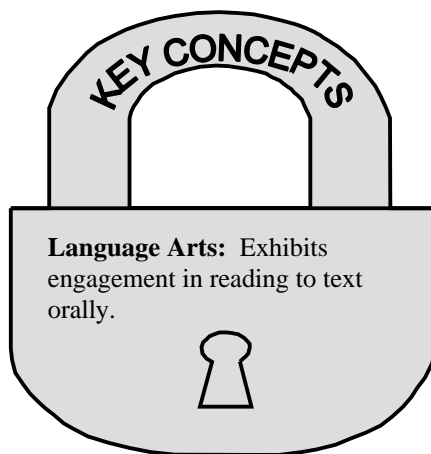
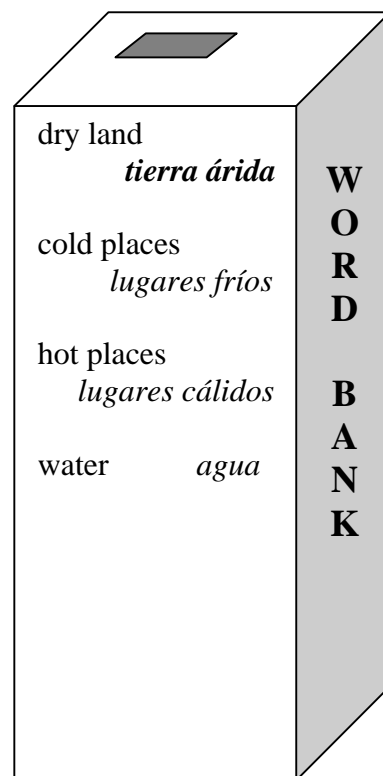
Clear plastic bottle  
Cheesecloth  
Rubber bands  
Chart paper  
Markers

## STRATEGIES

Whole group  
Cooperative learning  
Small group

## RESOURCES

*Amazing Insects* by Laurence Mound  
*Backyard Insects* by Millicent Selsam and Ronald Goor



## LITERACY CONNECTIONS

Follow one-step, two-step, and three-step oral directions.  
Demonstrate attentive listening in a variety of situations.

THEME: **Change**  
TOPIC: **Insects**

CPS ACADEMIC GOALS/STANDARDS/Frameworks

11/B/3

12/A/3

17/E/1

18/B/1

ACTIVITY 3

**Bug Models and Habitats**

Art Activities:

- Students can create a desired insect by molding clay into the appropriate body parts.
- Students can cut egg cartons in half the long way making two pieces of six cups in a row. They paint or color the egg cartons, add pipe cleaners for legs, and glue on eyes.
- Students can decorate ice cream wooden spoons with appropriate colors according to the insect they want to make. Glitter can be used to make lightning bugs.
- Students can flatten coffee filters and decorate them with markers. They then “scrunch” the filter in the middle and attach a clothespin to make butterflies.

Using the information from the habitat column in activity 2, have students create a mural by painting the various insect habitats on butcher paper.

Students will add their insects to the appropriate habitat on the mural.

CPS SECOND LANGUAGE GOALS AND STANDARDS

I/A/1o, t; 2f    I/B/1i, 2f    I/C/1j; 2n; 3d; 3k

II/A/1n

II/B/1e

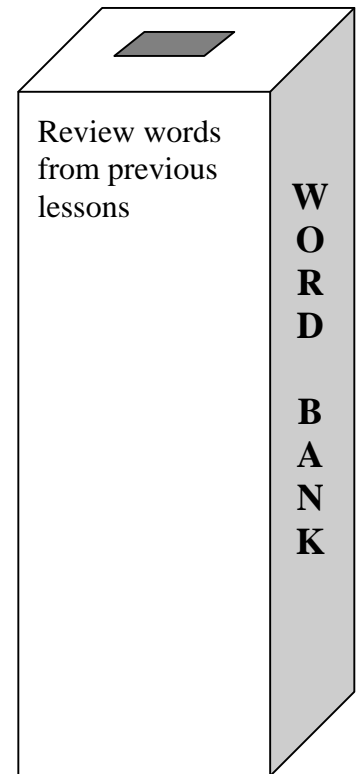
## MATERIALS

Clay, toothpicks, beads, wiggle eyes

Pipe cleaners, egg cartons, paint or markers

Ice cream wooden spoons, glitter

Coffee filters, clothespins, markers (water based)



## STRATEGIES

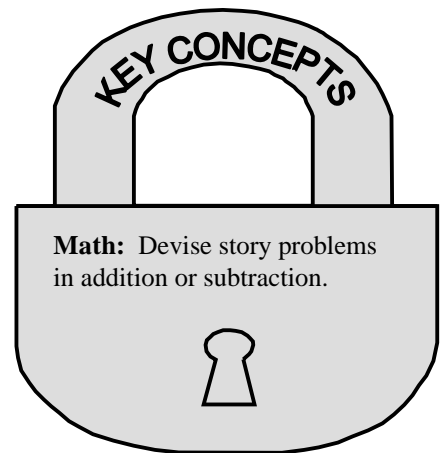
Whole Group

Cooperative Learning

Small Group

Word Building

Shared Reading



## RESOURCES

*I Can't Said the Ant* by Polly Cameron

*I Know an Old Lady Who Swallowed a Fly* by G.

Bryan Karas

*Let's Find Out About Insects* by David Knight

*Insects* by Jeanne Brouillette

## LITERACY CONNECTIONS

Students will use their insects to do an interactive story. (Using the model "*I Know an Old Lady Who Swallowed a Fly*")

**THEME: Change**  
**TOPIC: Insects**

**CPS ACADEMIC GOALS/STANDARDS/Frameworks**

12/A/1, 3      12/B/2-5      17/C/1      17/E/1, 2

**ACTIVITY 4**

**Insect and Bug Walk**

- Teacher will provide students with a plastic spoon to pick up the insects. Class will walk to a park, garden, or around school grounds to look for bugs.
- During the walk, encourage students to look under rocks, logs, leaves, and around the base of trees, especially where the ground is moist.
- Have the students (pick up the insect very gently) collect the bugs along with the soil, leaves, and plants they find around the insect or bug. Place in clear plastic container.
- Label and date each insect collected.

When students return to the classroom, they will group their bugs into two categories, wings and no wings (on two different tables).

Students will observe insects collected and write their observations in a journal. Students will examine insects under a microscope or magnifying glass to identify the three body parts.

**CPS SECOND LANGUAGE GOALS AND STANDARDS**

I/A/1d, t; 2a, f, j; 3d, f      I/B/1k,m; 2g      I/C/1j; 3c  
II/A/1a, n; 3a      II/B/1e; 2a      II/D/2b, e

## MATERIALS

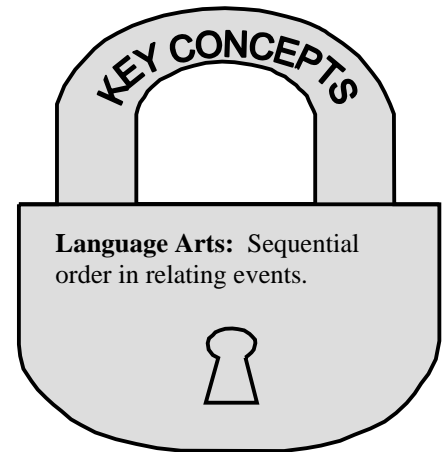
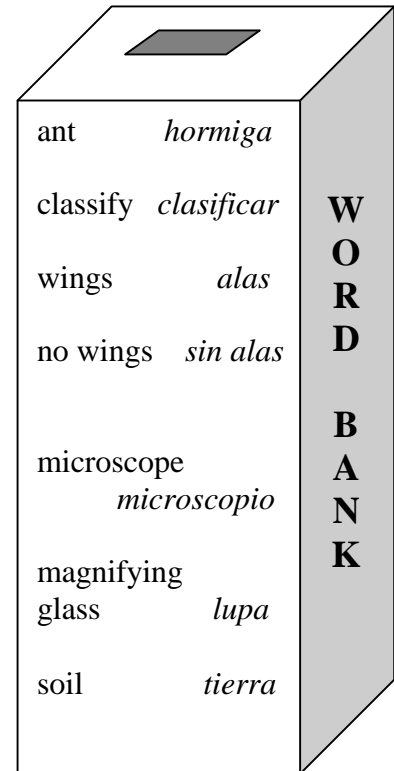
Bug catcher  
Plastic spoons  
Clear plastic containers  
Microscope  
Magnifying glass  
Labels (sentence strips)  
Soil samples  
Twigs  
leaves

## STRATEGIES

Whole group  
Mapping  
TPR  
Cooperative learning

## RESOURCES

*Let's Find Out About Insects*, by David Knight  
*Insects* by Jeanne Brouillette  
*Insect Pets: Catching and Caring for Them* by Carla Stevens



## LITERACY CONNECTIONS

Journals to record bug walk experience and observations. For example: location, insect environment, type of insect collected, etc.

**THEME: Change**  
**TOPIC: Insects**

**CPS ACADEMIC GOALS/STANDARDS/Frameworks**

11/A/3

11/B/3, 5, 7

12/A/3

12/B/2, 5, 6

16/C/1

17/C/1, 2

**ACTIVITY 5**

**Research Project**

Inform students that they will investigate various types of insects and that the information they gather will be used to create an insect book.

Provide students with a variety of insect books and resources.

As you and the children learn facts, record the information on butcher paper as follows:

Name of insect	How it looks	How it moves	What it eats	Habitat	Interesting facts
Ant	Black, 6 legs	Walks	Crumbs	Underground, ant colony	Carry things that weigh more than them

Have each student choose his/her favorite insect and use the information from the chart to create an insect book. Students can write a sentence for each column on separate pages and illustrate them.

Examples: An ant is an insect. It is black and has six legs. The ant moves by walking...

**CPS SECOND LANGUAGE GOALS AND STANDARDS**

I/A/1d, t; 2a, f, i, j

I/B/1d, m, n, o; 2e, f

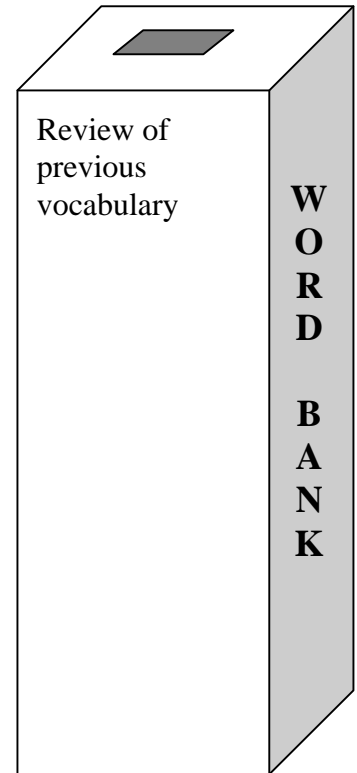
I/C/3c, k

II/A/1a, b, n; 2c; 3a

II/B/3a

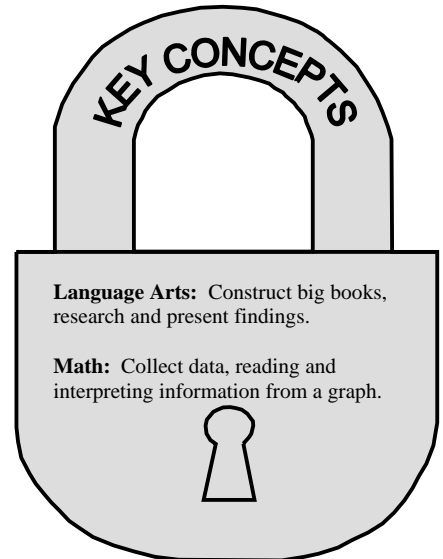
## MATERIALS

Butcher paper  
Resource books on insects  
White unlined paper (book pages)  
Construction paper (book covers)



## STRATEGIES

Whole group  
Small group  
Individual  
Cooperative learning



## RESOURCES

*Ants Are Fun* by Mildred Myrick  
*Catch a Cricket* by Carla Stevens  
*Lucky Ladybugs* by Gladys Conklin  
*The Bee* by Iliane Roels  
Books used in previous lessons

## LITERACY CONNECTIONS

As a group project, students will create a class big book.  
Writing Center activity – Each student will write and illustrate a big book page for the class big book.

**THEME: Change**  
**TOPIC: Insects**

**CPS ACADEMIC GOALS/STANDARDS/Frameworks**  
11/B/3, 5, 7    12/A/3 12/B/3, 5, 6

**ACTIVITY 6**

**Food**

**Discussion: In some parts of the world people eat insects.**  
Example: ants, crickets, and some types of worms (like the worms found in the agave plant).

Note: Teacher must remind students not to put bugs in their mouths.

**Discussion: What do you think insects eat?**

Name	Prediction	Actual Food
Cricket	Grass	Lettuce

Examples for chart: bees, monarch butterflies, caterpillars, flies, fireflies, grasshoppers, ladybugs, moths, wasps, beetle, etc.

**Discussion: Do insects do some of the things that people do?**

People do	Insects do
Jobs	Jobs
Build houses	Build houses

**CPS SECOND LANGUAGE GOALS AND STANDARDS**  
I/A/1d, o, f, I    I/B/1d, k; 2g    I/C/2n; 3c

## MATERIALS

Chart paper  
Markers  
Sentence strips

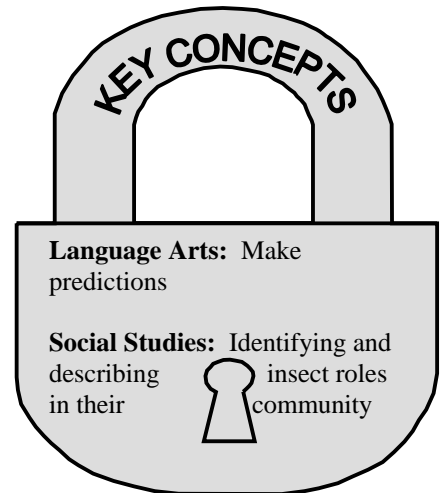
crumbs	<i>migajas</i>	W O R D  B A N K
honey	<i>miel</i>	
nectar	<i>néctar</i>	
lettuce	<i>lechuga</i>	
apples	<i>manzanas</i>	
grass	<i>pasto</i>	
pollen	<i>polen</i>	
aphids	<i>afidio</i>	

## STRATEGIES

Whole group  
Cooperative learning  
Small groups  
Word bank

## RESOURCES

*Who Eats What? Food Chains and Food Webs* by Patricia Lauber  
*Have You Seen Bugs?* By Joanne Oppenheim  
*I Wonder Why Spiders Spin Webs* by Amanda O'Neil  
Insects - VHS BBC Wild Vision



## LITERACY CONNECTIONS

Shared Reading – *I Wonder Why Spiders Spin Webs*  
Students will express ideas clearly and in complete sentences.  
Students will use sequential order in relating events.  
Students will associate meaning with print.

**THEME: Change**  
**TOPIC: Insects**

**CPS ACADEMIC GOALS/STANDARDS/Frameworks**

12/A/2, 3    12/B/3, 5    16/C/1

**ACTIVITY 7**

**Life Cycle of a Butterfly**

**Shared Reading:** *The Very Hungry Caterpillar* by Eric Carle

This book will be used to explain the process of transformation and the birth of a butterfly. It illustrates the transformation from an egg through the stages of a caterpillar and the cocoon, to the butterfly.

**Dramatic Play:**

Students can reenact the transformation of a caterpillar into a butterfly. Provide props the students can use to pretend they are butterflies. Include many colorful scarves to use as wings. Set up a screen or curtain or provide lightweight sheets or blankets the children can wrap up in and pretend to be cocoons.

**Extension Activity:**

Make butterfly fabric collages. Set out baskets of many fabrics with different colors. Provide paper glue and markers. Students can glue the fabric on the paper in any way they would like to create butterflies.

**CPS SECOND LANGUAGE GOALS AND STANDARDS**

I/A/1o, q; 2f    II/A/1a 2c, 3a    II/B/1e

## MATERIALS

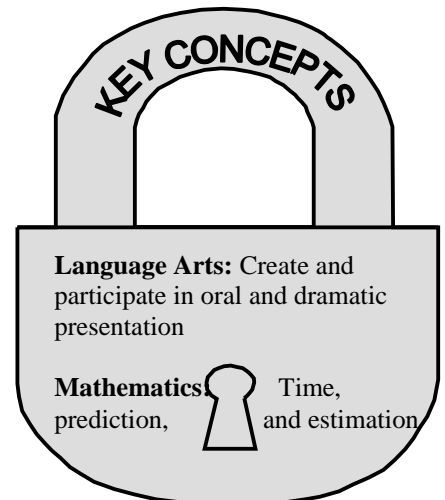
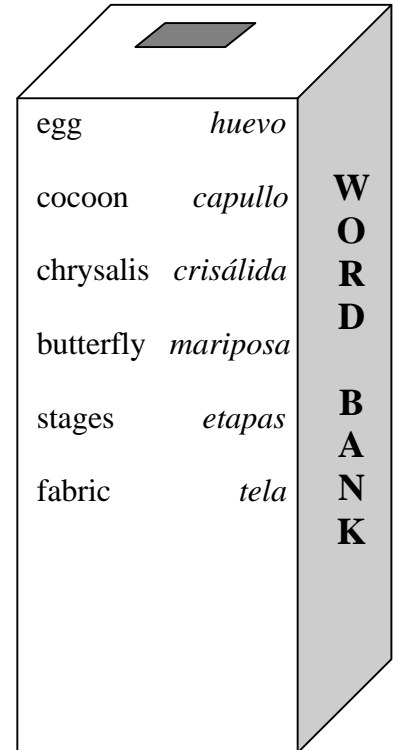
Different color fabrics  
Construction paper  
Markers  
Glue  
Sheets, blankets, scarves

## STRATEGIES

Whole group  
TPR  
Cooperative learning  
Shared reading

## RESOURCES

*The Very Hungry Caterpillar* by Eric Carle  
*How to Hide a Butterfly and Other Insects* by Ruth Heller  
*Listen and Move, We All Live Together* by Greg and Steve (Children's Record)

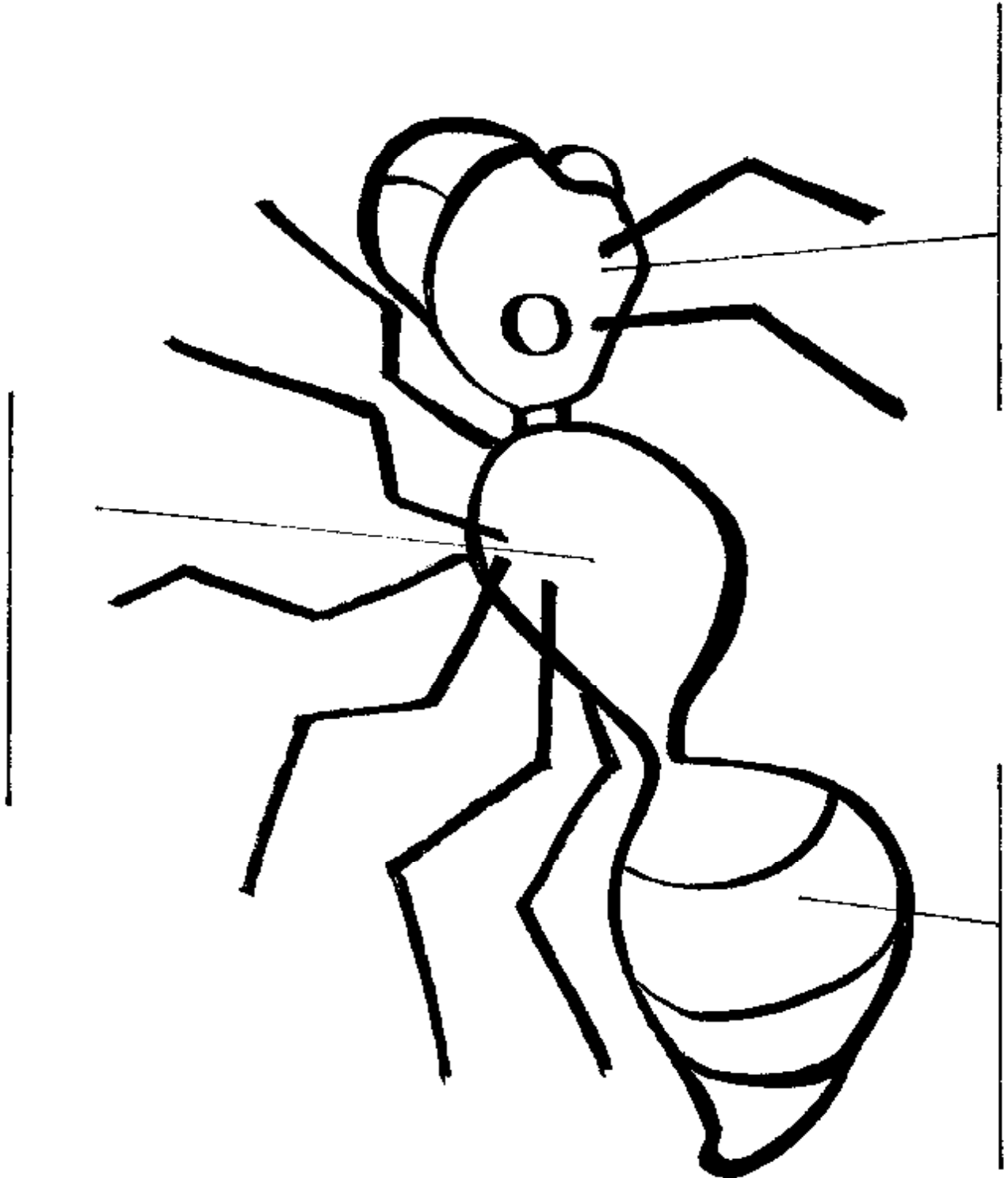


## LITERACY CONNECTIONS

Students will use their fabric butterfly collages to make a picture book.  
Using inventing spelling or dictation, students will describe their butterfly.

INSECTS

ASSESSMENT FOR ACTIVITY 1



# INSECTS

## ASSESSMENT FOR ACTIVITY 2

### **Assessment**

Students will catch a bug with their bug catchers and describe the habitat that they found the bug living in.

Students can create a diorama representing the habitat of the bug they caught.

### Supplies for diorama

shoe box  
paint  
construction paper  
twigs  
leaves  
small rocks  
glue  
scissors



## INSECTS

### ASSESSMENT FOR ACTIVITY 3

Students can participate in a mini Science Fair. In this fair, the students will judge each other's work.

They can use various types of materials to make a bug and create its habitat.

### ASSESSMENT FOR ACTIVITY 4

Use the Student journal entries for assessment purposes.

### ASSESSMENT FOR ACTIVITY 5

Teachers may use completed research projects as their guides for assessment.

## INSECTS

### ASSESSMENT FOR ACTIVITY 6

Oral assessment – open discussion.

### ASSESSMENT FOR ACTIVITY 7

#### **Worksheet activity**

Students can draw pictures of the life cycle of a butterfly:  
egg – caterpillar – chrysalis – butterfly.

# Insect Extension Activity A

## My Favorite Insect (Shared Writing)

### **You will need:**

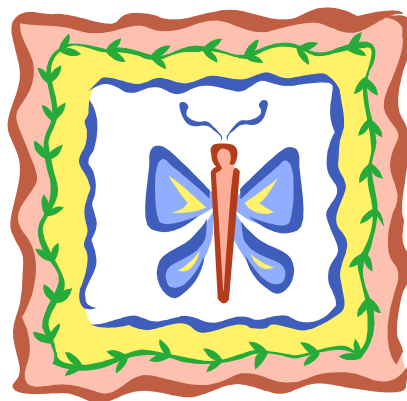
Pictures of various insects or bugs  
Writing pencils  
Markers  
Crayons

### **What to do:**

Students pick their favorite creature (depending on grade level) and tell or write why this is their favorite insect or bug.

Teacher should encourage students to name the characteristics that make this insect or bug unique to them.

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## CHILDREN'S BOOKS

### INSECTS

Aardema, Verna, *Porque Zumban Los Mosquitos En Los Oidos De La Gente*, (K-2)

Berger, Melvin, *The World of Ants*, (K-3)

Carle, Eric, *The Very Hungry Caterpillar* (Spanish) (K-3)

*The Very Quiet Cricket*

*The Very Grouchy Ladybug* (Spanish)

*The Very Lonely Firefly*

Cheyette Lewison, Wendy, *Buzz Said the Bee* (Ages 3-6)

Cooper Arkhurst, Joyce, *The Adventures of Spiders*, (Ages 7-9)

Gibbons, Gail, *Monarch Butterfly* (K-3)

Jenkins, Martin, *Wings, Stings, and Wiggly Things* (K-3)

Jasperson, William, *How the Forest Grew* (K-3)

Marzollo, Jean, *I'm a Caterpillar* (Spanish) (Ages 3-6)

McDermott, Gerald, *Anansi the Spider*, (Ages 5-8)

Moreton, Daniel, *La Cucaracha Martina* (K-3)

Parker, John, *I Love Spiders* (K-3)

Peet, Bill, *The Ant and the Elephant* (Ages 5-8)

Perez, Victor, *La Pulga y El Piojo* (K-3)

Retan, Walter, *Armies of Ants* (Ages 7-9)

Robinson, Fay, *Mighty Spiders* (Ages 5-7)

Tello, Jerry, *Amalia y el Saltamontes*, (K-2)

Trapani, Iza, *The Itsy Bitsy Spider*

White, E.B., *Charlotte's Web*

### **INFORMATION BOOKS:**

Cole, Joanna, *The Magic School Bus Inside a Beehive* (Spanish)

Facklam, Margery, *The Big Bug Book*

Lauber, Patricia, *Who Eats What? Food Chains and Food Webs*

Mound, Laurence, *Amazing Insects*

### **COMPUTER SOFTWARE:**

Eyewitness Encyclopedia of Nature

One Small Square: Backyard

SimAnt: The Electronic Ant Colony

How Many Bugs in a Box? CD-ROM

My Science Books- Life Science CD-ROM (K-2) Scholastic

Wiggle Works- Español Scholastic Books on CD-ROM (K-2)

### **VIDEO TAPES:**

Insect- VHS BBC Wild Vision

Butterflies- A Videotape from Polygram

Charlotte's Web- VHS Paramount

I'd Like to be an Entomologist: Learning About Insects, Spiders, and other Arthropods-  
Audiotape and book – Twin Sisters Productions.

La Horuga y El Renacuajo- VHS

Porque Los Mosquitos Zumban En Los Oidos De La Gente- VHS

