

DRAFT

For Review Purposes Only

These draft materials are intended to provide teachers with insight into the content and structure of the Listening & Learning strand of Core Knowledge Language Arts materials.

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The Core Knowledge Language Arts Program

Grade 2

Listening & Learning Strand



Tell It Again! Read-Aloud Anthology

Insects

Version 2.0

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Pilot Edition
Version 2.0

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TABLE OF CONTENTS

The Core Knowledge Language Arts Program

Insects Version 2.0

Introduction to Insects	iv
Lesson 1 About Insects	1
Lesson 2 Bugs Are Insects	15
Lesson 3 Are You a Grasshopper?	29
Lesson 4 Chirping Crickets	42
Lesson 5 Are You a Dragonfly?	56
Pausing Point 1	68
Lesson 6 From Caterpillar to Butterfly	74
Lesson 7 Clara Caterpillar	88
Lesson 8 The Honey Makers	103
Lesson 9 Ant Cities	116
Pausing Point 2	130
Domain Assessment	138
Appendix	141

Introduction to Insects



Important Note: If you are following the recommended sequence of domains, you may be studying this domain during a time when insects are not readily available for observation. You may wish to order live and/or preserved specimens offered through a science supplies Web site for use in classroom observations, and/or you may wish to revisit some of the concepts of this domain during the spring.

This introduction includes the necessary background information to be used in teaching the Insects domain. The *Tell It Again! Read-Aloud Anthology* for Insects contains nine daily lessons, each of which is composed of two distinct parts so that the lesson may be divided into smaller chunks of time and presented at different intervals during the day. The entire lesson will require a total of sixty minutes.

We have included two Pausing Points in this domain, one after Lesson 5 and another after Lesson 9. You may wish to pause and spend one to two days reviewing, reinforcing, or extending the material taught prior to the Pausing Point. You should spend no more than thirteen days total on this domain.

Along with this anthology, you will need:

- *Tell It Again! Image Cards* for Insects
- *Tell It Again! Workbook* for Insects
- *Tell It Again! Poster* for Insects
- *Tell It Again! Insect Hat* for Insects

The following trade books are used as read-alouds:

1. *About Insects*, by Cathryn Sill (Peachtree Publishers Ltd., 2000) ISBN 1561452327 (Lesson 1)
2. *Bugs Are Insects*, by Anne Rockwell (HarperCollins Publishers, 2001) ISBN 0064452034 (Lesson 2)

3. *Are You a Grasshopper?*, by Judy Allen (Kingfisher, 2002) ISBN 0753458063 (Lesson 3)
4. *Chirping Crickets*, by Melvin Berger (HarperCollins Publishers, 1998) ISBN 0064451801 (Lesson 4)
5. *Are You a Dragonfly?*, by Judy Allen and Tudor Humphries (Kingfisher, 2001) ISBN 0753458051 (Lesson 5)
6. *From Caterpillar to Butterfly*, by Deborah Heiligman (HarperCollins Publishers, 1996) ISBN 0064451291 (Lesson 6)
7. *Clara Caterpillar*, by Pamela Duncan Edwards (Harper Trophy, 2001) ISBN 064436915 (Lesson 7)
8. *The Honey Makers*, by Gail Gibbons (Mulberry Books, 1997) ISBN 0688175317 (Lesson 8)
9. *Ant Cities*, by Arthur Dorros (HarperCollins Publishers, 1987) ISBN 0064450791 (Lesson 9)

You will find the Instructional Objectives and Core Vocabulary for this domain below. The lessons that include Student Choice/ Domain-Related Trade Book Extensions, Image Cards, Parent Letters, Instructional Masters, and Assessments are also listed in the information below.

Why Insects Are Important

This domain will introduce your students to the largest group of animals on the earth. Students will learn the characteristics of insects, as well as why other “creepy crawlies” such as spiders, worms, and centipedes are not insects. Students will also learn about the life cycles of insects, how insects can be categorized as solitary or social, and how insects are viewed as both helpful and harmful. For example, students will learn how insects are important to the process of pollination, in the production of honey, and in the creation of silk. Students will gather the information they learn in a journal and will have the opportunity to further research their questions and points of interest. After hearing a fictional narrative about Clara Caterpillar, students will write their own fictional narratives about an insect of their choice. This domain will lay the foundation for review and further study of the life cycles, habitats, and classifications of insects and other animals.

What Students Have Already Learned in Core Knowledge Language Arts During Kindergarten and Grade 1

The following Kindergarten and Grade 1 domains are particularly relevant to the read-alouds your students will hear in *Insects*:

- *Plants* (Kindergarten)
- *Animals and Habitats* (Grade 1)
- *Fables and Stories* (Grade 1)

Listed below are the specific content objectives your students targeted in these domains. This background knowledge will greatly enhance your students' understanding of the read-alouds they are about to enjoy.

Students will:

- Describe how bees collect nectar and pollen
- Understand how bees make and use honey
- Describe the important role bees play in plant pollination
- Describe what a habitat is
- Understand that living things live in habitats to which they are particularly suited
- Classify animals on the basis of the types of food they eat (herbivore, carnivore, omnivore)
- Explain in their own words the moral of a particular fable
- Identify character, plot, and setting as basic story elements

Instructional Objectives for Insects

The following chart contains all of the Core Content Objectives and Language Arts Objectives for this domain, broken down by lesson.

This domain gives students exposure to the Fictional Narrative writing genre.

Insects Overview

Objectives	Lessons								
	1	2	3	4	5	6	7	8	9
Core Content									
Explain that insects are the largest group of animals on the earth	✓	✓							
Explain that there are many different types of insects	✓	✓							
Classify and identify particular insects as small, six-legged animals with three main body parts	✓	✓	✓	✓	✓	✓	✓	✓	✓
Identify and describe the three main body parts of insects: head, thorax, abdomen		✓	✓			✓	✓		✓
Identify the placement and/or purpose of an insect's particular body parts	✓	✓	✓	✓	✓	✓		✓	✓
Describe an insect's external skeleton, or exoskeleton	✓	✓	✓	✓	✓	✓	✓		
Recognize that some newborn insects resemble the adults of their species	✓		✓	✓					
Cite ways in which insects may be helpful and/or harmful	✓	✓	✓	✓	✓			✓	✓
Distinguish between social and solitary insects		✓	✓	✓	✓	✓		✓	✓
Explain why spiders are not insects		✓	✓						
Demonstrate familiarity with the poem "Hurt No Living Thing"		✓							
Demonstrate familiarity with the poem "Caterpillars"						✓			
Describe the molting process of insects			✓	✓	✓	✓	✓		
Compare and contrast grasshoppers and crickets			✓	✓					
Describe the two types of metamorphosis: complete and incomplete						✓	✓	✓	✓
Describe the characters, setting, and plot of a story							✓		
Describe the roles of honeybee workers, drones, and queens								✓	
Understand that all members of a social insect colony come from one queen								✓	✓
Describe how honeybees communicate with one another through "dances"								✓	
Describe the social behavior of an ant colony									✓
Describe the roles of worker ants, males, and queens									✓

Objectives	Lessons								
	1	2	3	4	5	6	7	8	9
Language Arts									
Use agreed-upon rules for group discussions . . . (L.2.1)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ask questions to clarify directions, exercises . . . (L.2.2)	✓								
Carry on and participate in a conversation . . . (L.2.3)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Identify and express physical sensations, mental states . . . (L.2.4)						✓	✓		
Follow multi-step, oral directions (L.2.5)	✓		✓	✓	✓	✓	✓	✓	✓
Provide simple explanations (L.2.7)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Give oral presentations about personal experiences, topics of interest, and/or stories using appropriate volume and clear enunciation (L.2.8)		✓							✓
Learn common sayings and phrases such as “Eaten out of house and home” and “Get up on the wrong side of the bed” (L.2.9)	✓						✓		
Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned . . . (L.2.10)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Listen to and understand a variety of texts . . . (L.2.11)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Make predictions (orally or in writing) prior to and during a read-aloud . . . (L.2.12)		✓	✓		✓	✓	✓	✓	
Describe illustrations (orally or in writing) (L.2.13)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use pictures accompanying the read-aloud to check and support understanding . . . (L.2.14)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Learn and use (orally or in writing) new words from read-alouds . . . (L.2.15)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Learn synonyms and antonyms (L.2.17)		✓				✓			✓
Answer questions (orally or in writing) requiring literal recall . . . (L.2.18)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use narrative language to describe (orally or in writing) characters, a setting, facts, or plot in a read-aloud (L.2.21)							✓		
Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions . . . (L.2.22)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Compare and contrast (orally or in writing) similarities and differences . . . (L.2.23)	✓	✓	✓	✓	✓	✓		✓	✓
Make personal connections (orally or in writing) . . . (L.2.24)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Draw pictures, dictate, or write simple sentences . . . (L.2.29)	✓	✓	✓	✓	✓	✓			✓

Objectives	Lessons								
	1	2	3	4	5	6	7	8	9
Language Arts									
Distinguish fantasy from realistic text (L.2.30)							✓		
Distinguish the following forms of literature: fiction, nonfiction . . . (L.2.31)	✓						✓		
Share writing with others (L.2.34)	✓	✓	✓	✓	✓	✓		✓	✓
Demonstrate understanding (orally or in writing) of . . . author, illustrator, characters, setting, plot, dialogue, and personification . . . (L.2.37)							✓	✓	✓
Create, tell, and/or draw and write an original story with characters . . . (L.2.39)							✓	✓	✓
Generate questions and seek information . . . (L.2.40)	✓		✓	✓	✓	✓			✓
Retell (orally or in writing) important facts and information . . . (L.2.41)	✓		✓	✓	✓	✓			✓
Sequence four to six pictures illustrating events from a nonfiction read-aloud (L.2.42)					✓				
With assistance, categorize and organize facts and information within a given domain (L.2.43)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Core Vocabulary for Insects

The following list contains all of the boldfaced words in *Insects* in the forms in which they appear in the read-alouds. The inclusion of the words on this list *does not* mean that students are expected to immediately be able to use all of these words on their own. However, through repeated exposure throughout the lessons, they should acquire a good understanding of most of these words and begin to use some of them in conversation.

Lesson 1

active
antennae
insects
nourishment
pests

Lesson 2

abdomen
communities
external
pierce
thorax

Lesson 3

catapulted
chirping
pod
struggle
suction pads

Lesson 4

alert
molting
piping
trilling
vibrate

Lesson 5

crumpled
darts
dodging
hover
pounce

Lesson 6

chrysalis
coiled
larva
metamorphosis
pupa

Lesson 7

capable
captivating
clambered
colossal
succulent

Lesson 8

beekeepers
cocoon
colonies
honeycomb
pollination
queen

Lesson 9

disturb
grooming
harvester
hollowed-out
husks

Student Choice and Domain-Related Trade Book Extensions

In the *Tell It Again! Read-Aloud Anthology* for Insects, Student Choice and Domain-Related Trade Book activities are suggested in both Pausing Points. A list of recommended titles is included at the end of this introduction, or you may select another title of your choice.

Insects Image Cards

There are twenty-six Image Cards for the Insects domain. These Image Cards include photographs that may be used to help students review the characteristics and types of insects, as well as how insects are both helpful and harmful. They may also be used to review the processes of molting and metamorphosis. In the *Tell It Again! Read-Aloud Anthology* for Insects, Image Cards are referenced in both Pausing Points as well as in Lessons 1–9.

Insects Hat and Insect Poster

Included is an Insect Hat that teachers are invited to wear to help get the students' attention. The Hat has detachable images of each insect studied. Teachers may also wish to allow a student volunteer to wear the Hat and be an "insect for a day." Poster 1 depicts the metamorphosis of a dragonfly from a molting nymph to an adult. In the *Tell It Again! Read-Aloud Anthology* for Insects, The Insect Hat is referenced in Lesson 3–9, and Poster 1 is referenced in Lessons 5 and 6.

Instructional Masters and Parent Take-Home Letters

Blackline Instructional Masters and Parent Take-Home Letters are included in the *Tell It Again! Workbook*.

In the *Tell It Again! Read-Aloud Anthology* for Insects, Instructional Masters are referenced in both Pausing Points, in the Domain Assessment, and in Lessons 4, 7, and 8. The Parent Letters are referenced in Lessons 1B and 6B.

Assessments

In the *Tell It Again! Read-Aloud Anthology* for Insects, Instructional Masters DA-1, DA-2, and DA-3 are used for this purpose. Use the following *Tens Conversion Chart* to convert a raw score on each assessment into a Tens score.

Recommended Trade Books for Insects

If you recommend that your students read each night for homework, you may suggest that they choose titles from this trade book list.

Used as a Domain Read-Aloud

1. *About Insects*, by Cathryn Sill (Peachtree Publishers Ltd., 2000) ISBN 561452327
2. *Ant Cities*, by Arthur Dorros (HarperCollins Publishers, 1987) ISBN 0064450791
3. *Are You a Dragonfly?*, by Judy Allen and Tudor Humphries (Kingfisher, 2001) ISBN 0753458051
4. *Are You a Grasshopper?*, by Judy Allen (Kingfisher, 2002) ISBN 0753458063
5. *Bugs are Insects*, by Anne Rockwell (HarperCollins Publishers, 2001) ISBN 0064452034
6. *Chirping Crickets*, by Melvin Berger (HarperCollins Publishers, 1998) ISBN 0064451801
7. *Clara Caterpillar*, by Pamela Duncan Edwards (Harper Trophy, 2001) ISBN 064436915
8. *From Caterpillar to Butterfly*, by Deborah Heiligman (HarperCollins Publishers, 1996) ISBN 0064451291
9. *The Honey Makers*, by Gail Gibbons (Mulberry Books, 1997) ISBN 0688175317

Trade Book List*

10. *Are You a Bee?*, by Judy Allen (Kingfisher, 2000) ISBN 0753458044
11. *Are You a Butterfly?*, by Judy Allen (Kingfisher, 2000) ISBN 0753456088
12. *Are You a Ladybug?*, by Judy Allen (Kingfisher, 2000) ISBN 0753456033
13. *Are You an Ant?*, by Judy Allen (Kingfisher, 2002) ISBN 0753458037

14. *Beetles*, by Cheryl Coughlan (Capstone Press, 1999) ISBN 0736802355
15. *Beetles (A True Book)*, by Ann O. Squire (Children's Press, 2003) ISBN 0516293583
16. *Children's Guide to Insects and Spiders*, by Jinny Johnson (Simon & Schuster, 1996) ISBN 0689811632
17. *Crickets*, by Cheryl Coughlan (Capstone Press, 1999) ISBN 0736882081
18. *Crickets and Grasshoppers (A True Book)*, by Ann O. Squire (Children's Press, 2003) ISBN 0516293575
19. *The Dragonfly Door*, by John Adams (Feather Rock Books, Inc., 2007) ISBN 1934066126
20. *Eliza and the Dragonfly*, by Susie Caldwell Rinehart (Dawn Publications, 2004) ISBN 1584690593
21. *Grasshopper on the Road*, by Arnold Lobel (HarperCollins Publishers, 1978) ISBN 0064440943
22. *Grasshoppers*, by Margaret Hall (Capstone Press, 2005) ISBN 0736850964
23. *Hey Little Ant*, by Phillip and Hannah Hoose (Tricycle Press, 1998) ISBN 1883672546
24. *Honey in a Hive*, by Anne Rockwell (HarperCollins Publishers, 2005) ISBN 0064452045
25. *Honeybees*, by Joyce Milton (Grosset & Dunlap, 2003) ISBN 0448428466
26. *How to Hide a Butterfly*, by Ruth Heller (Grosset & Dunlap, 1992) ISBN 044840477X
27. *Hurry and the Monarch*, by Antoine Ó Flatharta (Dragonfly Books, 2005) ISBN 0385737197
28. *The Insect Book*, by Connie Zakowski (Rainbow Books, Inc., 1997) ISBN 1568250371
29. *Inside an Ant Colony*, by Allan Fowler (Children's Press, 1998) ISBN 051626365X

30. *Ladybugs*, by Mia Posada (Carolrhoda Books, 2002) ISBN 0822569892
31. *The Life and Times of the Ant*, by Charles Micucci (Houghton Mifflin, 2003) ISBN 0618689491
32. *The Life and Times of the Honeybee*, by Charles Micucci (Houghton Mifflin, 1995) ISBN 039586139X
33. *The Life Cycle of a Butterfly*, by Bobbie Kalman (Crabtree Publishing Company, 2002) ISBN 0778776895
34. *The Life Cycle of a Dragonfly*, by JoAnn Early Macken (Weekly Reader Early Learning Library, 2006) ISBN 083686381X
35. *The Life Cycle of a Honeybee*, by Bobbie Kalman (Crabtree Publishing Company, 2004) ISBN 0778706946
36. *The Life Cycle of an Ant*, by Bobbie Kalman and Hadley Dyer (Crabtree Publishing Company, 2006) ISBN 0778707004
37. *The Magic School Bus: Inside a Beehive*, by Joanna Cole (Scholastic, 1996) ISBN 0590257218
38. *Monarch Butterfly*, by David M. Schwartz (Creative Teaching Press, Inc., 1999) ISBN 1574715798
39. *Monarch Butterfly*, by Gail Gibbons (Holiday House, 1989) ISBN 0823409090
40. *A Monarch Butterfly's Life*, by John Himmelman (Children's Press, 1999) ISBN 0516265377
41. *Old Cricket*, by Lisa Wheeler (Aladdin Paperbacks, 2003) ISBN 1416918558
42. *On Beyond Bugs!*, by Tish Rabe (Random House, 1999) ISBN 0679873037
43. *Sarah's Story*, by Bill Harley (Tricycle Press, 1996) ISBN 1582461783
44. *The Very Quiet Cricket*, by Eric Carle (Penguin Group, 1990) ISBN 0399218858
45. *Where Butterflies Grow*, by Joanne Ryder (Puffin Books, 1989) ISBN 0140558586

* Some of these titles may be put into the classroom book tub for various reading levels.

1

About Insects



Lesson Objectives

Core Content Objectives

Students will:

- Explain that insects are the largest group of animals on the earth
- Explain that there are many different types of insects
- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify the placement and/or purpose of insects' legs, wings, and antennae
- Describe an insect's external skeleton
- Recognize that some newborn insects resemble the adults of their species
- Cite ways in which insects may be helpful and/or harmful

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Ask questions to clarify directions, exercises, and/or classroom routines (L.2.2)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age (L.2.3)
- Follow multi-step, oral directions (L.2.5)

- Provide simple explanations (L.2.7)
- Learn common sayings and phrases such as “Eaten out of house and home” (L.2.9)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)
- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Compare and contrast (orally or in writing) similarities and differences within a single read-aloud or between two or more read-alouds (L.2.23)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)
- Draw pictures, dictate, or write simple sentences to represent details or information from a read-aloud (L.2.29)
- Distinguish the following forms of literature: fiction, nonfiction, poetry, and plays (L.2.31)
- Share writing with others (L.2.34)

- Generate questions and seek information from multiple sources to answer questions (L.2.40)
- Retell (orally or in writing) important facts and information from a read-aloud (L.2.41)
- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

About Insects, by Cathryn Sill, is used as the read-aloud in this lesson. There are no page numbers in this particular trade book, so we are counting the first page of the trade book where the text begins as page 1. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

active, *adj.* (p. 27) Engaged in action or physical effort; busy

Example: During the night, Olivia’s cat Charlotte is active as she hunts for insects.

Variation(s): none

antennae, *n.* (p. 11) The long, thin parts on an insect’s head used for feeling and smelling

Example: Jack saw the cricket’s long antennae moving on top of its head.

Variation(s): antenna, antennas

insects, *n.* (p. 1) Small animals with six legs and three main body parts

Example: Mackenzie likes all kinds of insects, especially butterflies.

Variation(s): insect

nourishment, *n.* (p. 13) Something that helps a living thing to stay alive, such as food

Example: The spaghetti and meatballs my mother cooked provided me with nourishment.

Variation(s): none

pests, *n.* (p. 31) Insects or other small animals that harm or destroy things

Example: Termites are pests because they may eat the wooden beams of houses.

Variation(s): pest

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	Domain Introduction	insect samples chart paper, chalkboard, or whiteboard	10
	Personal Connections		
	Sharing the Title and Trade Book Cover		
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	About Insects	<i>About Insects</i> , by Cathryn Sill	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions	Image Cards 1–7 Helpful/Harmful T-Chart	10
	Word Work: Insects		5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Sayings and Phrases: Eaten Out of House and Home	Image Cards 1, 5, and 8	20
	Insects Journal	trade books premade booklet for each student with a minimum of ten pages	
<i>Take-Home Material</i>	Parent Letter	Instructional Masters 1B-1 and 1B-2	

1A

About Insects



Introducing the Read-Aloud

10 minutes

Domain Introduction

Note: If you are following the recommended sequence of domains, you may be studying this domain during a time when insects are not readily available for observation. You may wish to order live and/or preserved specimens offered through a science supplies Web site for use in classroom observations, and/or you may wish to revisit some of the concepts of this domain during the spring.

Ask students:

- What is the smallest animal you have ever seen?
- Do you know of any small animals that have six legs?

Show students the insect samples you have brought into the classroom. Tell students that for the next several days, they will be learning about small, six-legged animals called insects. Tell students that insects are the largest group of animals on the earth and that there are many different types of insects. Tell them that they will learn about the many different types of insects, what characterizes an animal as an insect, the life cycle of insects, and how insects may be helpful and/or harmful.

Create a T-Chart on chart paper, a chalkboard, or a whiteboard. Label one side “Helpful” and the other side “Harmful.” Tell students that as they learn about the different ways insects may be helpful and/or harmful, you will place image cards onto each side of the chart.

Note: You may wish to have some students use Instructional Master PP1-1 to complete this activity on their own throughout the domain. All students may have a chance to review using this Instructional Master during the Pausing Point.

Personal Connections

Ask students to share personal experiences they have had with insects. You may also wish to share an experience you have had. Allow students to talk about their favorite (or least favorite) insects and explain their opinions.

Sharing the Title and Trade Book Cover

Share the title and author/illustrator information of the trade book. Ask students to share what they see on the cover. Tell students that this is a nonfiction book. Ask students what it means if a book is nonfiction.

Purpose for Listening

Tell students to listen to find out more about these six-legged creatures called insects and how they may be helpful and/or harmful.

About Insects

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged.

There are no page numbers in this particular trade book, so we are counting the first page of the trade book where the text begins as page 1. The prompts below are listed by page number. The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. Make sure to discuss what students see in each picture as you read each page.

If time allows during a second reading, you may wish to read the plates on each page and the corresponding text in the afterword.

Page 1

- . . . **have six legs** . . . (Point to the insect on the left whose six legs are visible.) **Insects** are small, six-legged animals. Can you see the six legs on this beetle? How many legs are on each side? $3 + 3 = \underline{\quad}$.

Page 3

- . . . **three body parts**. (Point to the insect on the right.) Let's count the main body parts, or body sections, of this insect.

Page 5

- . . . **of their bodies**. Is your skeleton on the outside of your body? An insect's skeleton is made of a hard substance called chitin (KYE-tun) that protects it. Say the word *chitin*.

Page 7

- . . . **hatch from eggs**. Do you know of any animals besides insects that hatch from eggs? Almost all insects begin their life cycle by hatching from eggs. Some insects, such as these praying mantises, hatch from eggs as miniature, or small, versions of what they will look like as adults.

Page 9

- . . . **before becoming adults.** (Point to the three stages in order: the caterpillar, the chrysalis, and the adult butterfly.) Who remembers how a butterfly begins its life cycle? When it hatches from its egg, does this insect look like a miniature version of what it will look like as an adult?

Page 11

- . . . **smell and feel.** (Point to the antennae in the picture.) So what do the **antennae** help insects like these moths do? Some insects also use their antennae for tasting and hearing. You can tell the difference between a butterfly and a moth by looking at its antennae. (Turn back to page 10 and compare the antennae of the butterfly to the antennae of the moth on page 12.) A butterfly's antennae are thin and have little knobs on the ends, while a moth's antennae are thicker and have feathery hairs.

Page 13

- . . . **to get nourishment.** The word **nourishment** means something that helps a living thing to stay alive, such as food. Do you recognize the insect that is getting nourishment from this horse? How do *you* get nourishment?

Page 15

- . . . **chew their food.** What is the grasshopper biting and chewing for nourishment?

Page 17

- . . . **insects fly.** What do some insects have that allow them to fly?

Page 19

- . . . **have no wings.** Can you find the insect in this picture? Some insects, like this giant walkingstick, use camouflage to hide from their predators. Who can tell me what predators are? What about camouflage?

Page 21

- **Others jump . . .** Can you count the legs this katydid uses for jumping? This insect, like two others you are going to learn about, has specially designed legs that allow it to jump very high.

Page 23

- **. . . or swim.** Different insects move in different ways. Some fly, some crawl, some jump, and some swim.

Page 25

- **. . . live almost everywhere.** Where do these silverfish live? Who remembers the name for the place where an animal lives? (Prompt students to recall the term *habitat*. Students who participated in the Core Knowledge Language Arts program in Grade 1 should be familiar with this term from the *Animals and Habitats* domain.) Remember, there are more insects on the earth than all other types of animals, so these insects live in all different kinds of habitats.

Page 27

- **. . . during the day.** How are these honeybees being **active**, or busy?

Page 29

- **. . . only at night.** Who remembers what an animal is called that is active at night? This nocturnal insect is called a luna moth. The word *luna* comes from the Latin word for *moon*. Why do you think this insect is called a luna moth? Who can point to the moth's feathery antennae?

Page 31

- **. . . may be pests.** The word **pests** refers to insects or other small animals that harm or destroy things. In what way do you think these cockroaches are pests? The moths you heard about earlier may also be pests as caterpillars, because some of them receive their nourishment by eating holes through plants and through clothing made of wool and fur.

Page 33

- **... are very helpful.** What type of insects do you see in this picture? Ladybugs are helpful because they eat aphids, a type of insect that often destroys plants. What color are the aphids in the picture?

Page 35

- **... of our world.** How do you think this mayfly is important to the fish? In some countries, insects are helpful as a food source for people as well.

Discussing the Read-Aloud

15 minutes

Comprehension Questions

(10 minutes)

If students have difficulty responding to questions, reread pertinent passages of the read-aloud and/or refer to specific images. If students give one-word answers and/or fail to use read-aloud or domain vocabulary in their responses, acknowledge correct responses by expanding the students' responses using richer and more complex language. It is highly recommended that you ask students to answer in complete sentences by asking them to restate the question in their responses.

1. What is the largest group of animals on the earth? (insects) Do all insects look alike and live in the same types of habitats? (no)
2. What are some different types of insects you saw and heard about in today's read-aloud? (beetle, praying mantis, caterpillar/butterfly, moth, fly, grasshopper, dragonfly, walkingstick, katydid, silverfish, bee, cockroach, ladybug, mayfly)
3. How do you know if a small animal is an insect or not? (It must have six legs and three main body parts, or sections, to be an insect.)
4. Where is the skeleton of an insect? (on the outside) What hard substance is it made of? (chitin)

5. How do most insects begin their life cycle? (inside an egg) Do all insects look like miniature versions of what they will look like as adults, like the praying mantises in the read-aloud? (No, many insects like the butterfly look very different in their first stages of life.)
6. How do antennae help insects? (to smell and feel; to taste and hear for some) How do wings help some insects? (to fly, to escape from predators, to look for food) Do all insects fly? (no)
7. What are some ways that insects get nourishment? (suck animals and plants; bite and chew plants)
8. What are some ways that insects are active as they move about? (fly, crawl, jump, swim) Are all insects active at the same time of day? (No, some are active during the day, and some are nocturnal insects that are active during the night.)
9. What are some ways insects may be helpful? (Answers may vary but may include eating aphids and other pests, pollinating, and providing food for other animals and for people in some countries.) [Place Image Cards 1 (ladybug eating aphids), 2 (bee pollinating), and 3 (bearded dragon eating cockroach) on the T-Chart under “Helpful.”] What are some ways insects may be pests and be harmful? (Answers may vary but may include eating crops, getting into our food supplies, biting or stinging us, and eating our clothing.) [Place Image Cards 4 (aphids eating crops), 5 (cockroaches in kitchen), 6 (biting midge), and 7 (moth caterpillar eating wool clothing) on the T-Chart under “Harmful.”]

I am going to ask a couple of questions. I will give you a minute to think about the questions, and then I will ask you to turn to your neighbor and discuss the questions. Finally, I will call on several of you to share what you discussed with your partner.

10. *Think Pair Share:* Would you like to be an insect? Why or why not? What type of insect would you like to be, and why? (Answers may vary.)

Word Work: Insects

(5 minutes)

1. In the read-aloud, you heard that “*insects* have six legs.”
2. Say the word *insects* with me.
3. Insects are small animals that have six legs and three main body parts.
4. Anthony likes to explore his backyard to see how many different kinds of insects he can find.
5. What are some interesting insects that you have seen? How do you know they are insects? Try to use the word *insects* when you tell about them. (Ask two or three students. If necessary, guide and/or rephrase the students’ responses: “Some insects I have seen are . . .”)
6. What’s the word we’ve been talking about? What part of speech is the word *insects*?

Use a *Making Choices* activity for follow-up. Directions: I am going to describe some animals. If what I describe is an insect, say, “That’s an insect.” If what I describe is not an insect, say, “That’s not an insect.”

1. I am a large animal with two legs. (That’s not an insect.)
2. I am a small animal with six legs and three main body parts. (That’s an insect.)
3. I am a grasshopper that hatches from an egg pod as a miniature version of my adult body. (That’s an insect.)
4. I am a small animal with eight legs. (That’s not an insect.)
5. I am a caterpillar that makes several changes in order to become a butterfly. (That’s an insect.)



Complete Remainder of Lesson Later in the Day

1B

About Insects



Extensions

20 minutes

Sayings and Phrases: Eaten Out of House and Home (5 minutes)

Proverbs are short, traditional sayings that have been passed along orally from generation to generation. These sayings usually express general truths based on experiences and observations of everyday life. While some proverbs do have literal meanings—that is, they mean exactly what they say—many proverbs have a richer meaning beyond the literal level. It is important to help your students understand the difference between the literal meanings of the words and their implied or figurative meanings.

Ask the students if they have ever heard anyone say they were “eaten out of house and home.” Have the students repeat the proverb. Explain that this proverb is another way of saying that someone (or something) has eaten all of the food in your house. Tell students that instead of saying, “When my friends came over, they ate all of the food in the house,” you could say, “When my friends came over, we were eaten out of house and home.”

Point to Image Card 5 (cockroaches in kitchen) on the T-Chart and remind students that some insects are harmful because they may come into our houses and eat our food. Tell students that these insects may also carry and spread harmful germs. Place Image Card 8 (termite damage) on the T-Chart under “Harmful” and explain that this type of insect can literally cause people to be “eaten out of house and home” by eating away at the wooden parts of houses. Termites are harmful by also eating the trunks of trees.

Remind students that we call these insects *pests*. Point to Image Card 1 on the T-Chart and remind students that not all insects are pests. Ladybugs, for example, are helpful because they eat harmful aphids. Explain that if certain types of insects did not eat other types of insects, there would be so many insects that we

would be “eaten out of house and home” by them. Tell students that they will learn about many other types of insects which eat other insects.

Look for opportunities to use the saying “eaten out of house and home” in your classroom.

Insects Journal

Tell students that they are going to create an Insects Journal to record the information they will learn about insects. Tell students that they should also write down any questions they may have about insects, and that they will have the opportunity later to look through several trade books about insects to look for answers to their questions. You may wish to extend this research beyond the classroom book tub to include online and other resources.

Give each student a premade booklet and tell them to write their name on the cover as author and illustrator. Students may illustrate their covers now or later as time allows. They may also create a title now or create one later after hearing more read-alouds.

Have students look through the classroom book tub for trade books about insects. Tell them to choose a picture of an insect they would like to draw in their journals. Remind them that the insect should have six legs and three main body parts. Ask students to label the legs one through six, and the body parts one through three.

Tell students that because you have just given them several instructions, they may wish to turn to another student and ask a question about the instructions such as, “What should we do first?”

Have students write a sentence about their drawings. Tell them to also write down any questions they may have about insects. As students share their drawings, sentences, and questions with the class, expand upon their vocabulary using richer and more complex language, including, if possible, any read-aloud vocabulary. Tell students to keep in mind any unanswered questions to see if they are answered in the following days.

Parent Letter

Send home Instructional Masters 1B-1 and 1B-2.

2

Bugs Are Insects



Lesson Objectives

Core Content Objectives

Students will:

- Explain that insects are the largest group of animals on the earth
- Explain that there are many different types of insects
- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify and describe the three main body parts of insects: head, thorax, abdomen
- Identify the placement and/or purpose of an insect's wings, antennae, and legs
- Describe an insect's exoskeleton
- Cite ways in which insects may be helpful and/or harmful
- Distinguish between social and solitary insects
- Explain why spiders are not insects
- Demonstrate familiarity with the poem "Hurt No Living Thing"

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age (L.2.3)

- Provide simple explanations (L.2.7)
- Give oral presentations about personal experiences, topics of interest, and/or stories using appropriate volume and clear enunciation (L.2.8)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)
- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Make predictions (orally or in writing) prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far, and then compare the actual outcomes to predictions (L.2.12)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Learn synonyms and antonyms (L.2.17)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Compare and contrast (orally or in writing) similarities and differences within a single read-aloud or between two or more read-alouds (L.2.23)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)

- Draw pictures, dictate, or write simple sentences to represent details or information from a read-aloud (L.2.29)
- Share writing with others (L.2.34)
- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

Bugs Are Insects, by Anne Rockwell, is used as the read-aloud in this lesson. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

abdomen, n. (p. 14) The end part of an insect's body; the belly

Example: The abdomen is the largest body part of most insects.

Variation(s): abdomens

communities, n. (p. 27) Groups of living things of the same type that live and interact together in a particular environment; colonies

Example: Ants, bees, wasps, and termites are insects that live and work together in communities.

Variation(s): community

external, adj. (p. 8) The outside or outer surface of something

Example: The harsh weather caused the external paint on the house to chip away.

Variation(s): none

pierce, v. (p. 22) To force or make a way into or through something

Example: My mother was very careful when she was sewing so that the needle wouldn't pierce her skin.

Variation(s): pierces, pierced, piercing

thorax, n. (p. 14) The middle part of an insect's body between the head and the abdomen; the chest

Example: Joshua's favorite dragonflies have a bright green thorax.

Variation(s): thoraxes

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	Essential Background Information or Terms	chart paper, chalkboard, or whiteboard	10
	Sharing the Title and Trade Book Cover		
	Making Predictions About the Read-Aloud		
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	Bugs Are Insects	<i>Bugs Are Insects</i> , by Anne Rockwell	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions	Image Cards 9–12 Solitary/Social T-Chart	10
	Word Work: External	drawing paper, drawing tools	5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Poetry Reading	Image Cards 6 and 13 chart paper, chalkboard, or whiteboard Helpful/Harmful and Solitary/Social T-Charts	20
	Insects Journal: Personal Narrative	journals from previous lesson Helpful/Harmful T-Chart	

2A

Bugs Are Insects



Introducing the Read-Aloud

10 minutes

Essential Background Information or Terms

Remind students that insects are the largest group of animals on the earth, and that there are many different types of insects. Tell students that these insects may be categorized as social insects or solitary insects. Explain that *social* insects are those that live and work together in communities, and *solitary* insects are those that do not live and work together in communities. Tell students that most insects are solitary.

Say: “When you feel ‘social,’ you feel like being around and interacting with others, e.g., your friends and family. When you feel like having some ‘solitary’ time, you want some quiet and alone time. This might help you remember the difference between social insects and solitary insects.”

Create a T-Chart on chart paper, a chalkboard, or a whiteboard. Label one side “Solitary” and the other side “Social.” Tell students that as they learn about these two categories of insects, you will place image cards onto each side of the chart.

Note: You may wish to have some students use Instructional Master PP1-2 to complete this activity throughout the domain on their own. All students may have a chance to review using this Instructional Master if you choose to do the Pausing Point.

Sharing the Title and Trade Book Cover

Share the title and author/illustrator information of the trade book. Ask students to share what they see on the cover. Have a volunteer point to the three main body parts—the head, the thorax, and the abdomen—and then to the antennae of the ladybug on the cover. Ask: How many legs do you think this ladybug has?

Making Predictions About the Read-Aloud

Ask students to predict what a bug is. Ask: Do you think all insects are bugs?

Purpose for Listening

Tell students to listen for the names of the three main body parts of an insect and to find out if their predictions are correct.

Bugs Are Insects

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged. The prompts below are listed by page number. The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. Make sure to discuss what students see in each picture as you read each page.

Page 4

- . . . **butterflies and bees.** Who can point to the ant in the illustration? (Ask this question for all five insects pictured.) Do you think these insects are social insects or solitary insects? Let's listen to find out.

Page 7

- . . . **up its body.** How many legs does an insect have? So, even though all of these insects look different, they all have something in common: six legs.

Page 8

- . . . **ladybug an insect?** (Pause for students to respond.)
- . . . **have external skeletons.** The word **external** refers to something that is on the outside of something. Another word for an external skeleton is an *exoskeleton*. Say the word *exoskeleton*.
- . . . **has an external skeleton.** or exoskeleton
- . . . **it's an insect?** (Pause for students to respond.)

Page 10

- . . . **are not insects.** (Point to the animals in the picture.) How do you know these animals are not insects?

Page 12

- . . . **pair of antennae.** Who can point to the antennae? What are they used for?

Page 14

- . . . **thorax, and abdomen.** (Point to the thorax.) The **thorax**, or chest, is the middle part of an insect's body where the legs and wings are attached. (Point to the abdomen.) The **abdomen**, or belly, is the end part of the insect's body. (Point to the ant's three body parts and have the students repeat after you: head, thorax, abdomen.)
- . . . **it an insect?** (Pause for students to respond.)

Page 16

- . . . **it an insect?** (Pause for students to respond.)
- . . . **an external skeleton.** Where is the spider's skeleton if it is external?
- . . . **does it have?** (Pause for students to respond.)
- . . . **are arachnids too.** Remember the helpful ladybug that eats the harmful aphids? Well, spiders eat all kinds of insects. They are very helpful in keeping us from being "eaten out of house and home" by too many insects!

Page 19

- . . . **really a bug?** (Pause for students to respond.)
- . . . **in its name.** An insect is only a bug if it has a mouth like a _____ and a head that is what shape?

Page 20

- . . . **is a beetle.** Another name for a ladybug is a ladybird beetle. So, if a ladybug is an insect, but not a bug, are all insects bugs? Were your predictions correct?
- . . . **when they are closed.** (Have a volunteer point to the abdomen.) The abdomen is usually the largest part of an insect's body. Who remembers which main body part has the legs and wings attached to it? How do you know which main body part is the head? (Explain that on some insects if the head is not obvious, they can look for the antennae, which are always attached to the head.)

Page 22

- . . . **bite, or chew.** To **pierce** means to force or make a way into or through something. Remember, insects need nourishment just like other animals and plants do.
- . . . **and draw blood.** Has your skin ever been pierced by a mosquito? Is this insect being helpful or harmful?

Page 25

- . . . **for making music.** Remember, insects use their legs to move in different ways. Would you like to do some research later to learn how grasshoppers use their legs to make music?

Page 27

- . . . **helps the others.** (Point to the ant tunnel, honeycomb, and the wasp nest as you read.) Insects that live in **communities**, or groups just like people do, are called social insects. They live together in family groups and depend on each other to survive. Remember the termites that can eat away at houses and trees? Termites are social insects, because they do this damage together as a community.

Page 28

- **Are they insects?** (Have volunteers point to each animal and tell whether it is an insect or not.) It may be difficult to see the three main body parts because sometimes they are hidden by the insect's exoskeleton or wings.

Page 30

- . . . **count their legs!** Why is it important to count their legs?

Discussing the Read-Aloud

15 minutes

Comprehension Questions

(10 minutes)

If students have difficulty responding to questions, reread pertinent passages of the read-aloud and/or refer to specific images. If students give one-word answers and/or fail to use read-aloud or domain vocabulary in their responses, acknowledge correct responses by expanding the students' responses using richer and more complex language. It is highly recommended that you ask students to answer in complete sentences by asking them to restate the question in their responses.

1. How many legs do all insects have? (six) What three main body parts do all insects have? (head, thorax, abdomen) [Show students the illustration on pages 14 and 15.] Who can point to the ant's head? the thorax? the abdomen?
2. What is another name for an insect's external skeleton? (exoskeleton)
3. Are spiders insects? (no) Why not? (They have eight legs and two body parts.)
4. Some insects such as mosquitoes pierce your skin to draw blood for nourishment. Are these insects being helpful or harmful to you? (harmful)
5. Name some social insects that live and work together in communities. [You may wish to show the illustration on pages 26 and 27 as a reminder.] (ants, bees, wasps, termites) [Place Image Cards 9 (ant colony), 10 (swarm), 11 (wasps), and 12 (termites caring for queen) on the Solitary/Social T-Chart under "Social."]
6. [Show students pages 4 and 5.] Were your predictions correct about the ant and the bee being social insects? The cricket, mosquito, and butterfly pictured here are not social insects, because they do not live and work together in communities. So, what are they called? (solitary) You will learn more about these insects later.

7. Do all insects look alike? (no) Why or why not? (Although all insects have three main body parts and six legs, there are many different types of insects with different colors, different types of legs, wings, antennae, etc.)
8. What are some things that social insects do together in communities? (Answers may vary but may include building nests and tunnels.) Do you think one insect alone could do the same things that communities of insects do together? Why or why not? (Answers may vary.)

I am going to ask a couple of questions. I will give you a minute to think about the questions, and then I will ask you to turn to your neighbor and discuss the questions. Finally, I will call on several of you to share what you discussed with your partner.

9. *Think Pair Share:* The next time you see some ants and a friend says, “Look at those bugs,” what will you say? (Ants are not bugs; bugs have triangular heads and beak-like mouths, like stinkbugs.)

Word Work: External

(5 minutes)

1. In the read-aloud, you heard that “all insects have *external* skeletons.”
2. Say the word *external* with me.
3. If something is external, it is on the outside of something.
4. Many animals such as insects, lobsters, clams, snails, and spiders have external skeletons, or exoskeletons, made of chitin.
5. Can you think of other things that are external? Try to use the word *external* when you tell about it. (Ask two or three students. If necessary, guide and/or rephrase the students’ responses: “Something that is external is . . .”)
6. What’s the word we’ve been talking about? What part of speech is the word *external*?

Use a *Synonyms and Antonyms* activity for follow-up. Directions: The opposite, or antonym, of the word *external* is the word *internal*. If *external* means on the outside, what do you think *internal* means? Yes, *internal* means on the inside. I am going to name some things. If what I name is external, say, “external.” If what I name is internal, say, “internal.”

1. your skeleton (internal)
2. your outer clothing (external)
3. the pipes inside a wall (internal)
4. the paint on the outside of a house (external)
5. an insect’s exoskeleton (external)



Complete Remainder of Lesson Later in the Day

2B

Bugs Are Insects



Extensions

20 minutes

Poetry Reading

Tell students that you are going to read a poem to them. Tell them to listen carefully to the names of the animals Ms. Rosetti mentions in her poem to see if they are insects. You may wish to reread the poem after discussion.

Hurt No Living Thing

by Christina Rosetti

*Hurt no living thing;
Ladybird, nor butterfly,
Nor moth with dusty wing,
Nor cricket chirping cheerily,
Nor grasshopper so light of leap,
Nor dancing gnat, nor beetle fat,
Nor harmless worms that creep.*

Ask students what animals are mentioned in the poem. Write the names of the animals on a piece of chart paper, a chalkboard, or a whiteboard. Ask students which of these animals are insects and how they know. Have a volunteer come up and circle the names of the insects as you discuss the characteristics of each. Tell students that they will learn more about many of these insects.

Help students with the animals with which they are not familiar. Place Image Card 13 (gnat) on the Solitary/Social T-Chart under “Solitary” and explain that a gnat is a small, two-winged flying insect, such as a mosquito, fruit fly, or midge. Point to Image

Card 6 (biting midge) on the Helpful/Harmful T-Chart and remind students that some of these insects are harmful because they use their mouths to pierce the skin of people and other animals to receive nourishment. Ask: Which of these animals is another name for the ladybug, which is really not a bug, but a beetle? (ladybird) Ask: Are there any animals in this poem that are not insects? **(Note:** While some insects are worm-like in their larval stage, such as the silkworm, inchworm, and grub worm, invertebrate creatures with segmented bodies that are classified as worms are *not* insects.)

Insects Journal: Personal Narrative

Have students discuss why they think Ms. Rosetti wrote a poem about not hurting living things. Ask students to think about times when they have interacted with insects, including perhaps times when they may have hurt an insect, and why. Students may also think about times when they have helped an insect, and why. Remind students that just as we may be harmful and helpful to insects, they may also be harmful and helpful to us. You may wish to show students the Helpful/Harmful T-Chart to guide their brainstorming.

Have students write at least two to three sentences about their experiences with insects in their journals. Allow students to share their personal narratives with the class. They may also wish to draw a picture to illustrate their narrative. As students share their sentences and drawings, expand upon their vocabulary using richer and more complex language, including, if possible, any read-aloud vocabulary.

3

Are You a Grasshopper?



Lesson Objectives

Core Content Objectives

Students will:

- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify and describe the three body parts of insects: head, thorax, abdomen
- Identify a grasshopper as an insect
- Identify the placement and/or purpose of a grasshopper's wings, antennae, and legs
- Describe an insect's exoskeleton
- Recognize that some newborn insects resemble the adults of their species
- Describe the molting process of insects
- Explain why spiders are not insects
- Distinguish between social and solitary insects
- Compare and contrast grasshoppers and crickets
- Cite ways in which insects may be helpful and/or harmful

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a

partner's comments, with either an adult or another child of the same age (L.2.3)

- Follow multi-step, oral directions (L.2.5)
- Provide simple explanations (L.2.7)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)
- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Make predictions (orally or in writing) prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far, and then compare the actual outcomes to predictions (L.2.12)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Compare and contrast (orally or in writing) similarities and differences within a single read-aloud or between two or more read-alouds (L.2.23)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)
- Draw pictures, dictate, or write simple sentences to represent details or information from a read-aloud (L.2.29)

- Share writing with others (L.2.34)
- Generate questions and seek information from multiple sources to answer questions (L.2.40)
- Retell (orally or in writing) important facts and information from a read-aloud (L.2.41)
- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

Are You a Grasshopper?, by Judy Allen and Tudor Humphries, is used as the read-aloud in this lesson. There are no page numbers in the beginning part of this particular trade book until page 8, so the first text page is actually page 4. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

catapulted, v. (p. 20) Sprang or shot quickly through the air

Example: The baby catapulted her peas into the air with her spoon.

Variation(s): catapult, catapults, catapulting

chirping, adj. (p. 22) Having a short, high-pitched sound

Example: The loud, chirping birds woke Evie from her sleep.

Variation(s): none

pod, n. (p. 5) A protective case

Example: Peas grow in a pod to help protect them.

Variation(s): pods

struggle, v. (p. 11) To make a strong effort to do something that is difficult

Example: When little Meg began to struggle with putting on her coat, her older brother helped her out.

Variation(s): struggles, struggled, struggling

suction pads, n. (p. 13) Small areas that allow some animals' feet to cling to surfaces like stems

Example: A tree frog's feet have suction pads to help it climb trees.

Variation(s): suction pad

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	What Have We Already Learned?	journals from previous lessons chart paper, chalkboard, or whiteboard	10
	Essential Background Information or Terms		
	Sharing the Title and Trade Book Cover	Insect Hat (grasshopper)	
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	Are You a Grasshopper?	<i>Are You a Grasshopper?</i> , by Judy Allen and Tudor Humphries	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions	Image Cards 14 and 15 Solitary/Social T-Chart	10
	Word Work: Catapulted	drawing paper, drawing tools	5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Jumping Grasshoppers!	chart paper ruler	20

3A

Are You a Grasshopper?



Introducing the Read-Aloud

10 minutes

What Have We Already Learned?

Ask students to name as many insects as they can, and record them on chart paper, a chalkboard, or a whiteboard. Have students answer the following review questions to determine if all of the animals named are indeed insects:

- What are the characteristics of all insects? (six legs; three main body parts: head, thorax, abdomen; exoskeleton made of chitin; antennae)
- What are the characteristics of most insects? (wings, hatching from eggs)
- What are some social insects that live and work together in communities? (ants, wasps, bees, termites)
- What are the insects called that do not live and work together in communities? (solitary)

In their journals, have students label the names of the three main body parts of the insect they have drawn, just as they labeled the number of main body parts and legs. You may wish to model this on chart paper, a chalkboard, or a whiteboard.

Sharing the Title and Trade Book Cover

Note: You may wish to wear the Insect Hat (grasshopper) while you read. You may also wish to have a student volunteer wear the hat at some point during the lesson.

Share the title and author/illustrator information of the trade book. Ask students to share what they see on the cover. Ask students if they have ever seen a real grasshopper. If so, give them the opportunity to share their knowledge. Ask students if they have ever heard of a locust. Tell students that a locust is a

type of grasshopper that can cause great damage to trees and crops, especially when they fly in groups, or swarms. Ask: “Are grasshoppers social or solitary insects?” Explain that although grasshoppers sometimes happen to fly together in swarms, they are not considered social insects.

Purpose for Listening

Tell students to listen carefully to learn more about these solitary insects called grasshoppers.

Are You a Grasshopper?

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged.

There are no page numbers in the beginning part of this particular trade book until page 8, so the first text page is actually page 4. The prompts below are listed by page number. The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. Make sure to discuss what students see in each picture as you read each page.

Page 5

- . . . **the eggs safe.** A **pod** is a protective case, like a pea pod. The grasshopper life cycle begins with an egg. Why do you think the eggs need the protection of the pod?

Page 6

- **Time to hatch.** Why do you think grasshoppers hatch in the spring?

Page 7

- . . . **like a grasshopper.** Remember, grasshoppers are born looking like tiny adult grasshoppers, but without fully developed wings. They do not make a full-body change like butterflies and some other insects that you will learn about.

Page 8

- . . . **take it off.** Why is the grasshopper's skin hard? As the grasshopper grows, the exoskeleton splits apart and comes off to make room for a new one that is growing beneath it. Insects shed their exoskeletons anywhere from three to twenty times during their lifetime.

Page 9

- . . . **on your back.** (Point to the small, triangular wing buds on the grasshopper in the top-right corner.)
- . . . **small, stubby wings.** (Point to the wings that are growing from the wing buds.) Do all insects grow wings?

Page 10

- . . . **least four times.** Can you imagine having to shed your skin every time you grew?

Page 11

- . . . **to full size.** To **struggle** means to make a strong effort to do something that isn't easy. Why do you think the grasshopper has to struggle to get out of its exoskeleton?

Page 12

- . . . **fully grown grasshopper.** Depending on the weather and amount of food available, it can take a grasshopper a few months to develop from a nymph into an adult.
- . . . **stronger than before.** (Point to each body part as you read the next sentences.)
- . . . **two short feelers.** Most grasshoppers have short feelers. What do you think feelers are? I am very proud that you know the scientific word *antennae*. Who remembers what antennae are used for?

Page 13

- . . . **cling to stems. Suction pads** are small areas on the grasshoppers' legs that allow them to cling to stems.
- . . . **in your food.** (Point to the palpi by the mouth.)

Page 15

- **... has long feelers.** or _____ (Point to the cricket and grasshopper and compare the antennae.) So, one contrast is that most crickets have long antennae, and most grasshoppers have short antennae. One comparison is that both grasshoppers and crickets are solitary insects.
- **... eat grasshoppers, too.** So, if a cricket eats both plants and animals, who can tell me if it is a carnivore, herbivore, or omnivore? (Students who participated in the Core Knowledge Language Arts program in Grade 1 studied these terms in the *Animals and Habitats* domain.) If a grasshopper eats grass, leaves, and clover, do you think it is an omnivore or herbivore? Let's listen to find out.

Page 16

- **Spiders eat grasshoppers.** (Point to the spider.) Is this an insect? How do you know?

Page 17

- **... in the grass.** How do you think grasshoppers might protect themselves from the dangers of the world?

Page 18

- **... good at flying.** So, if a grasshopper's wings are not very good for flying, what else do you think they are used for?

Page 19

- **... the grass stems.** Can you see the grasshopper in the grass? Like the walkingstick insect you heard about earlier, this type of grasshopper has great camouflage!

Page 20

- **... through the air.** If the grasshopper is **catapulted** by its strong back legs, that means it is sprung or shot quickly through the air. Like the katydid you heard about earlier, the grasshopper has specially designed legs that allow it to jump very high.

Page 21

- . . . **suit of armor.** How is the grasshopper’s skin like a suit of armor?

Page 22

- . . . **ticking, chirping noise.** If the grasshopper is making a **chirping** noise, that means it is making a short, high-pitched sound with its legs and wings. Were your predictions correct about how a grasshopper uses its wings?

Page 23

- . . . **for next year.** Why do you think this is an important thing? Just as the book begins with a grasshopper laying eggs, it ends with the young of that grasshopper developing into an adult and laying eggs of its own. Remember, this is called the life cycle, because it repeats again and again.

Page 29

- . . . **up and down.** Would you like to be a grasshopper? Why or why not?

Discussing the Read-Aloud

15 minutes

Comprehension Questions

(10 minutes)

If students have difficulty responding to questions, reread pertinent passages of the read-aloud and/or refer to specific images. If students give one-word answers and/or fail to use read-aloud or domain vocabulary in their responses, acknowledge correct responses by expanding the students’ responses using richer and more complex language. It is highly recommended that you ask students to answer in complete sentences by asking them to restate the question in their responses.

1. [Show the cover of the trade book.] How do you know that a grasshopper is an insect? (It has six legs, antennae, three body parts, and an exoskeleton made of chitin.)
2. Is a grasshopper a solitary insect or a social insect? How do you know? (It is solitary because it does not live and work in a community with other grasshoppers.) [Place Image Card 14 (grasshopper) on the Solitary/Social T-Chart under “Solitary.”]

3. Why is it important for the young grasshopper to eat? (so that it can grow and struggle out of its exoskeleton again and again as it becomes larger) What does it eat? (grass, leaves, clover, etc.) So, is the grasshopper a carnivore, herbivore, or omnivore? (herbivore)
4. How does the appearance of a grasshopper change from when it is first born to when it is fully grown? (A newborn grasshopper and an adult grasshopper look similar, but a newborn grasshopper is much smaller and does not have developed wings.)
5. What are the stages of the grasshopper's life cycle? (It hatches from an egg pod laid by the adult female grasshopper; it grows larger, sheds its external skeleton several times, and grows wings; and it matures into an adult and mates so that new eggs can be laid before it dies.)
6. What dangers does a grasshopper face? (being food for other animals) How does a grasshopper use its legs to protect itself from these dangers? (flying or catapulting itself away from danger; using suction pads to cling to grass blades in order to camouflage itself) [Point to Image Card 14 (grasshopper) on the Solitary/Social T-Chart.]
7. How are crickets different from grasshoppers? (Most crickets have very long antennae, and most grasshoppers have short antennae; crickets are omnivores, because they eat grasshoppers and other animals, whereas grasshoppers are herbivores, because they eat only plants.) How are they similar? (They are both solitary insects; they both eat plants.) [Students may also know, and will learn in the following lesson, that they both use their specially designed legs to catapult themselves through the air, and they both make chirping sounds.] [Place Image Card 15 (cricket) on the Solitary/Social T-Chart under "Solitary."]
8. How are grasshoppers sometimes harmful? (A certain type of grasshopper called a locust sometimes flies together with other locusts in swarms and damages crops and trees.)

I am going to ask a question. I will give you a minute to think about the question, and then I will ask you to turn to your neighbor and discuss the question. Finally, I will call on several of you to share what you discussed with your partner.

9. *Think Pair Share:* What did you learn today about grasshoppers that you didn't already know? (Answers may vary.)

Word Work: Catapulted

(5 minutes)

1. In the read-aloud, you heard that grasshoppers are *catapulted* through the air by their strong back legs.
2. Say the word *catapulted* with me.
3. If something is catapulted, it is suddenly and quickly sprung or shot upward or forward.
4. The stone was catapulted from Jeremy's slingshot to the middle of the lake.
5. Have you ever seen something catapulted? Try to use the word *catapulted* when you tell about it. (Ask two or three students. If necessary, guide and/or rephrase the students' responses: "_____ catapulted once when . . .")
6. What's the word we've been talking about? What part of speech is the word *catapulted*?

For follow-up, have students draw a picture of something being catapulted. Have students write one sentence describing their picture. You may also wish to have students use their legs to catapult themselves around the classroom. As students share their drawings and sentences and act out the word, make sure students use the word *catapulted*.



Complete Remainder of Lesson Later in the Day

3B

Are You a Grasshopper?



Extensions

20 minutes

Jumping Grasshoppers!

Tell students that a grasshopper can jump about twenty times the length of its body, which is about $2\frac{1}{2}$ feet. Use a ruler or your hands to show students this distance. Remind students that grasshoppers, like katydids, have specially designed legs to catapult their bodies through the air.

Take your students outside or to a large area. Lay chart paper down and mark off $2\frac{1}{2}$ feet. Have students stand at the starting point and jump as far as they can. Mark and record each distance to see who the farthest-jumping “grasshopper” is. You may wish to allow students to jump again, this time with a running start, to see how much farther they can jump. Ask: “Do grasshoppers have a running start when they jump?” You may also wish to have students search for insects while they are waiting for their turn, reminding them to look for six legs and three main body parts.

4

Chirping Crickets



Lesson Objectives

Core Content Objectives

Students will:

- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify a cricket as an insect
- Identify the placement and/or purpose of a cricket's wings, antennae, legs, and ears
- Describe an insect's exoskeleton
- Recognize that some newborn insects resemble the adults of their species
- Distinguish between social and solitary insects
- Describe the molting process of insects
- Compare and contrast grasshoppers and crickets
- Cite ways in which insects may be helpful and/or harmful

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age (L.2.3)
- Follow multi-step, oral directions (L.2.5)

- Provide simple explanations (L.2.7)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)
- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Compare and contrast (orally or in writing) similarities and differences within a single read-aloud or between two or more read-alouds (L.2.23)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)
- Draw pictures, dictate, or write simple sentences to represent details or information from a read-aloud (L.2.29)
- Share writing with others (L.2.34)
- Generate questions and seek information from multiple sources to answer questions (L.2.40)
- Retell (orally or in writing) important facts and information from a read-aloud (L.2.41)

- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

Chirping Crickets, by Melvin Berger, is used as the read-aloud in this lesson. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

alert, v. (p. 22) To warn; to cause to be on guard

Example: The traffic lights alert us when to wait and when to cross the street.

Variation(s): alerts, alerted, alerting

molting, n. (p. 16) The process of shedding an external layer—such as fur, feathers, skin, horns, or shells—that will be replaced by new growth

Example: Kim knew her lizard’s molting had begun, because there were pieces of dry skin in his cage.

Variation(s): none

pipng, adj. (24) Shrill, high-pitched

Example: The coach’s piping whistle could be heard across the football field.

Variation(s): none

trilling, adj. (p. 27) Fluttering, quivering; shaking slightly

Example: The trilling crickets could be heard outside Diana’s window at night.

Variation(s): none

vibrate, v. (p. 11) To move back and forth quickly; to shake

Example: When Judy moves the bow across her violin, the strings vibrate to make beautiful music.

Variation(s): vibrates, vibrated, vibrating

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	What Have We Already Learned?	Solitary/Social T-Chart	10
	Sharing the Title and Trade Book Cover	Poster 1: Insect Hat (cricket)	
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	Chirping Crickets	<i>Chirping Crickets</i> , by Melvin Berger piece of stiff paper, nail file recording of chirping crickets (optional)	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions		10
	Word Work: Molting	drawing paper, drawing tools	5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Insects Journal	trade books journals from previous lessons	20
	Venn Diagram	Image Cards 14 and 15, Instructional Master 4B-1 chart paper, chalkboard, or whiteboard	

4A

Chirping Crickets



Introducing the Read-Aloud

10 minutes

What Have We Already Learned?

Ask students the following questions as review:

- Point to the Solitary/Social T-Chart and ask: What is the difference between a social and solitary insect? Which solitary insect did you just learn about?
- Do all insects go through the same changes as they become adults? (Remind students that some insects, such as butterflies, look very different when they hatch from their eggs compared to how they will look as adults, and that they make a full-body change. Remind them that some insects—such as the praying mantises in the first read-aloud and the grasshoppers in the previous read-aloud—look very similar when they hatch from their eggs compared to how they will look as adults, and so they do not make a full-body change.)

Sharing the Title and Trade Book Cover

Note: You may wish to wear the Insect Hat (cricket) while you read. You may also wish to have a student volunteer wear the hat at some point during the lesson.

Share the title and author/illustrator information of the trade book. Ask students to share what they see on the cover. Ask: “Are these crickets insects? How do you know? What other insects do crickets resemble?” (Compare the cover of this trade book to the cover of *Are You a Grasshopper?* as you review how these two types of insects are similar and different.) Tell students that crickets, like grasshoppers, may sometimes be harmful to crops. Ask: “Are crickets solitary or social insects?”

Purpose for Listening

Tell students to listen carefully to learn more about these solitary insects called crickets and to hear more similarities and differences between crickets and grasshoppers.

Chirping Crickets

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged. The text begins on page 5. The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. The prompts below are listed by page number. Make sure to discuss what students see in each picture as you read each page.

Note: You may wish to play a recording of chirping crickets for a few minutes before you read this trade book, and then discuss the word *chirping* as a description of what students are hearing. Several downloadable recordings may be found online. You may also wish to do this during Pausing Point 1.

Page 5

- . . . **are loudly chirping.** What does *chirping* mean? Have you ever heard crickets chirping before today? What time of year was it?

Page 7

- . . . **cannot make sounds.** How do you think the male cricket makes a chirping sound?

Page 8

- **Chirp! Chirp! Chirp!** Were your predictions correct? What other type of insect have you learned about that makes a sound with its wings?

Page 9

- . . . **a cricket's chirp.** (Using a piece of stiff paper and a nail file, have a volunteer demonstrate this sound.)

Page 10

- . . . **these tiny holes.** (Point to the cricket's ears.) Can you imagine having ears under your knees?

Page 11

- . . . **move, or vibrate.** To **vibrate** means to move back and forth quickly, or to shake. (You may wish to compare this to a bow being moved across a violin's strings. Students who participated in the Core Knowledge Language Arts program in Grade 1 should be familiar with this concept from the *Mozart and Music* domain.)

Page 12

- . . . **and they mate.** Why is it important for male and female crickets to mate?

Page 13

- . . . **tiny yellow bananas.** (Point to the eggs.) What other insect have you learned about that lays eggs in the ground? Who can remember how the grasshopper's eggs are different from the cricket's? (You may wish to show page 5 of *Are You a Grasshopper?* from Lesson 3.)

Page 14

- . . . **have any wings.** A nymph is a newborn insect that looks like an adult, but is smaller and lacks fully-developed wings, like the praying mantis and grasshopper you have heard about. Why do you think the eggs hatch in the spring?

Page 16

- . . . **hard outer covering.** What scientific word have you learned for an insect's hard, outer covering? What do you think is going to happen?
- . . . **is called molting.** The word **molting** refers to the process that you have been hearing about in which insects shed their hard exoskeletons in order to grow new, larger ones. Do insect nymphs molt just once?

Page 18

- . . . **used to chirp.** Why is it important for male crickets to chirp?

Page 19

- . . . **pairs of legs.** Three pairs are how many in all?
- . . . **you can hop!** (Show the distance of two feet with your arms.) What other insects can jump this far because of their specially designed legs? So, katydids, grasshoppers, and crickets all have this in common.

Page 20

- . . . **to catch one.** How would the cricket's ears help protect it from danger? Who remembers what a grasshopper relies on to protect it from danger?

Page 21

- . . . **insects it eats.** If a cricket eats both animals and plants, is it a carnivore, herbivore, or omnivore? (Point to the palpi.) Who remembers what these are used for? Here is another similarity between grasshoppers and crickets.

Page 22

- . . . **cricket's whole body.** Which is usually longer: a cricket's antennae or a grasshopper's antennae?
- . . . **them to danger.** To *alert* means to warn, or to cause to be on guard. How do you think a cricket's antennae help alert it to danger?

Page 24

- . . . **loudly at night.** How does the male cricket chirp? Do most female crickets chirp?
- . . . **high, piping chirp.** The word *piping* means high and shrill. Why do you think the cricket makes a piping chirp when it senses danger?

Page 25

- . . . **fighting, and mating.** Who remembers the scientific word that describes animals like ground crickets that are active at night?

Page 26

- . . . **white in color.** Why do you think some tree crickets are a pale green color while field crickets and ground crickets are brown or black? The field crickets are the ones that may be especially harmful to the crops in those fields.

Page 27

- . . . **high, trilling sound.** A **trilling** sound is a fluttering, quivering sound that is caused when something slightly vibrates. Do you remember what *vibrate* means?
- . . . **happen to you.** Have you ever had a cricket in your house?

Page 28

- . . . **of late summer.** Why are the crickets chirping?

Discussing the Read-Aloud

15 minutes

Comprehension Questions

(10 minutes)

If students have difficulty responding to questions, reread pertinent passages of the read-aloud and/or refer to specific images. If students give one-word answers and/or fail to use read-aloud or domain vocabulary in their responses, acknowledge correct responses by expanding the students' responses using richer and more complex language. It is highly recommended that you ask students to answer in complete sentences by asking them to restate the question in their responses.

1. Which crickets usually chirp, the males or the females? (the males) *Why?* (to call the females to them for mating)
2. How does a cricket make a chirping sound? (The cricket rubs the scraper of one front wing with the file of the other front wing, making the air vibrate and make a sound.)
3. What words ending in 'ing' did you hear in this read-aloud that describe the sounds different types of crickets make? (trilling, chirping, tinkling, piping)

4. How does a cricket's life cycle begin? (as an egg) How are newborn crickets and adult crickets different? (Newborn crickets are called nymphs and are lighter in color than adult crickets; they don't have any wings.)
5. What do cricket nymphs do when they grow too large for their exoskeletons? (They shed their hard exoskeletons by molting over and over until they are the size of an adult.)
6. How do crickets protect themselves? (They have amazing hearing, strong legs for jumping, and long antennae to alert them to danger.) Where are a cricket's ears located? (under the knees of the cricket's front legs)
7. How do crickets find food? (They use their long antennae to search for food.) What do crickets eat? (leaves, other insects and animals) So, is the cricket a carnivore, herbivore, or omnivore? (omnivore)
8. How are crickets sometimes harmful? (by eating crops in fields)

I am going to ask a question. I will give you a minute to think about the question, and then I will ask you to turn to your neighbor and discuss the question. Finally, I will call on several of you to share what you discussed with your partner.

9. *Think Pair Share:* What are some of the many different habitats you heard about where crickets live? (parks, woods, fields, lawns, houses, tunnels, riverbanks, trees, bushes, etc.) In which of these habitats have you seen crickets? (Answers may vary.)

Word Work: Molting

(5 minutes)

1. In the read-aloud, you heard that when a cricket nymph wriggles out of its old skin, it is called *molting*.
2. Say the word *molting* with me.
3. If something is molting, it is shedding its external, or outer, covering.
4. Grasshopper and cricket nymphs go through several stages of molting before they become adults.
5. Can you think of something that goes through several stages of molting while it is growing? Try to use the word *molting* when you tell about it. (Ask two or three students. If necessary, guide and/or rephrase the students' responses: "_____ go through several stages of molting when they grow.")
6. What's the word we've been talking about? What part of speech is the word *molting*?

For follow-up, have students draw a picture of an insect or other animal molting. Tell students that in addition to insects, many different types of animals go through stages of molting, such as birds, reptiles, crustaceans, mammals, amphibians, etc. Remind students that molting is the shedding of not only exoskeletons, but also of fur, feathers, horns, and skin. Have students write one sentence about their drawing. As students share their sentences and drawings, encourage them to use the words *exoskeleton* and *molting*.



Complete Remainder of Lesson Later in the Day

4B

Chirping Crickets



Extensions

20 minutes

Insects Journal

Have students look through the trade books *Are You a Grasshopper?* and *Chirping Crickets* and through the classroom book tub for pictures of grasshoppers and crickets. Have them draw a picture of a grasshopper and a picture of a cricket in their journals. Then have them write one sentence for each insect about something they have learned. Tell students that they should also write down any questions they may have about grasshoppers and/or crickets and have them look through the book tub to search for answers to their questions. You may wish to extend this research beyond the classroom book tub to include online and other resources.

As students share their drawings and sentences with the class, expand upon their vocabulary using richer and more complex language, including, if possible, any read-aloud vocabulary.

Venn Diagram (Instructional Master 4B-1)

Point out Image Card 14 (grasshopper) and Image Card 15 (cricket) on the Solitary/Social T-Chart. Tell students that together you are going to compare and contrast the two types of insects they have just heard about: grasshoppers and crickets. Remind students that to compare means to tell how things are similar and to contrast is to tell how things are different.

Copy Instructional Master 4B-1 onto chart paper, a chalkboard, or a whiteboard. Have students help you fill in the diagram, showing the characteristics of only the grasshopper, the characteristics of only the cricket, and the characteristics that both insects share. Differences should include that most crickets have very long antennae, and most grasshoppers have short antennae; crickets are omnivores, because they eat grasshoppers and other

animals, whereas grasshoppers are herbivores, because they eat only plants. Similarities should include that they are both solitary insects; they both have a nymph phase; they both molt; they both eat plants; they may both be harmful by eating crops; they both use their specially designed legs to catapult themselves through the air; they both make chirping sounds; they both can use camouflage at times; etc.

After completing the chart, ask: “Which would you rather be—a grasshopper or a cricket? Why?” You may wish to have students answer this question in their journals.

You may wish to have some students complete Instructional Master 4B-1 on their own.

5

Are You a Dragonfly?



Lesson Objectives

Core Content Objectives

Students will:

- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify a dragonfly as an insect
- Identify the placement and/or purpose of a dragonfly's legs, wings, and eyes
- Describe an insect's exoskeleton
- Distinguish between social and solitary insects
- Describe the molting process of insects
- Cite ways in which insects may be helpful and/or harmful

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age (L.2.3)
- Follow multi-step, oral directions (L.2.5)
- Provide simple explanations (L.2.7)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)

- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Make predictions (orally or in writing) prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far, and then compare the actual outcomes to predictions (L.2.12)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Compare and contrast (orally or in writing) similarities and differences within a single read-aloud or between two or more read-alouds (L.2.23)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)
- Draw pictures, dictate, or write simple sentences to represent details or information from a read-aloud (L.2.29)
- Share writing with others (L.2.34)
- Generate questions and seek information from multiple sources to answer questions (L.2.40)
- Retell (orally or in writing) important facts and information from a read-aloud (L.2.41)
- Sequence four to six pictures illustrating events from a nonfiction read-aloud (L.2.42)

- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

Are You a Dragonfly?, by Judy Allen and Tudor Humphries, is used as the read-aloud in this lesson. There are no page numbers in the beginning part of this particular trade book until page 6, so the first text page is actually page 4. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

crumpled, *adj.* (p. 16) Full of wrinkles; shriveled

Example: The flowers looked crumpled and faded after being without water.

Variation(s): none

darts, *v.* (p. 22) Moves suddenly and quickly

Example: Mrs. Johnson's gaze darts around the room as she takes attendance.

Variation(s): dart, darted, darting

dodging, *v.* (p. 19) Moving aside or changing positions suddenly and quickly to avoid being caught

Example: Melissa won the flag-tag game after dodging all of the other players.

Variation(s): dodge, dodges, dodged

hover, *v.* (p. 17) To remain floating, suspended, or fluttering in the air

Example: Sometimes dragonflies hover in place to catch their prey.

Variation(s): hovers, hovered, hovering

pounce, *v.* (p. 10) To swoop down upon and attack suddenly

Example: Ian's kitten likes to pounce on anything that moves.

Variation(s): pounces, pounced, pouncing

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	What Have We Already Learned?		10
	Sharing the Title and Trade Book Cover	Insect Hat (dragonfly)	
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	Are You a Dragonfly?	<i>Are You a Dragonfly?</i> , by Judy Allen and Tudor Humphries	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions	Image Cards 16 and 17 Helpful/Harmful and Solitary/Social T-Charts	10
	Word Work: Darts		5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Sequencing: The Life Cycle of a Dragonfly	Image Cards 18–21 Poster 1: Dragonfly Metamorphosis	20
	Insects Journal	trade books journals from previous lessons	

5A

Are You a Dragonfly?



Introducing the Read-Aloud

10 minutes

What Have We Already Learned?

Ask students the following riddles as review:

- I am a solitary herbivore insect that hatches from an egg pod.
What am I? (a grasshopper)
- I am a solitary omnivore insect that hatches from an egg pod.
What am I? (a cricket)
- I am the hard outer covering that all insects shed when molting.
What am I? (an exoskeleton)

You may wish to have students create their own riddles about insects to pose to the class based on what they have learned thus far.

Sharing the Title and Trade Book Cover

Note: You may wish to wear the Insect Hat (dragonfly) while you read. You may also wish to have a student volunteer wear the hat at some point during the lesson.

Share the title and author/illustrator information of the trade book. Ask students to share what they see on the cover. Ask: “Is this dragonfly an insect? How do you know?” Make sure the students’ answers include naming the number of legs and the three main body parts. Ask students what they think will be different about this insect from the insects they have learned about so far.

Purpose for Listening

Tell students to listen carefully to see if their predictions are correct and to learn more about dragonflies.

Are You a Dragonfly?

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged.

There are no page numbers in the beginning part of this particular trade book until page 6, so the first text page is actually page 4. The prompts below are listed by page number. The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. Make sure to discuss what students see in each picture as you read each page.

Page 4

- . . . **of water plants.** (Point to the eggs on the underwater stem.) Remember, this is how the life cycle begins. How is this place different from the place where grasshoppers and crickets lay their eggs?

Page 5

- . . . **just like you.** (Point to the tiny dragonflies emerging from their eggs.)
- . . . **of your tail.** Can grasshopper and cricket nymphs breathe underwater? Dragonfly nymphs are unique because they are very different from their adult form.

Page 6

- . . . **tiny water creatures.** Like other insects, dragonflies need nourishment.

Page 7

- . . . **and grab it.** Are these tiny water creatures insects? How do you know?

Page 8

- . . . **take it off.** Does this sound familiar? What is this process called?

Page 10

- **Water beetles pounce!** To **pounce** means to swoop down upon and attack suddenly. (Point to the water beetle.) Is this beetle that pounces on dragonflies an insect? How do you know?

Page 12

- . . . **one more time.** What do you think will happen next?

Page 14

- . . . **backward and rest.** What is this process called? Why do you think the dragonfly may need a rest while molting? (Try to solicit from students the vocabulary word *struggle* used in earlier lessons.)

Page 15

- . . . **sides of your body.** After about two years of molting and growing, the dragonfly is now an adult. Can the adult dragonfly breathe underwater? Why or why not? (Students who have studied the Grade 2 *Cycles in Nature* domain should be familiar with the change from a water-breathing animal to an air-breathing animal. You may wish to use Poster 6 (tadpole/frog) from the *Cycles in Nature* domain as review.)

Page 16

- . . . **pale and crumpled.** If the dragonfly is **crumpled**, that means it is wrinkled and shriveled. Why do you think the dragonfly is crumpled?

Page 17

- . . . **you can hover . . .** or remain floating, suspended, or fluttering in the air, like a helicopter
- . . . **even fly backward.** Can grasshoppers and crickets do this with their wings?

Page 18

- . . . **and beside you.** How do you think it might be helpful for dragonflies to be able to see all around?

Page 19

- . . . **avoiding spider's webs.** If a dragonfly is **dodging** hungry birds, it is moving aside or changing positions suddenly to avoid being caught. What is the dragonfly trying to dodge?

Page 20

- . . . **in the air.** Who can tell me another word for an animal hunter? (predator)
- . . . **and in forests.** Why do you think the dragonfly is hunting? (Try to solicit from students the vocabulary word *nourishment* used earlier.)

Page 21

- . . . **catch your prey.** Who can tell me what prey is? So, while grasshoppers and crickets use their legs for jumping great distances, dragonflies use their legs to _____.
- . . . **and small butterflies.** So, if the dragonfly eats other insects and animals, but not plants, it is a _____. If dragonflies eat mosquito pests, is this helpful or harmful?

Page 22

- . . . **and grabs it.** The word **darts** means moves suddenly and quickly.

Page 23

- . . . **leaves and flowers.** Are these damselflies insects? How do you know?

Comprehension Questions

(10 minutes)

If students have difficulty responding to questions, reread pertinent passages of the read-aloud and/or refer to specific images. If students give one-word answers and/or fail to use read-aloud or domain vocabulary in their responses, acknowledge correct responses by expanding the students' responses using richer and more complex language. It is highly recommended that you ask students to answer in complete sentences by asking them to restate the question in their responses.

1. Were your predictions correct about how a dragonfly is different from a grasshopper and cricket? Why or why not? (Answers may vary.)
2. The dragonfly's life cycle begins as an egg, which hatches into a nymph that lives and breathes underwater. How does the nymph grow into its adult form? (by eating constantly; molting several times; developing tiny holes on its body to breathe air)
3. What are some predators that pounce on dragonflies as their prey? (water beetles, spiders, and birds) What are some ways that the dragonfly defends itself from predators? (It uses its large eyes to see all around; adults with wings can dart quickly to dodge hungry birds.)
4. When does a dragonfly get its wings? (After its last molting, the adult dragonfly emerges with its wings.) Is it able to fly right away? (No; after its last molt, the wings are crumpled and need to straighten before the adult dragonfly can fly.)
5. How do dragonfly predators hunt? (They use their quick speed to catch prey in the water and in the air; they use their enormous eyes to look all around; they hover over ponds and streams to search for food.)

6. What do dragonflies eat? (Nymphs eat tiny water creatures, tadpoles, and small fish; adult dragonflies eat midges, mosquitoes, flies, wasps, and butterflies.) So, are dragonflies herbivores like grasshoppers, omnivores like crickets, or carnivores? (carnivores) Remember, dragonflies are helpful because they eat mosquito pests. [Place Image Card 16 (dragonfly eating mosquito) on the Helpful/Harmful T-Chart under “Helpful.”]
7. Do you think dragonflies are solitary insects or social insects? Why? (solitary, because they do not live and work together in communities with other dragonflies) [Place Image Card 17 (dragonfly) on the Solitary/Social T-Chart under “Solitary.”]

I am going to ask a question. I will give you a minute to think about the question, and then I will ask you to turn to your neighbor and discuss the question. Finally, I will call on several of you to share what you discussed with your partner.

8. *Think Pair Share:* If you had to choose for yourself one of the dragonfly’s abilities (breathing underwater, enormous eyes for seeing, amazing wings for flying and hovering, etc.), which would you choose, and why? (Answers may vary.)

Word Work: Darts

(5 minutes)

1. In the read-aloud, you heard that a darter dragonfly “sits still until it sees its prey, then it *darts* out and grabs it.”
2. Say the word *darts* with me.
3. If something darts, it moves suddenly and rapidly.
4. When Juan hears the school bus honk its horn, he darts out the door.
5. Can you think of something that darts? Try to use the word *darts* when you tell about it. (Ask two or three students. If necessary, guide and/or rephrase the students’ responses: “_____ darts when it . . .”)
6. What’s the word we’ve been talking about? What part of speech is the word *darts*?

Use a *Making Choices* activity for follow-up. Directions: I am going to describe some scenarios. If what I describe is an example of darts, say, “darts.” If what I describe is not an example of darts, remain silent. (You may also wish to have students dart around the classroom.)

1. The snail creeps slowly through the grass.
2. After finding nectar, the bee flies quickly back to the hive.
(darts)
3. The fish comes up out of the water suddenly and pounces on the water beetle. (darts)
4. The baby steps unsteadily while holding onto her mommy’s hand.
5. The chinchilla moves speedily from room to room, chasing the ball of yarn. (darts)



Complete Remainder of Lesson Later in the Day

5B

Are You a Dragonfly?



Extensions

20 minutes

Sequencing: The Life Cycle of a Dragonfly

Spread out Image Cards 18 (dragonfly laying eggs), 19 (dragonfly nymph), 20 (dragonfly molting), and 21 (adult dragonfly) on a table. Have students help you put the cards in the correct order to show the life cycle of a dragonfly. As you discuss the process, review words and concepts such as *nymph*, *molt*, *exoskeleton*, *chitin*, *solitary insect*, etc. Explain that the life cycle will continue when the adult dragonfly in Image Card 21 lays its eggs (if it is a female), just as its mother did in Image Card 18.

Show students Poster 1 and explain that these are images of the last molting stage of a dragonfly as it emerges from its exoskeleton and changes from a nymph that once lived and breathed underwater to an adult that will now live and breathe above water. Display Poster 1 in your classroom for reference throughout the domain.

Insects Journal

Have students look at the cover of today's trade book or look through the classroom book tub for pictures of dragonflies. Have them draw a picture of a dragonfly in their journals and write one sentence about something they learned from today's read-aloud. Tell students that they should also write down any questions they may have about dragonflies and have them look through the book tub to search for answers to their questions. You may wish to extend this research beyond the classroom book tub to include online and other resources.

As students share their drawings and sentences with the class, expand upon their vocabulary by using richer and more complex language, including, if possible, any read-aloud vocabulary.

PP1

Pausing Point 1



Note to Teacher

Your students have now heard several read-alouds about insects. You may choose to pause here and spend one to two days reviewing, reinforcing, or extending the material taught thus far.

If you do pause, you may have students do any combination of the activities listed below. The activities may be done in any order. You may wish to do one activity on successive days. You may also choose to do an activity with the whole class or with a small group of students who would benefit from the particular activity.

Core Content Objectives Up to This Pausing Point

Students will:

- Explain that insects are the largest group of animals on the earth
- Explain that there are many different types of insects
- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify and describe the three body parts of insects: head, thorax, abdomen
- Identify the placement and/or purpose of an insect's particular body parts
- Describe an insect's exoskeleton
- Recognize that some newborn insects resemble the adults of their species
- Cite ways in which insects may be helpful and/or harmful
- Distinguish between social and solitary insects
- Explain why spiders are not insects
- Describe the molting process of insects
- Compare and contrast grasshoppers and crickets
- Demonstrate familiarity with the poem "Hurt No Living Thing"

Activities

Note: You may wish to look through the trade books that were used as read-alouds for additional hands-on activities.

Image Review

Show the images from any trade book again, and have students retell information from the trade book using the images.

Image Card Review

Materials: Image Cards 1–21

In your hand, hold Image Cards 1–21 fanned out like a deck of cards. Ask a student to choose a card but to not show it to anyone else in the class. The student must then perform an action or give a clue about the picture s/he is holding. For example, for aphids eating crops, the student could pretend to be an aphid eating crops or a person upset at finding aphids eating the crops. The rest of the class will guess the insect or object that is being described. Make sure to “wrap the language” around this activity reminding students of key domain-related vocabulary they learned. Proceed to another card when the correct answer has been given.

Domain-Related Trade Book or Student Choice

Materials: Trade book

Read an additional trade book to review a particular insect or concept about insects; refer to the books listed in the domain introduction. You may also choose to have the students select a read-aloud to be heard again.

Drawing Insects

Materials: Drawing paper, drawing tools

Have students draw their favorite insect. Tell them to be sure to label the six legs and the names of the three body parts: head, thorax, and abdomen. Allow students to share their drawings with the class. You may also wish to reread the poem “Hurt No Living Thing” to students while they are drawing.

Class Book

Materials: Drawing paper, drawing tools

Tell the class or a group of students that they are going to make a class book to help them remember what they have learned about insects thus far in this domain. Have students brainstorm important information about the different types, characteristics, and life cycles of insects, which insects are solitary and social, and how insects are helpful and/or harmful. Have each student choose one idea to draw a picture about, and ask him or her to write a caption for the picture. Bind the pages to make a class book to put in the class library for students to read again and again.

Riddles for Core Content

Ask the students riddles such as the following to review core content:

- Most insects begin their life cycle inside of me. What am I? (an egg)
- We help most insects to smell and feel. What are we? (antennae)
- We help most insects to fly, escape from predators, and look for food. What are we? (wings)
- All insects have six of us. What are we? (legs)
- I am the hard outer skeleton of all insects. What am I? (an exoskeleton)
- We are the three main body parts of insects. What are we? (head, thorax, abdomen)
- We work and live together in communities with other insects. What are we? (social insects)
- We do things on our own and do not live and work in communities. What are we? (solitary insects)

You may wish to have students create their own riddles about insects to pose to the class based on what they have learned thus far.

Insect Research

Materials: Insects Journals, trade books, other resources as needed

Have students check their Insects Journals to see if there are any questions they have about insects that have not been answered. Allow them to search through the trade books in the classroom book tub to look for answers. You may also wish to allow them to research using the Internet, library, and other available resources. Have students write in their journals any information that either answers a question or that they find interesting. As time allows, have students share what they find with the class.

Note: You may wish to extend this exercise by having students write and share a brief report about a specific insect. You may wish to have students wear the Insect Hat while sharing their report.

Solitary/Social and Helpful/Harmful (Instructional Masters PP1-1, PP1-2, optional)

Materials: Chart paper, chalkboard, or whiteboard

Copy the instructional masters onto chart paper, a chalkboard, or a whiteboard. Have students help you to fill out the T-Charts for solitary/social insects and helpful/harmful insects. You may also wish to have students complete these instructional masters on their own, writing or drawing information they have learned about insects in each column.

Compare/Contrast

Materials: Chart paper

Tell students that there are many things to compare and contrast in the read-alouds they have heard so far. Remind students that to compare means to tell how things are similar and to contrast is to tell how things are different. Have students choose a topic from the following list to compare/contrast using a Venn diagram or three-column chart. You may do this individually or as a class.

- jumping insects and flying insects
- grasshoppers, crickets, and dragonflies
- nocturnal insects and insects that are active during the day

You may wish to extend this activity by using the chart as a prewriting tool and having students write two sentences, one describing similarities and the other describing differences.

Insect Habitats

Have students discuss all of the different types of habitats where insects live. Emphasize that because there are so many different types of insects, they live in all kinds of places. Allow students to share stories of places where they have seen insects. Remind them that there are more insects than any other animal on the earth.

Key Vocabulary Brainstorming

Materials: Chart paper

Give the students a key domain concept or vocabulary word such as *exoskeleton*. Have them brainstorm everything that comes to mind when they hear the word, such as *external skeleton*, *chitin*, *waterproof*, etc. Record their responses on a piece of chart paper for reference.

Cricket Thermometer

Materials: Watch with second hand, outdoor thermometer

Note: You may wish to have students do this activity at home.

Tell students that insects can give them some clues about temperature. For example, when the temperature drops to forty-eight degrees, grasshoppers cannot fly. If the temperature drops eight degrees more, all insects stop chirping or buzzing. Remind students that crickets chirp faster when the temperature is warmer. Tell students that you are going to do an experiment to see if you can tell the temperature by listening to the number of chirps a cricket makes. Have a student volunteer use a stop watch to count out exactly fourteen seconds. During that time, count the number of chirps you hear from a single cricket. Add forty to the number of

chirps heard, and this will be the approximate temperature. Use an outdoor thermometer to check the results.

On Stage

Have students act out particular insects, and have the rest of the students guess which insect it is. You may wish to allow the student to give clues such as, “I’m a solitary insect,” or “I’m a very harmful insect,” etc.

Writing Prompts

Materials: Writing paper

Students may be given an additional writing prompt such as the following:

- My favorite insect is . . .
- One thing I don’t like about insects is . . .
- Some ways that insects are helpful are . . .
- Some ways that insects are harmful are . . .

Insect Hunt

Take your class outside to see how many insects they can find. Have students observe the insects and draw and/or write notes in their journals. You may also choose to bring insects back into the classroom to observe, perhaps under a microscope.

Carnivore, Omnivore, Herbivore

Materials: Chart paper, chalkboard, or whiteboard

Create a three-column chart on chart paper, a chalkboard, or a whiteboard. Label the three columns “Carnivore,” “Herbivore,” and “Omnivore.” Have students dictate which insects belong under each category, reviewing with them the terms as needed.

6

From Caterpillar to Butterfly



Lesson Objectives

Core Content Objectives

Students will:

- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify and describe the three main body parts of insects: head, thorax, abdomen
- Identify a caterpillar/butterfly as an insect
- Identify the placement and/or purpose of a butterfly's proboscis
- Describe an insect's exoskeleton
- Distinguish between social and solitary insects
- Describe the two types of metamorphosis: complete and incomplete
- Describe the molting process of insects
- Demonstrate familiarity with the poem "Caterpillars"

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age (L.2.3)

- Identify and express physical sensations, mental states, and emotions of self and others (L.2.4)
- Follow multi-step, oral directions (L.2.5)
- Provide simple explanations (L.2.7)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)
- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Make predictions (orally or in writing) prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far, and then compare the actual outcomes to predictions (L.2.12)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Learn synonyms and antonyms (L.2.17)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Compare and contrast (orally or in writing) similarities and differences within a single read-aloud or between two or more read-alouds (L.2.23)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)

- Draw pictures, dictate, or write simple sentences to represent details or information from a read-aloud (L.2.29)
- Share writing with others (L.2.34)
- Generate questions and seek information from multiple sources to answer questions (L.2.40)
- Retell (orally or in writing) important facts and information from a read-aloud (L.2.41)
- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

From Caterpillar to Butterfly, by Deborah Heiligman, is used as the read-aloud in this lesson. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

chrysalis, n. (p. 18) The hard case inside which a caterpillar develops into a butterfly

Example: The butterfly chrysalis becomes clear and transparent right before it is ready to open.

Variation(s): chrysalises, chrysalides

coiled, adj. (p. 28) Wound in circles or loops

Example: Angela unwound the coiled garden hose to water her flowers.

Variation(s): none

larva, n. (p. 11) The early form of an animal that must go through a complete change to become an adult

Example: The larva of a frog is called a tadpole.

Variation(s): larvae

metamorphosis, n. (p. 6) The process of change some young animals go through as they become adults

Example: Insects going through the stages of metamorphosis can look completely different during each phase.

Variation(s): metamorphoses

pupa, n. (p. 19) The stage that occurs between the larva and adult stages in the process of complete metamorphosis

Example: A caterpillar develops into a butterfly with wings while it is a pupa inside a cocoon or chrysalis.

Variation(s): pupae, pupas

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	What Have We Already Learned?	Poster 1, T-Charts, and journals from previous lessons (optional)	10
	Essential Background Information or Terms		
	Sharing the Title and Trade Book Cover	Insect Hat (caterpillar/butterfly)	
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	From Caterpillar to Butterfly	<i>From Caterpillar to Butterfly</i> , by Deborah Heiligman	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions	Image Card 22 Solitary/Social T-Chart	10
	Word Work: Coiled		5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Poetry Reading	chart paper, chalkboard, or whiteboard	20
	Insects Journal	trade books journals from previous lessons	
<i>Take-Home Material</i>	Parent Letter	Instructional Master 6B-1	

6A

From Caterpillar to Butterfly



Introducing the Read-Aloud

10 minutes

What Have We Already Learned?

Ask students which insects they have heard about thus far. You may wish to have students reference the T-Charts you have created, Poster 1, and their Insects Journals as you review what has been learned about each insect. Remind students that when a grasshopper or cricket nymph hatches from an egg, it looks similar to its adult form, but smaller and without fully-developed wings. Ask: “How do these insects change from the nymph stage to the adult stage?” Emphasize that these insects grow and molt out of their exoskeletons several times in order to change from nymphs to adults.

Essential Background Information or Terms

Tell students that this process of change that grasshoppers and crickets go through is called *incomplete metamorphosis* because it is not a full-body change.

Tell students that the insects they are going to learn about next *do* go through a complete, full-body change as they become adults. Tell students that this process of change is called *complete metamorphosis*.

(Note: If students ask about the dragonfly’s metamorphosis, note that it is considered *incomplete*, because it does not go through the pupa stage. You may wish to remind students that dragonfly nymphs are unique because they are born in water and are able to breathe underwater. You may wish to also explain that while dragonfly nymphs are somewhat different from their adult form, they do not go through a full-body change. If this question comes up, you can revisit this topic after this lesson when students have learned about the various stages of *complete metamorphosis*.)

Sharing the Title and Trade Book Cover

Note: You may wish to wear the Insect Hat (caterpillar/butterfly) while you read. You may also wish to have a student volunteer wear the hat at some point in the lesson.

Share the title and author/illustrator information of the trade book. Ask students to describe what they see on the cover. Ask: “Do you think the caterpillar and butterfly are insects? How do you know?” Ask students what differences they see between the caterpillars and the butterfly in the illustration.

Purpose for Listening

Tell students to listen carefully to learn how a caterpillar changes into a butterfly through *complete* metamorphosis.

From Caterpillar to Butterfly

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged.

The first page of the story begins with the text on page 5. The prompts below are listed by page number. The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. Make sure to discuss what students see in each picture as you read each page.

Note: You may wish to use Poster 5 from the Grade 2 *Cycles in Nature* domain as a review of the metamorphosis of caterpillar to butterfly.

Page 5

- . . . **eating green leaves.** Have you ever seen a caterpillar? Like all insects, caterpillars need nourishment. Sometimes a group of caterpillars will eat all of the leaves of a tree and damage the tree. Is this an example of being helpful or harmful?
- . . . **a beautiful butterfly.** Do you think it is easy or difficult for a tiny caterpillar to change into a butterfly? Why?

Page 6

- . . . **into butterflies outdoors.** Who do you think is telling this story? Do all caterpillars turn into butterflies? (Remind students that some types of caterpillars turn into moths, but that in this trade book, this type of caterpillar will turn into a butterfly.)
- . . . **is called metamorphosis.** Remember, **metamorphosis** is the name for the change some young animals go through as they change and develop into their adult bodies. Do you remember the two types of metamorphosis? Which type does the caterpillar go through to become a butterfly?

Page 8

- . . . **on a leaf.** When the mother or female lays the egg, this is the first stage in the life _____.

Page 9

- **... of a pinhead.** (Point to the illustration of the egg.) So the butterfly egg is no larger than the size of a pinhead. That's really small!

Page 10

- **... plants right away.** The butterfly caterpillar's mother knows just what type of leaf to lay her egg on—exactly the type that her newborn will love to eat! This is similar to the moth caterpillar that you heard about that likes to eat wool and fur clothing; the moth caterpillar's mother lays her eggs on these fibers because she knows that her newborn will love to eat them. Why do you think this young caterpillar is so hungry?

Page 11

- **... grow and grow.** (Point to the illustration of the larva.) A **larva** is a newborn insect that is not completely developed. Unlike the nymph, this larva looks very different from the adult form that it will become.

Page 14

- **... is called molting.** So the caterpillar is shedding its exoskeleton so it can grow even bigger. Both nymphs and larvae molt.
- **... four or five times.** (Point to the front three legs of the caterpillar.) How many legs do you see on this caterpillar? (Explain that the front three legs on each side directly behind the head are permanent legs, while the other soft “legs” disappear when the caterpillar becomes a butterfly.)

Page 18

- **... called a chrysalis.** So the **chrysalis** is the special house that a butterfly caterpillar builds around itself. The special house that a moth caterpillar builds around itself has a different name: cocoon. You will hear more about cocoons later.

Page 19

- . . . **called the pupa.** (Point to the chrysalis in the illustration.) The chrysalis is also called the **pupa**, which is the next stage after the larva stage in the process of complete metamorphosis. Grasshoppers, crickets, and dragonflies do not have a pupa stage in their process of incomplete metamorphosis; they change directly from larva to adult.

Page 20

- . . . **caterpillar is changing.** What do you think is happening inside the chrysalis?

Page 21

- . . . **wait and wait.** How long do you think it will take for the butterfly to emerge from the chrysalis?

Page 23

- **It's a butterfly!** What body parts does this butterfly have? (Have a volunteer point to the thin antennae with little knobs, the three main body segments, and the legs. Explain that the butterfly has six legs, but the front two legs are often difficult to see when they are tucked up into its body.)

Page 24

- . . . **saw it happen.** Why do you think this type of butterfly is called a Painted Lady?
- . . . **damp and crumpled.** *Damp* means slightly wet. What does *crumpled* mean? Why do you think the butterfly is crumpled? How do you think the butterfly will be able to fly if its wings are damp and crumpled?

Page 27

- . . . **a little happy.** Why do you think the class is a little sad? Why do you think they are also a little happy?

Page 28

- . . . **called a proboscis.** The word **coiled** means wound in circles or loops. (Compare the proboscis on page 25 to the one on page 29.) The proboscis is a long flexible tube that unwinds when it is time to feed. The adult butterfly is enjoying its first meal after completing its metamorphosis.
- . . . **egg on a leaf.** Why is it important that a female butterfly lay eggs? This is the beginning of the life _____.

Page 29

- . . . **a beautiful butterfly.** So the four stages of the butterfly's life cycle are egg, caterpillar (larva), chrysalis (pupa), and adult butterfly (mating and laying eggs).

Discussing the Read-Aloud

15 minutes

Comprehension Questions

(10 minutes)

1. What is the process called when some young animals change and develop into their adult bodies? (metamorphosis)
2. What happens to the young caterpillar after it hatches out of the egg? (It begins to eat as much as possible so that it will grow larger.) What is the name for the stage of the young caterpillar? (larva)
3. What does it mean for a butterfly larva to molt? (to shed its exoskeleton) Why does a caterpillar molt? (so it can grow larger)
4. When does a caterpillar change into a butterfly? (after it builds a chrysalis and changes into its adult form) What is the name of this stage? (pupa)
5. How do you know a butterfly is an insect? (It has six legs and three body parts: head, thorax, abdomen.) Do you think a caterpillar/butterfly is a solitary insect or a social insect? Why? (It is a solitary insect because it does not live and work together in a community with other butterflies.) [Place Image Card 22 (cabbage caterpillar/butterfly) on the Solitary/Social T-Chart under "Solitary."]

6. How does an adult butterfly eat? (It uncoils its proboscis to feed off the nectar of flowers.) So, if a caterpillar eats leaves, and a butterfly eats nectar from plants, is this insect a carnivore, omnivore, or herbivore? (herbivore)
7. In the read-aloud we learned that one job a caterpillar has is to eat and eat so it will grow and grow. What other jobs does the caterpillar have to do before it can fly as a butterfly? (build a chrysalis; wait; develop into an adult; crack open the chrysalis and climb out; hang upside down and flap its wings to dry them and get the blood flowing; etc.)

I am going to ask a couple of questions. I will give you a minute to think about the questions, and then I will ask you to turn to your neighbor and discuss the questions. Finally, I will call on several of you to share what you discussed with your partner.

8. *Think Pair Share:* How are butterflies and moths similar? (They both start out as caterpillars that hatch from eggs; they go through a pupa stage during complete metamorphosis; they may both be harmful in their caterpillar stage by eating through plants.) How are they different? (Butterflies have thin antennae with little knobs on the ends, while moths have thicker antennae with feathers; butterflies build chrysalises in the pupa stage, while moths build cocoons; moth caterpillars eat wool and fur clothing in addition to plants.) So, which would you rather be—a butterfly or a moth? Why? (Answers may vary.)

Word Work: Coiled

(5 minutes)

1. In the read-aloud, you heard that a butterfly “will sip the flower’s nectar through a long, *coiled* tube called a proboscis.”
2. Say the word *coiled* with me.
3. *Coiled* means wound in circles or loops.
4. The coiled snake was sleeping inside a hollowed log.
5. Have you ever noticed some things that look coiled? Try to use the word *coiled* when you tell about them. (Ask two or three students. If necessary, guide and/or rephrase the students’ responses: “I have seen a coiled . . .”)
6. What’s the word we’ve been talking about? What part of speech is the word *coiled*?

Use a *Synonyms and Antonyms* activity for follow-up. Directions: *Coiled* means wound in circles or loops. The opposite of the word *coiled* is the word *straight*. If something is straight, it has no circular curves or loops. I am going to read several sentences. If what I describe in the sentence is coiled, say, “That is coiled.” If what I describe in the sentence is straight, say, “That is straight.”

1. a water hose wound around a pipe (That is coiled.)
2. a flagpole at school. (That is straight.)
3. a toothpick (That is straight.)
4. spaghetti wrapped around your fork (That is coiled.)
5. a snake’s body curled up while sleeping (That is coiled.)



Complete Remainder of Lesson Later in the Day

6B

From Caterpillar to Butterfly



Extensions

20 minutes

Poetry Reading

Read the following poem to students. Ask students to listen for the process that is being described. You may wish to reread the poem and have students listen for the words that rhyme, writing them on a piece of chart paper, a chalkboard, or a whiteboard.

Caterpillars

by Aileen Fisher

What do caterpillars do?

Nothing much but chew and chew.

What do caterpillars know?

Nothing much but how to grow.

*They just eat what by and by
will make them be a butterfly,*

*But that is more than I can do
however much I chew and chew.*

Discuss what Ms. Fisher is saying about caterpillars. Ask students why it is important for caterpillars to eat and grow. Ask students what it is called when a caterpillar makes a complete change into a butterfly.

Insects Journal

Have students look through today's trade book and through the classroom book tub for trade books about caterpillars and butterflies. Have them draw a picture of a caterpillar and/or butterfly in their journals and write one sentence about something they learned from today's read-aloud. Tell students that they should also write down any questions they may have about caterpillars and butterflies, and have them look through the book tub to search for answers to their questions. You may wish to extend this research beyond the classroom book tub to include online and other resources.

As students share their drawings and sentences with the class, expand upon their vocabulary using richer and more complex language, including, if possible, any read-aloud vocabulary.

Parent Letter

Send home Instructional Master 6B-1.

7

Clara Caterpillar



Lesson Objectives

Core Content Objectives

Students will:

- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify and describe the three body parts of insects: head, thorax, abdomen
- Describe an insect's exoskeleton
- Describe the two types of metamorphosis: complete and incomplete
- Describe the molting process of insects
- Describe the characters, setting, and plot of a story

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age (L.2.3)
- Identify and express physical sensations, mental states, and emotions of self and others (L.2.4)
- Follow multi-step, oral directions (L.2.5)
- Provide simple explanations (L.2.7)

- Learn common sayings and phrases such as “Get up on the wrong side of the bed” (L.2.9)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)
- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Make predictions (orally or in writing) prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far, and then compare the actual outcomes to predictions (L.2.12)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Use narrative language to describe (orally or in writing) characters, a setting, facts, or plot in a read-aloud (L.2.21)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)
- Distinguish fantasy from realistic text (L.2.30)
- Distinguish the following forms of literature: fiction, nonfiction, poetry, and plays (L.2.31)
- Demonstrate understanding (orally or in writing) of literary language, e.g., author, illustrator, characters, setting, plot,

dialogue, and personification, by using this language in retelling stories or creating their own stories (L.2.37)

- Create, tell, and/or draw and write an original story with characters, a beginning, middle, and an end (L.2.39)
- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

Clara Caterpillar, by Pamela Duncan Edwards, is used as the read-aloud in this lesson. There are no page numbers in this particular trade book, so we are counting the first page of the story after the title page as page 1. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

capable, *adj.* (p. 30) Having the ability required for a specific task or accomplishment

Example: Mrs. Morris did not worry while she was away on vacation, because she knew her student Katherine was capable of watering her plants and caring for her cat.

Variation(s): none

captivating, *adj.* (p. 19) Having a special charm or attraction

Example: Seeing a caterpillar change into a butterfly is captivating!

Variation(s): none

clambered, *v.* (p. 8) Climbed with great effort or difficulty

Example: The kids clambered out of their tents as rain seeped inside.

Variation(s): clamber, clambers, clambering

colossal, *adj.* (p. 10) Gigantic; huge

Example: The farmer's autumn harvest included several colossal pumpkins.

Variation(s): none

succulent, *adj.* (p. 26) Full of juice; juicy

Example: Everyone enjoyed the succulent watermelon at the family picnic.

Variation(s): none

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	What Have We Already Learned?		10
	Sharing the Title and Trade Book Cover	Insect Hat (caterpillar/butterfly)	
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	Clara Caterpillar	<i>Clara Caterpillar</i> , by Pamela Duncan Edwards	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions	Solitary/Social T-Chart	10
	Word Work: Colossal		5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Sayings and Phrases: Get Up on the Wrong Side of the Bed		20
	Fictional Narrative Writing: Plan	Instructional Master 7B-1 journals from previous lessons trade books (optional)	

7A

Clara Caterpillar



Introducing the Read-Aloud

10 minutes

What Have We Already Learned?

Ask students riddles to review important concepts and vocabulary associated with the complete metamorphosis of a caterpillar to a butterfly:

- I am the process by which some newborn insects change as they develop into their adult forms. What am I called? (metamorphosis)
- We are the two types of metamorphosis. What are we? (complete and incomplete metamorphosis)
- I am the name for the caterpillar stage that is part of the process of *complete* metamorphosis. What am I? (larva)
- I am the special house where a larva develops into a butterfly. What am I? (a chrysalis)
- I am the name for the chrysalis stage in complete metamorphosis. What am I? (pupa)
- We are the four stages of a butterfly's life cycle. What are we? (egg, caterpillar/larva, pupa/chrysalis, adult butterfly)

You may wish to have students create their own riddles about insects to pose to the class based on what they have learned thus far.

Sharing the Title and Trade Book Cover

Note: You may wish to wear the Insect Hat (caterpillar/butterfly) while you read. You may also wish to have a student volunteer wear the hat at some point during the lesson.

Share the title and author/illustrator information of the trade book. Ask students which stage of the life cycle of a butterfly is depicted

on the cover. Tell students that this book—unlike the others they have heard in this domain—is fiction, and ask them what this means. Remind students that a story has characters, a setting, and a plot. Tell students that the author of this story uses a special type of writing called alliteration that repeats the beginning sounds of words. Ask students what beginning sound is repeated in the title.

Purpose for Listening

Tell students to listen carefully to hear what letter or letter sound is repeated and to listen for the characters, setting, and plot in this story.

Clara Caterpillar

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged.

There are no page numbers in this particular trade book, so we are counting the first page of the story after the title page as page 1. The prompts below are listed by page number. The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. Make sure to discuss what students see in each picture as you read each page.

Page 2

- . . . **a cabbage leaf.** Why do you think the female butterfly laid her egg on this specific type of leaf? Who remembers what this stage in complete metamorphosis is called? That's right, the egg.
- . . . **courageous and contented . . .** or brave and happy

Page 3

- . . . **clustered . . .** or gathered
- . . . **agreed another.** Why do you think Clara has not come out of her egg? Who can tell me which letter or letter sound is being repeated in this story?

Page 4

- . . . **called Clara.** Why hasn't Clara come out? Do you think she will ever come out?

Page 6

- . . . **caterpillar called Catisha.** *Scoffed* means mocked or made fun of.
- . . . **are so common."** or ordinary; Why do you think Catisha is speaking this way?

Page 8

- . . . **and clambered out.** *Scrumptious* means delicious. The word **clambered** means climbed out with great effort or difficulty, like the word *struggled* you heard earlier. Why did Clara finally clamber out of her egg case? Were your predictions correct about what would happen next?

Page 9

- . . . **and capered about.** or moved about playfully

Page 10

- . . . **into colossal caterpillars.** The word **colossal** means gigantic or huge. How did Clara and Cornelius get to be colossal? Who remembers what this stage in complete metamorphosis is called? That's right, the larva.

Page 11

- . . . **make your chrysalis.**" Why does Clara need to make a chrysalis?

Page 12

- . . . **catty?" Clara asked.** or mean
- . . . **crimson-colored butterfly.**" Is this a good reason for Catisha to say mean things about Clara? Why or why not?

Page 14

- . . . **inside their chrysalises.** *Discarded* means they got rid of their skins. Do you remember what it is called when caterpillars shed their hard exoskeletons?

Page 17

- . . . **Clara called back.** If Clara is cozy, is she comfortable inside the chrysalis or uncomfortable? Who remembers what this stage in complete metamorphosis is called? That's right, the pupa.

Page 19

- . . . **climbed delicate creatures.** (Point to the butterflies.) What are these creatures called? Who remembers what this stage in complete metamorphosis is called? That's right, the adult. So, the four stages of Clara's complete metamorphosis are _____, _____, _____, and _____.
- . . . **all look captivating!** The word ***captivating*** means having special charm or attraction.
- . . . **conversing** . . . or talking
- **"You are SPECTACULAR!"** *Spectacular* means breathtaking or sensational. Do you think you would call Catisha spectacular if you were Clara, even after Catisha said something mean to you?

Page 20

- . . . **be ridiculous, Cornelius!**" How do you think Clara feels?

Page 22

- . . . **cawed** . . . or cried out

Page 24

- **Plucking up her courage** . . . or summoning or gathering her courage
- . . . **you scalawag!"** or rascal; If Clara taunted the crow, that means she teased him. Why do you think Clara is helping Catisha when she has been so mean to her?

Page 26

- . . . **cream-colored camellias.** Why was Clara able to camouflage herself in the camellia flowers?
- . . . **crestfallen** . . . or sad
- . . . **a succulent snack."** The word ***succulent*** means juicy. Why was the crow unable to capture Clara?

Page 27

- . . . **crisis is over!**” *Crisis* means danger. What was the crisis?
- **It’s incredible.**” Does Catisha still believe her colors are better than Clara’s? Why not?

Page 30

- . . . **is a scoundrel!**” or a mean creature that can’t be trusted
- . . . **cling** . . . or gather around
- . . . **capable and courageous.**” If Clara is **capable**, that means she is able to stop the crow. Do you think Clara’s actions were brave? Why or why not?

Page 31

- . . . **butterfly,” said Clara.** How do you think Clara is feeling if she is contented?

Discussing the Read-Aloud

15 minutes

Comprehension Questions

(10 minutes)

1. What letter or letter sound is used again and again in this story? (‘c’ or /k/) What are some ‘c’ adjectives that you heard in the read-aloud that describe Clara and the others? (capable, captivating, colossal, etc.)
2. What characters did you meet in the story whose names begin with ‘c’? (Clara, Cornelius, Catisha, Crow) What ‘c’ words can you use to describe each character? (Answers may vary.)
3. What is the setting of this story? (cabbage leaves/garden)
4. Why was it important for this type of butterfly to lay her egg on a cabbage leaf? (When her egg hatched, the young larva would be able to eat just the right type of leaf.) [Point to Image Card 22 (cabbage caterpillar/butterfly) on the Solitary/Social T-Chart under “Solitary” and tell students that this is a picture of a real cabbage caterpillar and cabbage butterfly.]

5. When Clara clambered out of her egg case, she began to eat until she grew to a colossal size. Why was eating so important to her? (She was a young larva that needed to eat so she could grow to her full larva size.) What did Clara have to shed as she grew? (her hard exoskeleton)
6. Why did Clara need to make a chrysalis? (It was time for her to enter into the pupa stage of complete metamorphosis.)
7. After their complete metamorphosis, what captivating and spectacular animals did the caterpillars change into? (They all became adult butterflies.) So, what are the four stages of a butterfly's complete metamorphosis? (egg, larva, pupa, adult)
8. What parts of this story's plot could really happen? (Caterpillars hatch from eggs as larva that eat, molt their exoskeletons, and grow; they form a chrysalis and go through the pupa stage of complete metamorphosis to become butterflies; birds eat insects; insects use camouflage to hide from predators; etc.) What parts of this story's plot could not really happen? (Answers may vary but may include talking animals.) Do you think insects help each other in real life like Clara helped Catisha? (Answers may vary.)

I am going to ask a couple of questions. I will give you a minute to think about the questions, and then I will ask you to turn to your neighbor and discuss the questions. Finally, I will call on several of you to share what you discussed with your partner.

9. *Think Pair Share:* Do you think this story has a moral, or lesson? If so, what do you think the moral is? (Answers may vary.)

Word Work: Colossal

(5 minutes)

1. In the read-aloud, you heard that the characters “grew into *colossal* caterpillars.”
2. Say the word *colossal* with me.
3. *Colossal* means gigantic or huge.
4. Jeffrey visited Yellowstone National Park with his family to see the famous stump of a colossal redwood tree.
5. Have you ever noticed something that is colossal in size? Try to use the word *colossal* when you tell about it. (Ask two or three students. If necessary, guide and/or rephrase the students’ responses: “I have seen a colossal . . .”)
6. What’s the word we’ve been talking about? What part of speech is the word *colossal*?

For follow-up, have students discuss different things that may appear colossal to an insect, but not to a second grader. Make sure students share why they think the object is colossal, encouraging them to use any domain vocabulary learned thus far.



Complete Remainder of the Lesson Later in the Day

7B

Clara Caterpillar



Extensions

20 minutes

Sayings and Phrases:

Get Up on the Wrong Side of the Bed

(5 minutes)

Proverbs are short, traditional sayings that have been passed along orally from generation to generation. These sayings usually express general truths based on experiences and observations of everyday life. While some proverbs do have literal meanings—that is, they mean exactly what they say—many proverbs have a richer meaning beyond the literal level. It is important to help your students understand the difference between the literal meanings of the words and their implied or figurative meanings.

Ask the students if they have ever heard anyone say, “She got up on the wrong side of the bed” or “Did he get up on the wrong side of the bed?” Have the students repeat the proverb “get up on the wrong side of the bed.” Explain that this proverb is another way of saying that someone woke up in a bad mood and is acting grouchy or mean.

Ask students if they have ever woken up in a bad mood and stayed grouchy for awhile. Tell students that instead of saying, “I’m in a really bad mood,” they could say, “I got up on the wrong side of the bed.”

Ask students which character in today’s read-aloud acts grouchy and mean, like she got up on the wrong side of the bed. Ask: “Does Catisha remain grouchy and mean throughout the whole story? Why or why not?” Look for more opportunities to use this saying in the classroom.

Fictional Narrative Writing: Plan (Instructional Master 7B-1)

Tell students that they are going to write a fictional narrative, or story, from the perspective of an insect, similar to the story *Clara Caterpillar* that they just heard. Using their journals, have students review the insects they have learned about so far. You may also wish to have them review some of the trade books from the classroom tub. Tell students that they are also going to learn about honeybees and ants, and that they may choose to write a story from the perspective of one of these insects, even though they are not in their journals yet.

Give each student a copy of Instructional Master 7B-1. Tell students that they are going to use this worksheet to plan their fictional narrative. (Students who have studied the Grade 2 domain *The Ancient Greek Civilization* have had experience planning, drafting, and writing a fictional narrative together as a class.) You may choose to model the stages of this writing process as needed.

After reviewing their journals, have students choose one type of insect and write it at the top of their worksheet on the second blank of the title line. Then have them think of a name for their insect and write it on the first blank of the title line. Remind them that the author of *Clara Caterpillar* chose to use alliteration in her title, and tell them that they may choose to do the same. You may wish to give them examples, such as Andrew Ant, Darla Dragonfly, or Christina Cricket.

You may wish to ask the following content questions as review:

- Is your insect a solitary insect or a social insect?
- How is your insect helpful and/or harmful?
- Does your insect go through incomplete metamorphosis or complete metamorphosis?
- Is your insect a carnivore, herbivore, or omnivore?
- You may wish to ask the following questions to help students organize their story:
- What is the setting of your story?

- Who are the characters?
- What is the plot? (What do you want to happen?)

Have students brainstorm ideas for their insect stories and write words and phrases on their worksheets. Tell students that they may choose to repeat the beginning sounds of certain words throughout their stories, as the author of *Clara Caterpillar* did with the letter 'c' or /k/ sound. You may choose to model alliteration and brainstorming by choosing your own alliterated title and writing down your ideas on chart paper, a chalkboard, or a whiteboard. You may wish to have students work together in groups to allow them to give and receive feedback.

Tell students that they will continue their writing with the draft step the next time you meet.

8

The Honey Makers



Lesson Objectives

Core Content Objectives

Students will:

- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify a bee as an insect
- Identify the placement and/or purpose of a bee's proboscis, legs, and wings
- Distinguish between social and solitary insects
- Describe the two types of metamorphosis: complete and incomplete
- Understand that all members of a social insect colony come from one queen
- Describe the roles of honeybee workers, drones, and queens
- Describe how honeybees communicate with one another through "dances"
- Cite ways in which insects may be helpful and/or harmful

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age (L.2.3)

- Follow multi-step, oral directions (L.2.5)
- Provide simple explanations (L.2.7)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)
- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Make predictions (orally or in writing) prior to and during a read-aloud, based on the title, pictures, and/or text heard thus far, and then compare the actual outcomes to predictions (L.2.12)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Compare and contrast (orally or in writing) similarities and differences within a single read-aloud or between two or more read-alouds (L.2.23)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)
- Share writing with others (L.2.34)
- Demonstrate understanding (orally or in writing) of literary language, e.g., author, illustrator, characters, setting, plot, dialogue, and personification, by using this language in retelling stories or creating their own stories (L.2.37)

- Create, tell, and/or draw and write an original story with characters, a beginning, middle, and an end (L.2.39)
- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

The Honey Makers, by Gail Gibbons, is used as the read-aloud in this lesson. There are no page numbers in this particular trade book, so we are counting the first page of the trade book where the text begins as page 1. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

beekeepers, n. (p. 1) People who care for and raise bees

Example: Jonah's parents are beekeepers who have several wooden hives in their yard.

Variation(s): beekeeper

cocoon, n. (p. 12) A protective case of silk or other material spun by the larvae of certain insects to serve as a covering for the pupa stage

Example: The luna moth caterpillar spun its cocoon on a wide, green leaf.

Variation(s): cocoons

colonies, n. (p. 5) Family groups of living things that live and interact together in a particular environment; communities

Example: Social insects work together to build tunnels in their colonies.

Variation(s): colony

honeycomb, n. (p. 7) A structure of six-sided, thin-walled cells constructed from beeswax by honeybees to hold honey and larvae

Example: Some people like to eat the honeycomb of the beehive.

Variation(s): honeycombs

pollination, n. (p. 19) The transfer of pollen from one part of a flower to another part, which causes the plant to make new seeds

Example: Honeybees help with the pollination of flowers by spreading pollen everywhere they land.

Variation(s): pollinations

queen, n. (p. 8) A single large female that produces eggs in a community or colony of insects

Example: A queen bee lays eggs to keep the colony populated with workers and to keep the life cycle repeating.

Variation(s): queens

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	Personal Connections	honey and/or honeycomb	10
	Sharing the Title and Trade Book Cover	Insect Hat (bee)	
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	The Honey Makers	<i>The Honey Makers</i> , by Gail Gibbons chart paper, chalkboard, or whiteboard Image Cards 12, 23 honeycomb, teaspoon of honey	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions	Image Cards 2, 23, 24 Helpful/Harmful T-Chart	10
	Word Work: Colonies	Solitary/Social T-Chart	5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Fictional Narrative Writing: Draft	Instructional Masters 7B-1, 8B-1	20

8A

The Honey Makers



Introducing the Read-Aloud

10 minutes

Personal Connections

Ask students if they have ever tasted honey or honeycomb. Allow them to share their experiences. Show students the honey and/or honeycomb you brought into the classroom and allow them to taste it. (Make sure to check your school's policy about bringing food into the classroom.)

Sharing the Title and Trade Book Cover

Note: You may wish to wear the Insect Hat (bee) while you read. You may also wish to have a student volunteer wear the hat at some point during the lesson.

Share the title and author/illustrator information of the trade book. Ask students to share what they see on the cover. Ask: Who do you think the honey makers are?

Purpose for Listening

Tell students to listen carefully to learn more about these social honey makers and how they live and work together in communities.

The Honey Makers

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged.

There are no page numbers in this particular trade book, so we are counting as page 1 the first page of the trade book where the text begins, “It is springtime.” The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. The prompts below are listed by page number. Make sure to discuss what students see in each picture as you read each page.

Page 1

- . . . **on a hill**. People who care for and raise bees are called **beekeepers**. Why do you think some people choose to be beekeepers?

Page 5

- . . . **groups called colonies**. The word **colonies**, like the word *communities* that you have heard earlier, refers to family groups of living things that live and interact together. Who can tell me about colonies of people you have learned about? (Students who participated in the Core Knowledge Language Arts program in Grade 1 should be familiar with the thirteen colonies from *The Birth of Our Nation* domain.)

Page 6

- . . . **a hollow tree**. Have you ever seen a beehive?

Page 7

- . . . **called a honeycomb**. Show students the honeycomb again that you brought into the classroom. (Draw the shape of a honeycomb cell and have the students count the number of sides with you.)

Page 8

- . . . **inside all beehives.** (Point to each type of bee as you read.)
- . . . **female worker bees.** The **queen** is a single large female that produces eggs in a community or colony of insects. All social insects live as families that come from one queen. (Point to the queen on Image Card 12 [termites caring for queen] on the Solitary/Social T-Chart.) All of these social insects need each other to survive. Unlike solitary insects like the grasshoppers, crickets, dragonflies, and caterpillars/butterflies you learned about, these social insects depend on each other to do certain jobs to keep the life cycle of the colony repeating.
- . . . **three body parts.** (Pause for students to fill in the three main body parts in the next sentence.)

Page 9

- . . . **mate with her.** Which bee lays thousands of eggs? Which bees mate with the queen? This is one example of how the colony depends on each other to survive.

Page 10

- . . . **of the beehive.** Why do you think this third type of bee is called a worker bee?

Page 11

- . . . **from each one.** What is a larva?
- . . . **throughout its growth.** Why do you think the queen larvae are fed a special kind of food or nourishment? This is another example of how these social insects depend on each other. Do you think these larvae would survive without the worker bees?

Page 12

- . . . **cocoon around itself.** A **cocoon** is a protective case of silk or other material spun by the larva of certain insects. Does anyone remember another insect that spins a cocoon? (Show Image Card 23 [silkworm cocoon].) Silkworms—which are really not worms, but the larvae of a type of moth caterpillar—also spin cocoons of silk, which is where we get our silk to make silk fabric. (Students who have studied the Grade 2 *Early Asian Civilizations* domain should be familiar with this concept.)

- . . . **a pupa develops.** What is a pupa? So, if the honeybee goes from egg to larva to pupa to adult, is this incomplete or complete metamorphosis?

Page 13

- . . . **an adult honeybee.** Does the adult honeybee look anything like the larva? That’s why we say honeybees go through a *complete* metamorphosis.

Page 14

- . . . **a nurse bee.** What do you think a nurse bee does?

Page 15

- . . . **to the hive.** Where do the bees get the nectar and pollen that is stored in the hive? Do you think the colony could survive without these forager bees?

Page 16

- . . . **and its honey.** Have you ever had an encounter with a guard bee?

Page 17

- . . . **for honey making.** So, what are all of the jobs of the worker bee? Why do you think these jobs are so important?

Page 18

- . . . **with her proboscis.** What other insect have you heard about that has a proboscis?
- . . . **her other stomach.** Why do you think the honeybee has a separate stomach to hold the nectar?

Page 19

- . . . **process called pollination.** (Point to the picture in the bottom right-hand corner.) **Pollination** is the movement of pollen from one part of a flower to another, causing the plant to make new seeds. Do you like to eat apples, pears, tomatoes, and cucumbers? What about almonds and chocolate? These foods come from plants pollinated by honeybees.
- . . . **to her hive.** When someone says that they “beeline” or “make a beeline” somewhere, what do you think this means?

Page 20

- . . . **moisture is gone.** Do you think one bee could do this job alone? Do you see why it is necessary that bees live in a colony, or community, together?

Page 21

- . . . **wings to evaporate** . . . or to dry up by turning into a vapor; So, while many insects use their wings to fly, honeybees also use theirs to help make honey.

Page 22

- . . . **nectar and pollen.** How do you think forager bees communicate with each other?

Page 23

- . . . **the flowers are.** So, what are the two types of dances the forager bees do to show the location of flowers with nectar and pollen?
- . . . **teaspoon of honey.** (Show students a teaspoon of honey.) Can you imagine working your whole life—two months or so—to make just this one teaspoon of honey?

Page 25

- . . . **in the frames.** (Point to the picture in the bottom right-hand corner.) In these foundations that beekeepers provide, the six-sided wax cells are already formed, so the bees don't have to spend their time doing that job.

Page 26

- . . . **harvest the honey.** or gather the honey when it is ready

Page 27

- . . . **breaking the honeycomb.** Why do you think the beekeepers are careful not to break the honeycomb?

Page 29

- . . . **the honey makers.** Would you like to be a beekeeper one day? Why or why not?

Discussing the Read-Aloud

15 minutes

Comprehension Questions

(10 minutes)

1. Who are the honey makers? (honeybees and beekeepers)
Who are the people who care for and raise the honeybees in order to have honey? (beekeepers) [Place Image Card 24 (honey and honeycomb) on the Helpful/Harmful T-Chart under “Helpful.”]
2. Where do honeybees live? (They live in hives built by different members within honeybee colonies, some in the wild and some in man-made hives.) What are the three types of honeybees that live in a colony? (one queen, one hundred male drones, and thousands of female worker bees) So, are honeybees social or solitary insects? (social)
3. Why is the queen so important to a social insect colony? (She lives the longest and is the only one that can produce eggs to begin the life cycle, ensuring that the colony continues.) Which type of bee mates with the queen so that she can lay eggs? (drones)
4. Why does a honeybee larva spin a cocoon around itself? (to protect it while the pupa develops into an adult bee)
Why do we say that a honeybee goes through a complete metamorphosis? (because it changes completely as it goes from egg to larva to pupa to adult)
5. Who remembers another helpful insect that spins a silk cocoon from which we get silk to make silk fabric? (the silkworm, the larva of a type of moth caterpillar) [Place Image Card 23 (silkworm cocoon) on the Helpful/Harmful T-Chart under “Helpful.”]
6. What are some of the necessary jobs that worker bees do to maintain a honeybee colony? (cleaning the hive, nursing, wax-making, courting the queen, guarding the hive, and foraging for nectar)

7. Why are foraging honeybees so important for pollination? (They help carry pollen from one part of the flower to another so that new seeds are formed and the flowering plant life cycle is continued.) [Point to Image Card 2 (bee pollinating) on the Helpful/Harmful T-Chart.] The butterfly also helps with pollination when feeding from flowers with its proboscis.
8. How do forager honeybees announce to other members of the hive that they have found new flowers for nectar? (They perform either a circle dance or a wag-tail dance depending on how far away the flowers are from the hive.)
9. *What? Pair Share:* Asking questions after a read-aloud is one way to see how much everyone has learned. Think of a question you can ask your neighbor about the read-aloud that starts with the word *what*. For example, you could ask, “What are some ways that honey is used either by honeybees or the beekeepers?” Turn to your neighbor and ask your “what” question. Listen to your neighbor’s response. Then your neighbor will ask a new “what” question, and you will get a chance to respond. I will call on several of you to share your questions with the class.

Word Work: Colonies

(5 minutes)

1. In the read-aloud, you heard that honeybees “form highly structured groups called *colonies*.”
2. Say the word *colonies* with me.
3. Colonies, like communities, are family groups of living things that live and interact together in a particular environment.
4. The ant colonies in Jeremiah’s backyard worked together to build several ant hills across the lawn.
5. Can you think of some things that live in colonies? Try to use the word *colonies* when you tell about them. (Ask two or three students. If necessary, guide and/or rephrase the students’ responses: “Some things that live in colonies are . . .”)
6. What’s the word we’ve been talking about? What part of speech is the word *colonies*?

Use a *Making Choices* activity for follow-up. Directions: I am going to describe some insects. If the insects I describe are social and live in colonies, say, “colonies.” If the insects I describe are solitary and do not live in colonies, remain silent. (You may wish to refer to the Solitary/Social T-Chart to guide students.)

1. We are dragonflies that breathe water as nymphs and air as adults.
2. We are honeybees that live and work together in a hive.
(colonies)
3. We are grasshoppers that hide in the grass.
4. We are termites that work together to build huge mounds.
(colonies)
5. We are wasps that work together to build paper nests.
(colonies)
6. We are caterpillars that hatch on leaves.



Complete Remainder of the Lesson Later in the Day

8B

The Honey Makers



Extensions

20 minutes

Fictional Narrative Writing: Draft (Instructional Masters 7B-1, 8B-1)

Give each student their copy of Instructional Master 7B-1 and tell them that they are going to continue writing their fictional narrative, or story, about the insect they have chosen. Ask: Is the insect in your story a solitary insect or a social insect? How do you know?

Have students review their titles and brainstorming worksheet to see if there is anything they would like to change. You may wish to have students work together in groups to allow them to give and receive feedback.

Once they have decided on a title and basic story, give students a copy of Instructional Master 8B-1 and have them write their five sentences in the rectangle boxes. Remind students that the first sentence should be an introductory sentence. You may wish to read the first sentence of *Clara Caterpillar* to students as an example. Remind students that the last sentence should be a concluding sentence. You may wish to read the last sentence of *Clara Caterpillar* to students as an example. Also, remind students to use capital letters at the beginning of their sentences and the correct punctuation at the end.

Tell students that they will continue with this draft step and will also complete the edit step the next time you meet.

9

Ant Cities



Lesson Objectives

Core Content Objectives

Students will:

- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify and describe the three main body parts of insects: head, thorax, abdomen
- Identify an ant as an insect
- Identify the purpose of an ant's antennae
- Distinguish between social and solitary insects
- Describe the two types of metamorphosis: complete and incomplete
- Understand that all members of a social insect colony come from one queen
- Describe the social behavior of an ant colony
- Describe the roles of worker ants, males, and queens
- Cite ways in which insects may be helpful and/or harmful

Language Arts Objectives

Students will:

- Use agreed-upon rules for group discussions, i.e., look at and listen to the speaker, raise hand to speak, take turns, say "excuse me" or "please," etc. (L.2.1)
- Carry on and participate in a conversation over at least six turns, staying on topic, initiating comments or responding to a partner's comments, with either an adult or another child of the same age (L.2.3)

- Follow multi-step, oral directions (L.2.5)
- Provide simple explanations (L.2.7)
- Prior to listening to a read-aloud, identify (orally or in writing) what they know and have learned that may be related to the specific story or topic to be read aloud (L.2.10)
- Listen to and understand a variety of texts, including fictional stories, fairy tales, fables, historical narratives, informational text, myths, and poems (L.2.11)
- Describe illustrations (orally or in writing) (L.2.13)
- Use pictures accompanying the read-aloud to check and support understanding of the read-aloud (L.2.14)
- Learn and use (orally or in writing) new words from read-alouds and discussions (L.2.15)
- Learn synonyms and antonyms (L.2.17)
- Answer questions (orally or in writing) requiring literal recall and understanding of the details and/or facts of a read-aloud, i.e., who, what, where, when, etc. (L.2.18)
- Answer questions (orally or in writing) that require making interpretations, judgments, or giving opinions about what is heard in a read-aloud, including answering “why” questions that require recognizing or inferring cause/effect relationships (L.2.22)
- Compare and contrast (orally or in writing) similarities and differences within a single read-aloud or between two or more read-alouds (L.2.23)
- Make personal connections (orally or in writing) to events or experiences in a read-aloud and/or make connections among several read-alouds (L.2.24)
- Draw pictures, dictate, or write simple sentences to represent details or information from a read-aloud (L.2.29)
- Share writing with others (L.2.34)
- Demonstrate understanding (orally or in writing) of literary language, e.g., author, illustrator, characters, setting, plot,

dialogue, and personification, by using this language in retelling stories or creating their own stories (L.2.37)

- Create, tell, and/or draw and write an original story with characters, a beginning, middle, and an end (L.2.39)
- Generate questions and seek information from multiple sources to answer questions (L.2.40)
- Retell (orally or in writing) important facts and information from a read-aloud (L.2.41)
- With assistance, categorize and organize facts and information within a given domain (L.2.43)

Core Vocabulary

Ant Cities, by Arthur Dorros, is used as the read-aloud in this lesson. The page references where the vocabulary words appear in the trade book are noted in parentheses below.

disturb, v. (p. 20) To interrupt the quiet, rest, peace, or order of; to unsettle

Example: The sign on Meradee’s bedroom door said, “Do not disturb,” so no one would bother her while she was doing her homework.

Variation(s): disturbs, disturbed, disturbing

grooming, v. (p. 13) Cleaning; making ready

Example: Matt watched his cat as it was grooming itself by licking its paws.

Variation(s): groom, grooms, groomed

harvester, n. (p. 7) Gatherer; catcher

Example: The harvester gathers and stores food for others.

Variation(s): harvesters

hollowed-out, adj. (p. 26) Having an empty space inside

Example: The carpenter made a small flute out of a hollowed-out piece of wood.

Variation(s): none

husks, n. (p. 11) The dry, outer covering of some seeds; shells

Example: Jane cracked open the husks surrounding the peanuts before eating them.

Variation(s): husk

<i>At a Glance</i>	Exercise	Materials	Minutes
<i>Introducing the Read-Aloud</i>	Sharing the Title and Trade Book Cover	Insect Hat (ant)	10
	What Do We Know?		
	Making Predictions About the Read-Aloud		
	Purpose for Listening		
<i>Presenting the Read-Aloud</i>	Ant Cities	<i>Ant Cities</i> , written and illustrated by Arthur Dorros	15
<i>Discussing the Read-Aloud</i>	Comprehension Questions	Image Cards 25 and 26 Helpful/Harmful T-Chart	10
	Word Work: HOLLOWED-OUT		5
 Complete Remainder of the Lesson Later in the Day			
<i>Extensions</i>	Insects Journal	trade books journals from previous lessons	20
	Fictional Narrative Writing: Edit	Instructional Masters 7B-1 and 8B-1 Editing Checklist (Note: You will need to prepare this prior to the lesson.)	

9A

Ant Cities



Introducing the Read-Aloud

10 minutes

Sharing the Title and Trade Book Cover

Note: You may wish to wear the Insect Hat (ant) while you read. You may also wish to have a student volunteer wear the hat at some point during the lesson.

Share the title and author/illustrator information of the trade book. Ask students to share what they see on the cover. Ask: Are these insects solitary like grasshoppers, crickets, dragonflies, and caterpillars/butterflies? Or are they social like bees?

What Do We Know?

Ask students to share what they already know about ants. Have students describe what ants look like. Ask them to recall places they have seen ants. Have students share what they have seen ants doing.

Making Predictions About the Read-Aloud

Ask students to predict whether ants are helpful and/or harmful.

Purpose for Listening

Tell students to listen carefully to learn more about these social insects called ants and to see if their predictions are correct.

Ant Cities

Below are Guided Listening Supports to be used when pausing within the read-aloud. These prompts will help ensure that students understand critical details and remain engaged. The end of the applicable sentence from the read-aloud is listed in bold as the cue for when to use the prompt. The prompts below are listed by page number. Make sure to discuss what students see in each picture as you read each page.

Page 5

- . . . **hill of dirt?** (Pause for students' responses.)
- . . . **work to do.** Ants must work together in order for all the ants in the anthill to survive. Do you think ants have jobs that are similar to those of the honeybees?

Page 6

- . . . **to their nest.** Honeybees live in a hive; ants live in a _____.

Page 7

- . . . **are harvester ants. Harvester** ants gather and store seeds as food for all of the ants. Could the ant colony survive without these harvester ants?
- . . . **made them all.** Most of an ant's life is spent in its nest with up to a million or more other ants.

Page 9

- . . . **ants stay cozy.** (Read the text that accompanies the illustration that spans both pages 8 and 9.) What does it mean if the ants hibernate during the winter?

Page 10

- . . . **kinds of work.** It sounds like worker ants have a similar role to that of worker bees.
- . . . **city of ants.** Ants do not work individually; they work according to the needs of the nest, or colony, filling the roles for which they were born. Keep listening to hear about the different types of ants in a colony.

Page 11

- . . . **off the seeds.** The shells of some seeds are the **husks**.
- . . . **harvester ants do.** Harvester ants, like the bees you heard about in the previous read-aloud, have two stomachs. The ant digests part of the food for itself in one stomach, and the rest goes into a sac called the social stomach, a sort of storage tank. Why do you think the second stomach is called the “social stomach”? Let’s listen to find out.

Page 12

- . . . **no ant city.** Why do you think there would be no ant city without a queen? (Pause for students’ responses.) The queen ant is the founder of the colony, which means she is the one that starts the ant colony. Does a queen ant have a similar role to that of a queen honeybee?
- . . . **the queen lays.** The queen will spend her life laying eggs in order to start new life cycles for the colony.

Page 13

- . . . **grow into adults.** The word ***grooming*** means cleaning. Ants undergo a complete metamorphosis; they go from eggs to larvae to pupae to adults. What other insects or animals have you learned about that go through complete metamorphosis? (Pause for students’ responses.)

Page 14

- . . . **thousands of workers.** The worker ants take care of the larvae and pupae, and also gather food to feed the queen and the other ants, just like the worker bees. Do you think the ant colony could survive without these ants?

Page 15

- (Point to each image as you read the corresponding description of each ant in a colony.) The worker ants that fight to protect the nest are called “soldier ants,” and they are a little bit larger than regular worker ants.

Page 16

- (Point to each part of the ant nest illustration as you read the corresponding description.)

Page 17

- . . . **ant city alive.** Who can tell me the names of the different ants in a colony? Each ant is born to serve a different purpose in the ant colony, and working together is how they survive.

Page 18

- . . . **like tiny dogs.** (Have a student mimic digging into the ground like a dog. After their demonstration, flip back to page 16.) Can you imagine the amount of digging those tiny ants had to do to create their nest?

Page 19

- . . . **two feet high.** (Using a ruler or your hands, show students how high two feet is.) Who can remember what insects you learned about that have specially designed legs that allow them to jump two feet high?

Page 20

- . . . **disturb their nest.** or bother their nest; Have you ever been bitten by an ant? Were your predictions correct about ants being harmful? If an ant feels it is in danger, it will bite, even if it is far away from its nest.

Page 21

- . . . **with their antennae.** (Point to the antennae in the illustration. Read each description as you point to the corresponding image at the bottom of the page.) Ants can tell who belongs to their colony by smelling the other ants with their antennae. They can also find their way back to their nest by smell. Remember how ants have a “social stomach”? Ants will use their antennae to touch and “tell” other ants when they are hungry. An ant will share the food it has stored in its social stomach with a hungry ant.

Page 22

- . . . **carrying away lunch.** Some ants leave a scent trail to help other ants find where they came from in finding food.
- . . . **lift a car.** Ants may be small, but they sure are strong!

Page 23

- . . . **food they find.** Ants share the food they find because it is best for the survival of the whole colony.

Page 24

- . . . **10,000 kinds of ants.** Ants exist everywhere in the world, especially in habitats where it is warm most of the time. Remember, there are more insects in the world than any other type of animal.

Page 25

- (Read each description and point to its corresponding illustration.)
- . . . **insects, including termites.** Remember those harmful termites that can eat away at trees and houses? Ants are helpful by eating those harmful termites.

Page 26

- . . . **make their cities . . .** or nests
- . . . **kinds of places.** Listen carefully to hear about the different places where different ants can live.
- . . . **hollowed-out tree twigs.** (Point to the illustration.) The empty space inside the twig is what makes it **hollowed-out.**

Page 27

- . . . **hills with thatch.** Thatch can be dead leaves or grass.

Page 28

- . . . **under the sidewalk.** Have you ever seen this type of ant? (Read the small tidbit on the illustration “Pavement ants . . .” and, if possible, have a ruler handy to show 1/8, 1/4, and 2 inches.)

Page 29

- . . . **in rotting wood.** The word *rotting* means weakened and ruining. Ants are helpful because they eat waste and dead and decaying plants, helping them to break down faster. Termites are also helpful in this way by eating rotting wood. Were your predictions correct about ants being helpful, too?

Page 31

- . . . **busy with ants.** So, be on the lookout. You never know where you might see this amazing insect.

Discussing the Read-Aloud

15 minutes

Comprehension Questions

(10 minutes)

1. How would you explain to someone that ants are insects? (They are small, six-legged animals; their bodies are divided into three sections: head, thorax, and abdomen.)
2. Ants have antennae like many insects do. How are the antennae important to ants? (for smell, touch, and communication)
3. How are ants and bees similar? (They are both social insects that live and interact in colonies they construct; they both depend on the other insects in their colonies to survive; they both have queens, males, and workers; they can both sting; they both go through complete metamorphosis; they can both be helpful and harmful; etc.)
4. How are ants and bees different? (Bees make honey and help with pollination, but ants do not; bees eat pollen and nectar from plants, so they are herbivores; ants eat both seeds from plants and other insects, so they are omnivores; bees live in a hive, while ants live in a nest; etc.)
5. How are ants sometimes harmful to people? (They can get into our food supplies; they can bite or sting humans if their nest is disturbed or if they feel they need to protect themselves.) [Place Image Card 25 (red ant biting) on the Helpful/Harmful Chart under “Harmful.”] How are they helpful?

(They eat harmful termites; they eat waste and dead and decaying plants to help them break down faster.) [Place Image Card 26 (ants eating discarded fruit) on the Helpful/Harmful T-Chart under “Helpful.”]

6. You heard that one type of worker ant, the harvester, gathers food and brings it back to the nest. What are some other jobs that the worker ants do? (They crack the husks, or shells, off the seeds; they take care of the eggs the queen lays; they groom the pupae; they fight to protect the nest; they keep the nest clean; and they dig new tunnels to make the nest bigger.)
7. Why is the queen ant so important in the ant colony? (The queen starts the colony and spends her life laying eggs so the life cycle can continue.)
8. Name some habitats where ants live. (underneath the ground, in hollowed-out twigs, in rotting wood, underneath pavement, etc.)
9. *What? Pair Share:* Asking questions after a read-aloud is one way to see how much everyone has learned. Think of a question you can ask your neighbor about the read-aloud that starts with the word *what*. For example, you could ask, “What do ants use their antennae for?” Turn to your neighbor and ask your “what” question. Listen to your neighbor’s response. Then your neighbor will ask a new “what” question, and you will get a chance to respond. I will call on several of you to share your questions with the class.

Word Work: Hollowed-Out

(5 minutes)

1. In the read-aloud, you heard that janitor ants make their nests out of *hollowed-out* tree twigs.
2. Say the word *hollowed-out* with me.
3. The word *hollowed-out* means having an empty space inside.
4. Jean's father made a canoe using a hollowed-out tree trunk.
5. Describe something you have seen that is hollowed-out. Try to use the word *hollowed-out* when you tell about it. (Ask two or three students. If necessary, guide and/or rephrase the students' responses: "I saw a hollowed-out _____.")
6. What's the word we've been talking about? What part of speech is the word *hollowed-out*?

Use a *Synonyms and Antonyms* activity for follow-up. You have heard that the word *hollowed-out* means having an empty space inside. The word *solid* is an antonym, or opposite, of the word *hollowed-out*. *Solid* means without any spaces or holes. Directions: I am going to name several objects. If what I name is a hollowed-out object, say, "hollowed-out." If what I name is not hollowed-out, say, "solid."

1. a bowl (hollowed-out)
2. a rock (solid)
3. a tube (hollowed-out)
4. a marble (solid)
5. a straw (hollowed-out)



Complete Remainder of the Lesson Later in the Day

9B

Ant Cities



Extensions

20 minutes

Insects Journal

Have students look at the covers of the trade books *The Honey Makers* and *Ant Cities*, and also ask them to look through the classroom book tub. Have them draw a picture of a honeybee and a picture of an ant in their journals and write one sentence about something they learned from the read-alouds for each insect. Tell students that they should also write down any questions they may have about bees and ants and have them look through the book tub to search for answers to their questions. You may wish to extend this research beyond the classroom book tub to include online and other resources.

As students share their drawings and sentences with the class, expand upon their vocabulary using richer and more complex language, including, if possible, any read-aloud vocabulary.

Fictional Narrative Writing: Edit (Instructional Masters 7B-1, 8B-1, Editing Checklist)

Give each student their copies of Instructional Masters 7B-1 and 8B-1 and tell them that they are going to continue working on their insect narratives. You may wish to have students work in groups to allow them to give and receive feedback. Have students check that they have said everything they needed or wanted to say about their character(s), setting, and plot.

After students have completed their stories, have them work in pairs or groups to edit their paragraphs using the Editing Checklist you prepared earlier. Remind students to check for capital letters at the beginning of their sentences and correct punctuation at the end.

As time allows, have students share their narratives with the class. Ask students to listen carefully to see if the author chose to use

alliteration, and if so, if they can hear the repeated letter sound in the story. You may also wish to have students share their fictional narratives in Pausing Point 2.

PP2

Pausing Point 2



Note to Teacher

Your students have now heard all of the read-alouds about insects. You may choose to pause here and spend one to two days reviewing, reinforcing, or extending the material taught thus far.

If you do pause, you may have students do any combination of the activities listed below. The activities may be done in any order. You may wish to do one activity on successive days. You may also choose to do an activity with the whole class or with a small group of students who would benefit from the particular activity.

Core Content Objectives Up to This Pausing Point

Students will:

- Classify and identify particular insects as small, six-legged animals with three main body parts
- Identify and describe the three main body parts of insects: head, thorax, abdomen
- Identify the placement and/or purpose of an insect's particular body parts
- Describe an insect's exoskeleton
- Describe the molting process of insects
- Cite ways in which insects may be helpful and/or harmful
- Distinguish between social and solitary insects
- Describe the two types of metamorphosis: complete and incomplete
- Describe the characters, setting, and plot of a story
- Describe the roles of honeybee workers, drones, and queens
- Understand that all members of a social insect colony come from one queen

- Describe how honeybees communicate with one another through “dances”
- Describe the social behavior of an ant colony
- Describe the roles of worker ants, males, and queens
- Demonstrate familiarity with the poem “Caterpillars”

Activities

Note: You may wish to look through the trade books that were used as read-alouds for additional activities.

Image Review

Show the images from any trade book, and have students retell the information from the trade book using the images.

Image Card Review

Materials: Image Cards 1–26

In your hand, hold Image Cards 1–26 fanned out like a deck of cards. Ask a student to choose a card but to not show it to anyone else in the class. The student must then perform an action or give a clue about the picture s/he is holding. For example, for the honey/honeycomb, a student may pretend to be a bee gathering nectar and pollen or a beekeeper caring for bees. The rest of the class will guess what insect or object is being described. Proceed to another card when the correct answer has been given.

Domain-Related Trade Book or Student Choice

Materials: Trade book

Read an additional trade book to review a particular insect or concept about insects; refer to the books listed in the domain introduction. You may also choose to have the students select a read-aloud to be heard again.

Key Vocabulary Brainstorming

Materials: Chart paper

Give the students a key domain concept or vocabulary word such as *colonies*. Have them brainstorm everything that comes to mind when they hear the word, such as *social, ants, honeybees*, etc. Record their responses on a piece of chart paper for reference.

Riddles for Core Content

Ask the students riddles such as the following to review core content:

- I am the process by which some newborn insects change completely as they develop into their adult forms. What am I called? (metamorphosis)
- We are the two types of metamorphosis. What are we? (complete and incomplete metamorphosis)
- I am the name for the caterpillar stage in the process of complete metamorphosis. What am I? (larva)
- I am the name for the chrysalis or cocoon stage in the process of complete metamorphosis. What am I? (pupa)
- We are the four stages in the life cycle of an insect that undergoes complete metamorphosis. What are we? (egg, larva, pupa, adult)
- I am the female that produces the eggs of a social colony, allowing the life cycle to continue. What am I? (the queen)
- We are the male bees that mate with the queen. What are we? (the drones)

You may wish to have students create their own riddles about insects to pose to the class based on what they have learned.

Drawing Insects

Materials: Drawing paper, drawing tools

Have students draw their favorite insect. Tell them to be sure to label the six legs and the names of the three body parts: head, thorax, and abdomen. Allow students to share their drawings with the class. You may also wish to reread the poem “Caterpillars” to students while they are drawing.

Insect Research

Materials: Insects Journals, trade books, other resources as needed

Have students check their Insects Journals to see if there are any questions they have about insects that have not been answered. Allow them to search through the trade books in the classroom book tub to look for answers. You may also wish to allow them to research using the Internet, library, and other available resources. Have students write in their journals any information that either answers a question or that they find interesting. As time allows, have students share what they find with the class.

Note: You may wish to extend this exercise by having students write and share a brief report about a specific insect. You may wish to have students wear the Insect Hat while sharing their report.

Solitary/Social and Helpful/Harmful (Instructional Masters PP2-1, PP2-2, optional)

Materials: Chart paper, chalkboard, or whiteboard

Copy the instructional masters onto chart paper, a chalkboard, or a whiteboard. Have students help you to fill out the T-Charts for solitary/social insects and helpful/harmful insects. You may also wish to have students complete these instructional masters on their own, writing or drawing information they have learned about insects in each column.

Class Book

Materials: Drawing paper, drawing tools

Tell the class or a group of students that they are going to add to the class book they started previously to help them remember what they have learned about insects in this domain. Have students brainstorm important information about the characteristics and life cycles of insects, including complete and incomplete metamorphosis, which insects are solitary and social, and how insects are helpful and/or harmful. Have each student choose one idea to draw a picture of and ask him or her to write a caption for the picture. Bind the pages to make a class book to put in the class library for students to read again and again.

Compare/Contrast

Materials: Chart paper, chalkboard, or whiteboard

Tell students that there are many things to compare and contrast in the read-alouds they have heard so far. Remind students that to compare means to tell how things are similar and to contrast is to tell how things are different. Have students choose a topic from the following list to compare/contrast using a Venn diagram or three-column chart. You may do this individually or as a class.

- complete and incomplete metamorphosis
- ants and bees
- molting and hatching from an egg

You may wish to extend this activity by using the chart as a prewriting tool and having students write two sentences, one describing similarities and the other describing differences.

On Stage

Have students act out particular insects and have the rest of the students guess which insect it is. You may wish to allow the student to give clues such as, “I’m a social insect,” or “I’m a very helpful insect,” etc.

Listen to Music

Materials: Recordings of music and sound effects

Have students listen to “Flight of the Bumblebee” by Nikolai Rimsky-Korsakov and ask them why they think this song has this title. Sing “The Ants Go Marching” and other fun songs about insects. You may also wish to play recordings of chirping crickets and other insect sounds.

How Does a Bee Become a Bee? (Instructional Master PP2-3)

Give each student a copy of Instructional Master PP2-3 and tell them that they are going to fill out the worksheet showing the four stages of a bee’s complete metamorphosis. As students complete and discuss the worksheet, expand upon their vocabulary using richer and more complex language, including, if possible, any read-aloud vocabulary.

Writing Prompts

Students may be given an additional writing prompt such as the following:

- My favorite story about insects is . . .
- Some social insects that I know of are . . .
- Some solitary insects that I know of are . . .
- The difference between complete and incomplete metamorphosis is . . .

How Insects Help Us

Materials: Silk, honey/honeycomb, foods from plants pollinated by bees

Bring in some silk fabric or honey/honeycomb to show students products that are made possible with the help of insects. You may also wish to bring in samples of apples, pears, tomatoes, cucumbers, almonds, and chocolate to show students the variety of plant products pollinated by bees. (Make sure to check your school’s policy about bringing food into the classroom.)

Observing Metamorphosis

Materials: Butterfly kit

Allow students to observe the four stages of a butterfly's metamorphosis: egg, caterpillar, chrysalis, and adult. Have students draw and/or write notes in their journals about the experience.

Observing Social Insects

Take your class on a trip to visit a museum that has a beehive, or set up an ant colony in your classroom. Have students observe the insects' social behavior and draw and/or write notes in their journals.

Insect Hunt

Take your class outside to see how many insects they can find. Have students observe the insects and draw and/or write notes in their journals. You may also choose to bring insects back into the classroom to observe, perhaps under a microscope.

The Grasshopper and the Ants

If students participated in the Core Knowledge Language Arts program in Kindergarten, they may be familiar with the fable *The Grasshopper and the Ants* from the *Seasons and Weather* domain. Read this fable with students and discuss the differences between the solitary grasshopper and the social ants, as well as the moral of the story. You may also wish to have students act out the fable.

A Picnic for Ants

Materials: Chart paper; food for ants, including lettuce, sugar, honey, breadcrumbs, seeds, etc.

Ask students to recall some of the things they learned that ants like to eat, such as seeds, insects, sweets, etc. Tell students that you are going to create a picnic for ants to find out more about the different foods ants like to eat.

Find an active anthill on your school property on your own or together as a class.

Tear some lettuce into small pieces, put some sugar or honey on a leaf, and place some small breadcrumbs near the anthill, preferably a couple of inches apart from each other and at equal distances from the anthill.

Return to the classroom and have students predict what foods they think the ants will like more and why. Record students' predictions on chart paper. After an hour or so, or toward the end of the day, visit the ant picnic site and observe the ants. What foods do the ants like the most? What foods do the ants like the least? Record students' observations on chart paper. Ask students if their predictions were correct.

If you are unable to take your class outside to complete this activity, you may wish to set up an ant farm in your classroom. There are simple instructions on how to make an ant farm at the end of the trade book *Ant Cities*.



This domain assessment evaluates each student's retention of the core content targeted in *Insects*.



Domain Assessment

Note: You may wish to have students do the three parts of the assessment in two or three sittings. For Part III, you may have students answer three questions in one sitting and two in another sitting. Some students may need help reading the questions for Part III.

Part I (Instructional Master DA-1)

Directions: Look at the picture of the ant and its three body parts. Write the name of the body part on each blank. (head, thorax, abdomen)

Part II (Instructional Master DA-2)

Directions: I am going to read some statements about insects. If the statement is true, circle the 'T.' If the statement is false, circle the 'F.'

1. Insects are the smallest group of animals on the earth. (F)
2. All insects look exactly the same. (F)
3. Insects have six legs and three main body parts. (T)
4. Insects have skeletons on the inside of their bodies like we do. (F)
5. Grasshoppers, crickets, and dragonflies are solitary insects. (T)
6. The job of the drone honeybee is to mate with the queen. (T)
7. All members of a social insect colony come from one queen. (T)
8. Spiders are insects. (F)
9. Insects' exoskeletons are made from a hard substance called chitin. (T)
10. Insects use their antennae to smell and feel. (T)

Part III (Instructional Master DA-3)

Directions: Write one to two complete sentences to answer each question or statement.

Note: You may need to have some students respond orally if they are not able to respond in writing.

1. What are some ways that insects are helpful and/or harmful?
2. What is the difference between a solitary insect and a social insect?
3. Describe the molting process of insects.
4. How are complete and incomplete metamorphosis different?
5. What is your favorite thing that you learned about insects, and why?

For Teacher Reference Only:
Copies of *Tell It Again! Workbook*





Dear Parent or Guardian,

During the next several days your child will be learning about the largest group in the animal kingdom: insects. S/he will learn about the many different types of insects, what characterizes an animal as an insect, the life cycle of insects, and how insects may be helpful and/or harmful. Your child will also learn how to tell the difference between social insects and solitary insects. Below are some suggestions for activities that you may do at home to reinforce what your child will be learning about insects.

1. Insect Exploration

Take a walk with your child around your backyard, neighborhood, or a park to explore how many different insects s/he can find. Have your child identify insects they have learned about and explain to you how they know they are insects. Identifying characteristics should include six legs and three main body parts: head, thorax, and abdomen. Your child may also share that some insects have wings and antennae.

2. Spiders

Have your child explain why a spider is not an insect. Although a spider does have an exoskeleton like an insect, it does not have six legs and three body parts; instead, it has eight legs and two body parts.

3. Solitary or Social Insects

Your child will learn that solitary insects—such as grasshoppers, crickets, and dragonflies—are those that live on their own, while social insects—such as bees and ants—are those that live and work together in colonies. Have your child discuss with you the differences between these two categories of insects and name examples of insects in both groups.

4. Draw and Write

Have your child draw a picture of a favorite insect they have recently learned about and write a sentence telling what they find special about it. Have your child share the drawing and writing with you. Ask questions to encourage your child to repeat the vocabulary learned at school.

5. Sayings and Phrases: Eaten Out of House and Home

Your child will learn the saying, “Eaten out of house and home” in relation to some insects that are deemed harmful because they eat the food in our pantries and gardens, as well as the wood some homes are made of. Ask your child how this saying relates to insects they have learned about and discuss with your child situations where one might use the saying, “Eaten out of house and home.”

6. Words to Use

Below is a list of some of the words that your child will be using and learning about. Try to use these words as they come up in everyday speech with your child.

- *antennae*—Andrea saw the cricket use its long antennae to feel for objects around it.
- *catapulted*—The grasshopper catapulted from one side of the picnic bench to the other.
- *chitin* (*KYE-ton*)—The ant’s hard exoskeleton made of chitin helped to keep it protected.
- *molting*—Jason knew his pet snake had finished molting when he found dried skin in the cage.
- *thorax*—An insect’s thorax lies between its head and its abdomen.

7. Read Aloud Each Day

It is very important that you read with your child every day. There should be time to read to your child and also time to listen to your child read to you. I have attached a list of recommended trade books related to insects that may be found at the library.

Be sure to praise your child whenever s/he shares what has been learned at school.



Recommended Trade Books for Insects

Used as a Domain Read-Aloud

1. *About Insects*, by Cathryn Sill (Peachtree Publishers Ltd., 2000) ISBN 561452327
2. *Ant Cities*, by Arthur Dorros (HarperCollins Publishers, 1987) ISBN 0064450791
3. *Are You a Dragonfly?*, by Judy Allen and Tudor Humphries (Kingfisher, 2001) ISBN 0753458051
4. *Are You a Grasshopper?*, by Judy Allen (Kingfisher, 2002) ISBN 0753458063
5. *Bugs are Insects*, by Anne Rockwell (HarperCollins Publishers, 2001) ISBN 0064452034
6. *Chirping Crickets*, by Melvin Berger (HarperCollins Publishers, 1998) ISBN 0064451801
7. *Clara Caterpillar*, by Pamela Duncan Edwards (Harper Trophy, 2001) ISBN 064436915
8. *From Caterpillar to Butterfly*, by Deborah Heiligman (HarperCollins Publishers, 1996) ISBN 0064451291
9. *The Honey Makers*, by Gail Gibbons (Mulberry Books, 1997) ISBN 0688175317

Trade Book List

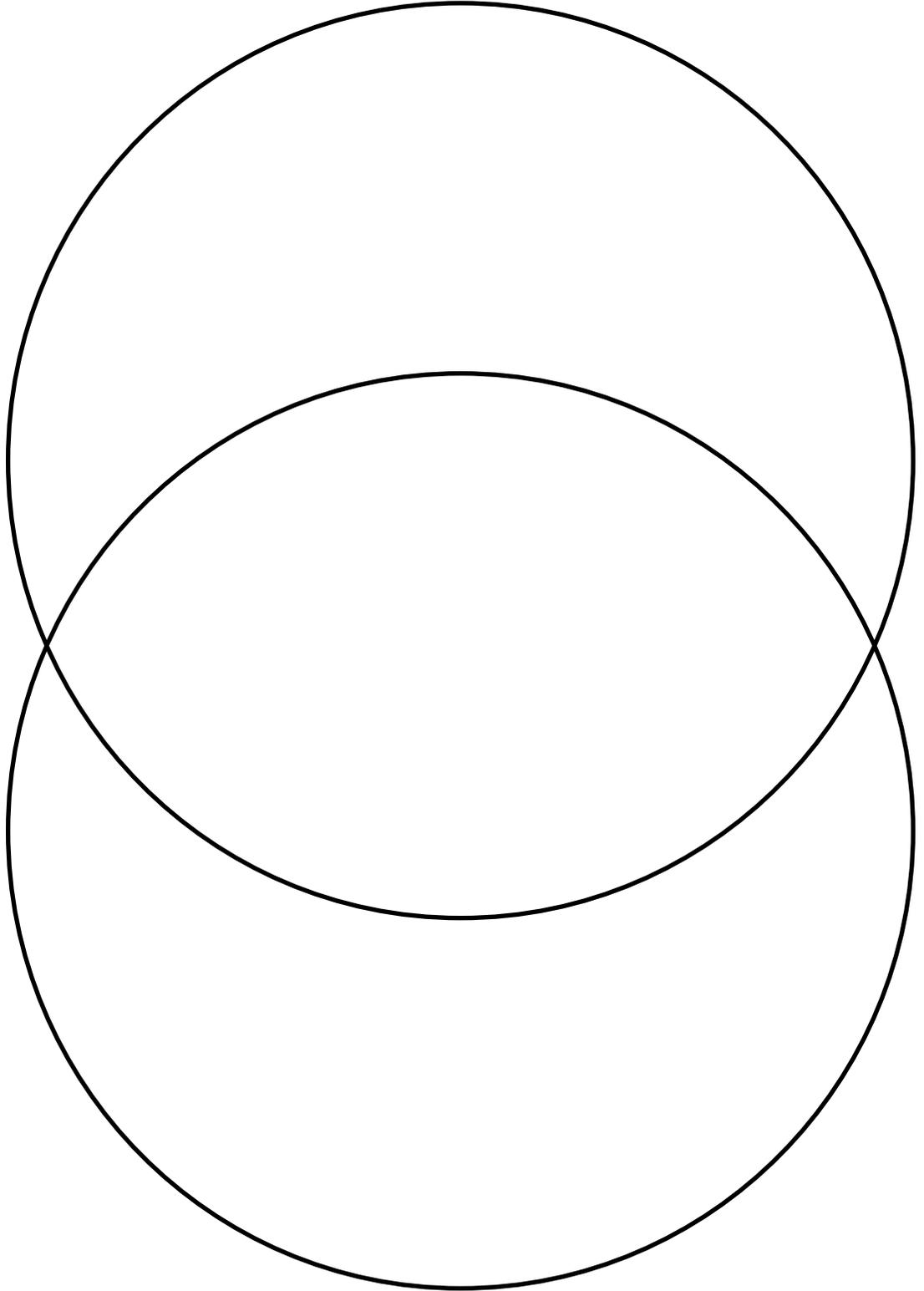
10. *Are You a Bee?*, by Judy Allen (Kingfisher, 2000) ISBN 0753458044
11. *Are You a Butterfly?*, by Judy Allen (Kingfisher, 2000) ISBN 0753456088
12. *Are You a Ladybug?*, by Judy Allen (Kingfisher, 2000) ISBN 0753456033
13. *Are You an Ant?*, by Judy Allen (Kingfisher, 2002) ISBN 0753458037
14. *Beetles*, by Cheryl Coughlan (Capstone Press, 1999) ISBN 0736802355
15. *Beetles (A True Book)*, by Ann O. Squire (Children's Press, 2003) ISBN 0516293583
16. *Children's Guide to Insects and Spiders*, by Jinny Johnson (Simon & Schuster, 1996) ISBN 0689811632
17. *Crickets*, by Cheryl Coughlan (Capstone Press, 1999) ISBN 0736882081
18. *Crickets and Grasshoppers (A True Book)*, by Ann O. Squire (Children's Press, 2003) ISBN 0516293575
19. *The Dragonfly Door*, by John Adams (Feather Rock Books, Inc., 2007) ISBN 1934066126
20. *Eliza and the Dragonfly*, by Susie Caldwell Rinehart (Dawn Publications, 2004) ISBN 1584690593
21. *Grasshopper on the Road*, by Arnold Lobel (HarperCollins Publishers, 1978) ISBN 0064440943

22. *Grasshoppers*, by Margaret Hall (Capstone Press, 2005) ISBN 0736850964
23. *Hey Little Ant*, by Phillip and Hannah Hoose (Tricycle Press, 1998) ISBN 1883672546
24. *Honey in a Hive*, by Anne Rockwell (HarperCollins Publishers, 2005) ISBN 0064452045
25. *Honeybees*, by Joyce Milton (Grosset & Dunlap, 2003) ISBN 0448428466
26. *How to Hide a Butterfly*, by Ruth Heller (Grosset & Dunlap, 1992) ISBN 044840477X
27. *Hurry and the Monarch*, by Antoine Ó Flatharta (Dragonfly Books, 2005) ISBN 0385737197
28. *The Insect Book*, by Connie Zakowski (Rainbow Books, Inc., 1997) ISBN 1568250371
29. *Inside an Ant Colony*, by Allan Fowler (Children's Press, 1998) ISBN 051626365X
30. *Ladybugs*, by Mia Posada (Carolrhoda Books, 2002) ISBN 0822569892
31. *The Life and Times of the Ant*, by Charles Micucci (Houghton Mifflin, 2003) ISBN 0618689491
32. *The Life and Times of the Honeybee*, by Charles Micucci (Houghton Mifflin, 1995) ISBN 039586139X
33. *The Life Cycle of a Butterfly*, by Bobbie Kalman (Crabtree Publishing Company, 2002) ISBN 0778776895
34. *The Life Cycle of a Dragonfly*, by JoAnn Early Macken (Weekly Reader Early Learning Library, 2006) ISBN 083686381X
35. *The Life Cycle of a Honeybee*, by Bobbie Kalman (Crabtree Publishing Company, 2004) ISBN 0778706946
36. *The Life Cycle of an Ant*, by Bobbie Kalman and Hadley Dyer (Crabtree Publishing Company, 2006) ISBN 0778707004
37. *The Magic School Bus: Inside a Beehive*, by Joanna Cole (Scholastic, 1996) ISBN 0590257218
38. *Monarch Butterfly*, by David M. Schwartz (Creative Teaching Press, Inc., 1999) ISBN 1574715798
39. *Monarch Butterfly*, by Gail Gibbons (Holiday House, 1989) ISBN 0823409090
40. *A Monarch Butterfly's Life*, by John Himmelman (Children's Press, 1999) ISBN 0516265377
41. *Old Cricket*, by Lisa Wheeler (Aladdin Paperbacks, 2003) ISBN 1416918558
42. *On Beyond Bugs!*, by Tish Rabe (Random House, 1999) ISBN 0679873037
43. *Sarah's Story*, by Bill Harley (Tricycle Press, 1996) ISBN 1582461783
44. *The Very Quiet Cricket*, by Eric Carle (Penguin Group, 1990) ISBN 0399218858
45. *Where Butterflies Grow*, by Joanne Ryder (Puffin Books, 1989) ISBN 0140558586

Directions: Use this Venn diagram to compare and contrast grasshoppers and crickets. Write how these insects are alike in the overlapping part of the Venn diagram. Write how these insects are different in the part of the circle for each insect.

Grasshoppers

Crickets



Directions: Follow the teacher's instructions to show how insects may be helpful and/or harmful by drawing or writing in each column.

Helpful

Harmful

Name _____

Directions: Follow the teacher's instructions to show which insects are solitary and which are social by drawing or writing in each column.

Solitary	Social



Dear Parent or Guardian,

Your child has been learning about the largest animal group: insects. Today your child heard about one type of solitary insect which undergoes complete metamorphosis, beginning its life as an egg and completing three more stages: larva (caterpillar), pupa (chrysalis) and adult (butterfly). During the next several days your child will also learn about two other types of insects that undergo complete metamorphosis: honeybees and ants. S/he will also learn what makes these insects social, as well as how they may be considered helpful and/or harmful. Below are some suggestions for activities that you may do at home to reinforce what your child has been learning about insects.

1. Insect Review

Have your child find different examples of insects in magazines, newspapers, or on the Internet, and share with you how they know they are classified as insects. Have them choose a few of their favorite insects and describe what makes them special.

2. Helpful or Harmful

Have your child share with you ways in which some insects near your home or neighborhood are helpful and/or harmful. Your child will learn about several products we receive from insects, including honey and honeycomb from bees, and silk from silkworms—the larvae of a type of moth caterpillar. Your child will also hear how bees help to pollinate many plants, including apples, pears, tomatoes, and cucumbers. Other items we enjoy because of pollination include almonds, chocolate, coffee, and tea. You may wish to share some samples of these foods with your child.

3. Draw and Write

Have your child draw a picture of a beehive or an ant nest and talk about the various jobs that these social insects do every day. Ask questions to encourage your child to repeat the vocabulary learned at school.

4. Sayings and Phrases: Get Up on the Wrong Side of the Bed

Your child will learn the saying, “Get up on the wrong side of the bed” in relation to what can happen if you wake up in a bad mood and remain grouchy for the rest of the day. Ask your child how this saying relates to an insect they have heard a story about, and discuss whether an insect can really “wake up” in a bad mood. Share with your child situations where one might use the saying, “Get up on the wrong side of the bed.”

5. Words to Use

Below is a list of some of the words that your child will be using and learning about. Try to use these words as they come up in everyday speech with your child.

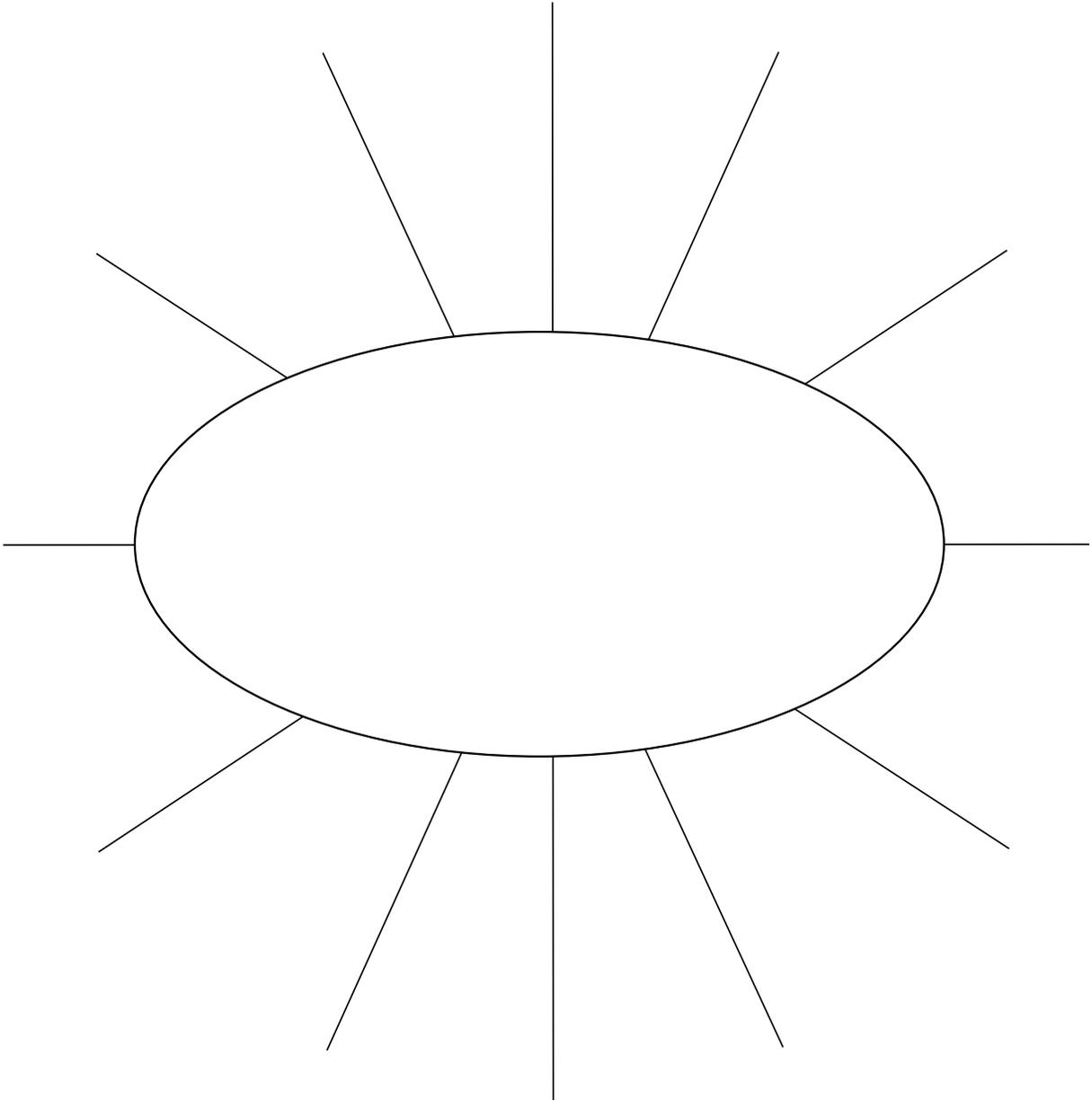
- *captivating*—The nighttime display of firefly lights was captivating to watch.
- *colossal*—The farmer’s autumn harvest included several colossal pumpkins.
- *drone*—The male drone bees spend their days mating with the queen.
- *grooming*—Many insects spend time grooming themselves and each other during the day.
- *metamorphosis*—The complete metamorphosis of caterpillar larva to pupa to adult butterfly is an amazing transformation.

6. Read Aloud Each Day

It is very important that you read with your child every day. There should be time to read to your child and also time to listen to your child read to you. Remember to use the recommended trade book list sent with the first parent letter.

Be sure to praise your child whenever s/he shares what has been learned at school.

Directions: Write the type of insect you have chosen to write your fictional narrative about in the oval. On the spokes coming out of the oval, write any words or phrases you can think of about your insect. Also include ideas for other characters, the setting, and the plot.



Directions: Write the introductory sentence for your paragraph in the first rectangle. Write the three supporting sentences in the second, third, and fourth rectangles. Write your concluding sentence in the fifth rectangle.

Name _____

Directions: Follow the teacher's instructions to show how insects may be helpful and/or harmful by drawing or writing in each column.

Helpful	Harmful

Directions: Follow the teacher's instructions to show which insects are solitary and which are social by drawing or writing in each column.

Solitary

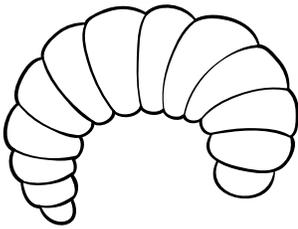
Social

Directions: These four pictures show the stages of a bee's complete metamorphosis. Write the name of each stage next to the matching picture. Then use the numbered letters to complete the answer to the question.

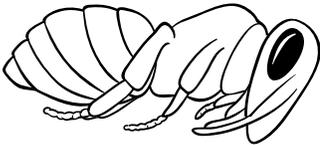
adult	egg	larva	pupa
-------	-----	-------	------



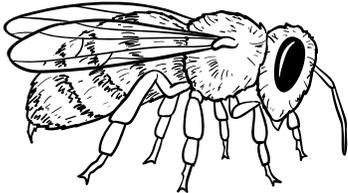
_____ 1 _____ 2 _____ 3



_____ 4 _____ 5 _____ 6 _____ 7 _____ 8



_____ 9 _____ 10 _____ 11 _____ 12



_____ 13 _____ 14 _____ 15 _____ 16 _____ 17

What place does a bee like to visit?

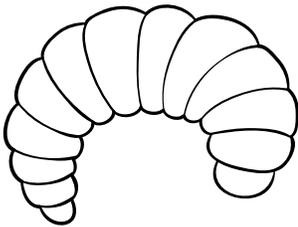
_____ 2 _____ 12 _____ 6 _____ 14 _____ 1 _____ ?

Directions: These four pictures show the stages of a bee's complete metamorphosis. Write the name of each stage next to the matching picture. Then use the numbered letters to complete the answer to the question.

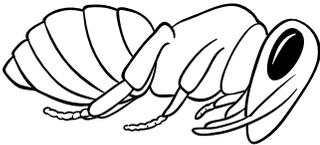
adult	egg	larva	pupa
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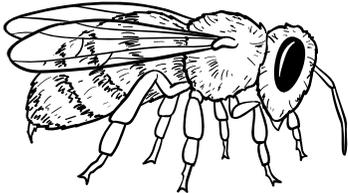
$\frac{e}{1}$ $\frac{g}{2}$ $\frac{g}{3}$



$\frac{l}{4}$ $\frac{a}{5}$ $\frac{r}{6}$ $\frac{v}{7}$ $\frac{a}{8}$



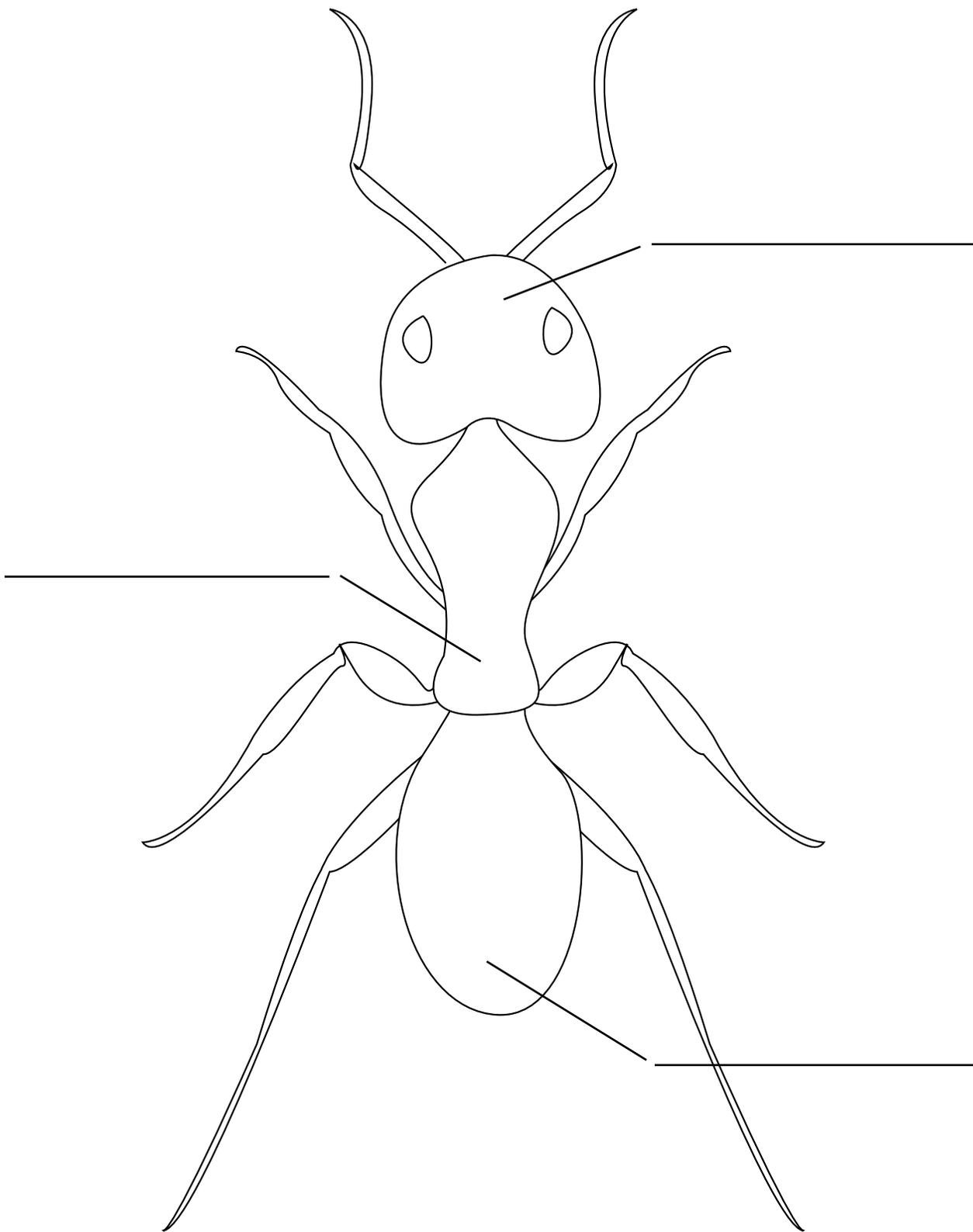
$\frac{p}{9}$ $\frac{u}{10}$ $\frac{p}{11}$ $\frac{a}{12}$



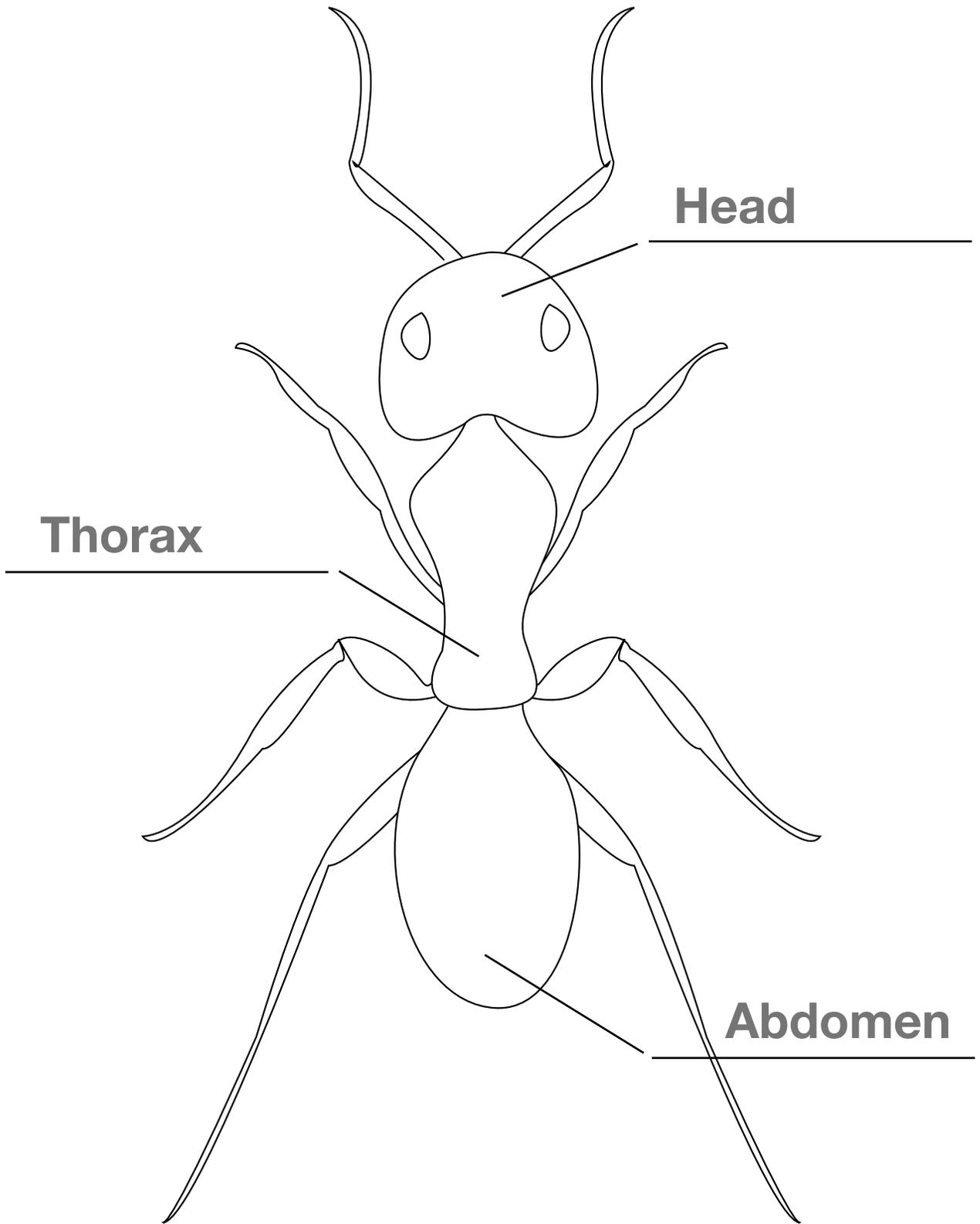
$\frac{a}{13}$ $\frac{d}{14}$ $\frac{u}{15}$ $\frac{l}{16}$ $\frac{t}{17}$

What place does a bee like to visit?

$\frac{g}{2}$ $\frac{a}{12}$ $\frac{r}{6}$ $\frac{d}{14}$ $\frac{e}{1}$ $\frac{n}{?}$



Directions: Label the three main body parts of this ant.



Directions: Label the three main body parts of this ant.

Directions: Your teacher is going to read some statements about insects. If the statement is true, circle the 'T.' If the statement is false, circle the 'F.'

1. T F

2. T F

3. T F

4. T F

5. T F

6.

T

F

7.

T

F

8.

T

F

9.

T

F

10.

T

F

Directions: Your teacher is going to read some statements about insects. If the statement is true, circle the 'T.' If the statement is false, circle the 'F.'

1.

T

 F

2.

T

 F

3.

 T

F

4.

T

 F

5.

 T

F

6. T F

7. T F

8. T F

9. T F

10. T F

1. What are some ways that insects are helpful and/or harmful?

2. What is the difference between a solitary insect and a social insect?

3. Describe the molting process of insects.

Directions: Write one to two complete sentences to answer each question or statement.

4. How are complete and incomplete metamorphosis different?

5. What is your favorite thing that you learned about insects, and why?

ACKNOWLEDGMENTS

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