

Click®

Bug Me!

Insects are characterized by a three-part body, six legs, two antennas, and usually two pairs of wings. This issue of CLICK magazine explores the lifecycle and anatomy of insects and provides the reader with interesting facts presented in both fiction and nonfiction formats.

CONVERSATION QUESTION

How do insects grow and change?

TEACHING OBJECTIVES

- Students will learn about the anatomy of insects.
- Students will learn how insects change as they grow from eggs to adults.
- Students will learn about the life cycle of the praying mantis.
- Students will examine structure and function.
- Students will study the lifecycle of insects.
- Students will analyze cyclical patterns.
- Students will participate in a sorting activity.
- Students will investigate the different names of some insects as larvae and pupa.
- Students will learn how some insects and animals are named for their abilities and appearances.



In addition to supplemental materials focused on core STEAM skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

SELECTIONS

- **Insect or Not?**
Expository Nonfiction, ~760L
- **BugCycle**
Expository Nonfiction, ~830L
- **Abby's Mantises**
Realistic Fiction, ~660L

Click® Teacher Guide: September 2024

Insect or Not?

pp. 12–13, Expository Nonfiction

There are currently more than one million different kinds of documented insect species in the world. This article teaches young readers how to positively identify these creepy crawlies.



ENGAGE

Conversation Question: How do insects grow and change?

Present the article, "Insect or Not?" and have the students turn to page 13. Give the class time to look at all of the bugs in the right column with the title question, "Can you tell which of these critters are insects?" Ask students to name the insects that they recognize and list the responses on the board. Pose the question, "How many of the bugs are insects?" Record the answer, then tell them that a defining feature of insects is that they must have six legs. Repeat question and recount. Discuss how answers often change when additional knowledge is acquired.

INTRODUCE VOCABULARY

Post the key words and discuss the meanings of the terms. Based on the definitions, have students use critical thinking skills to decide which word does *NOT* belong in the following categories.

Animals that have an **exoskeleton**: (lobster/skunk/insect/turtle)

Creatures that have **spiracles**: (grasshopper/mosquito/mouse/fly)

(Answers: skunk, mouse) Have students locate and circle these words in the reading.

RESOURCES

Examine Structure and Function:
Buggin' Out

OBJECTIVES

- Students will learn about the anatomy of insects.
- Students will examine structure and function.
- Students will participate in a sorting activity.

KEY VOCABULARY

- **exoskeleton** (p. 12) a hard covering that supports and protects the bodies of some types of animals; a shell
- **spiracles** (p. 13) tiny holes on the sides of an insect's body used for breathing

READ & DISCUSS

Lead a discussion based on the following questions.

1. How do you know if a critter is an insect?
2. What is "missing" from an insect's head?
3. How is an insect's skeleton different from a human's skeleton?
4. What do most adult insects have two pairs of?
5. List the three main body parts that every insect has.

SKILL FOCUS: Structure and Function

INSTRUCT: Guide students to obtain information from the text, captions, and photographs in the article. Remind them that the article was written to teach readers about the anatomy of an insect. Present the graphic organizer, *Buggin' Out*, and tell students that they will be using information from the article to "Show & Tell" how each part of an insect looks and functions. Allow students to work in small groups to discuss what they have learned.

ASSESS: Review answers. Have students take the worksheet home and instruct them to "teach" someone at home about the parts of an insect.

EXTEND

Mathematics: The introductory sentence of the article (p. 12) states, "Insects come in all sorts of colors, shapes, and sizes." Sorting activities often appeal to young children and help them to develop a range of thinking skills and build the foundation for future mathematical concepts. Arrange the students into pairs and provide manipulatives, such as attribute blocks, for sorting. Circulate as they are working and guide students to verbally express the criteria they are using to form groups.

Buggin' Out

Structure and Function: Gather information from the photographs and words in the article to explain the purpose of each body part of an insect. You may use pictures and words to record your answers.

Body Part	Show/use pictures What does it look like?	Tell/use words What does it do?
head		
thorax		
abdomen		
antennae		

BugCycle

pp. 14–17, Expository Nonfiction

From infant to adult or egg to adult, creatures in the natural world are always changing. This article explores the fascinating metamorphosis of insects as they grow into adulthood.



RESOURCES

Explore Life Cycle: *Inspect the Insect*

OBJECTIVES

- Students will learn how insects change as they grow from eggs to adults.
- Students will study the lifecycle of insects.
- Students will investigate the different names of some as larvae and pupa.

KEY VOCABULARY

- **metamorphosis** (p. 14) a dramatic change that some insects and animals go through during their life cycles

ENGAGE

Conversation Question: How do insects grow and change?

Have students talk about how they are different from when they were first born. Encourage them to think about their appearance as well as their abilities. Next, introduce the article, "BugCycle," and read the first sentence aloud, "All insects change as they grow from eggs to adults." Activate prior knowledge by asking students to share what they know about the topic. Remind students that they can gain information about the world by using books, movies, and utilizing their observational skills.

INTRODUCE VOCABULARY

Post and discuss the key word and definition. As this article defines new words within the text, there is only one key word. Take the opportunity to do a primary word study using the word **metamorphosis** as follows: *How many letters does the word have? How many letters are vowels? How many letters are consonants? How many syllables does the word have? Is it a thing (noun), action word (verb), or a describing word (adjective)? Can you name a synonym and an antonym for the word? How can you use the word in a sentence?*

READ & DISCUSS

Reinforce comprehension of the details in the article by using the following prompts to direct discussion.

1. List two insects that look a lot like their parents when they are born.
2. Where does a mother dragonfly lay her eggs?
3. What are the four stages that most insects go through as they grow?
4. What happens when a ladybug's wings harden?
5. Why did people long ago give the same insect different names?

SKILL FOCUS: Study Life Cycle

INSTRUCT: Review the article and guide students to notice the description of the life cycle of bugs throughout the article. Distribute the *Inspect the Insect* graphic organizer and instruct students to explain with words and/or pictures the defining characteristics of each phase (egg, larva, pupa, adult) of the insect's life cycle.

ASSESS: Circulate as students are working on their charts and have students retell the life cycle process in their own words. Collect the *Inspect the Insect* organizer and evaluate.

EXTEND

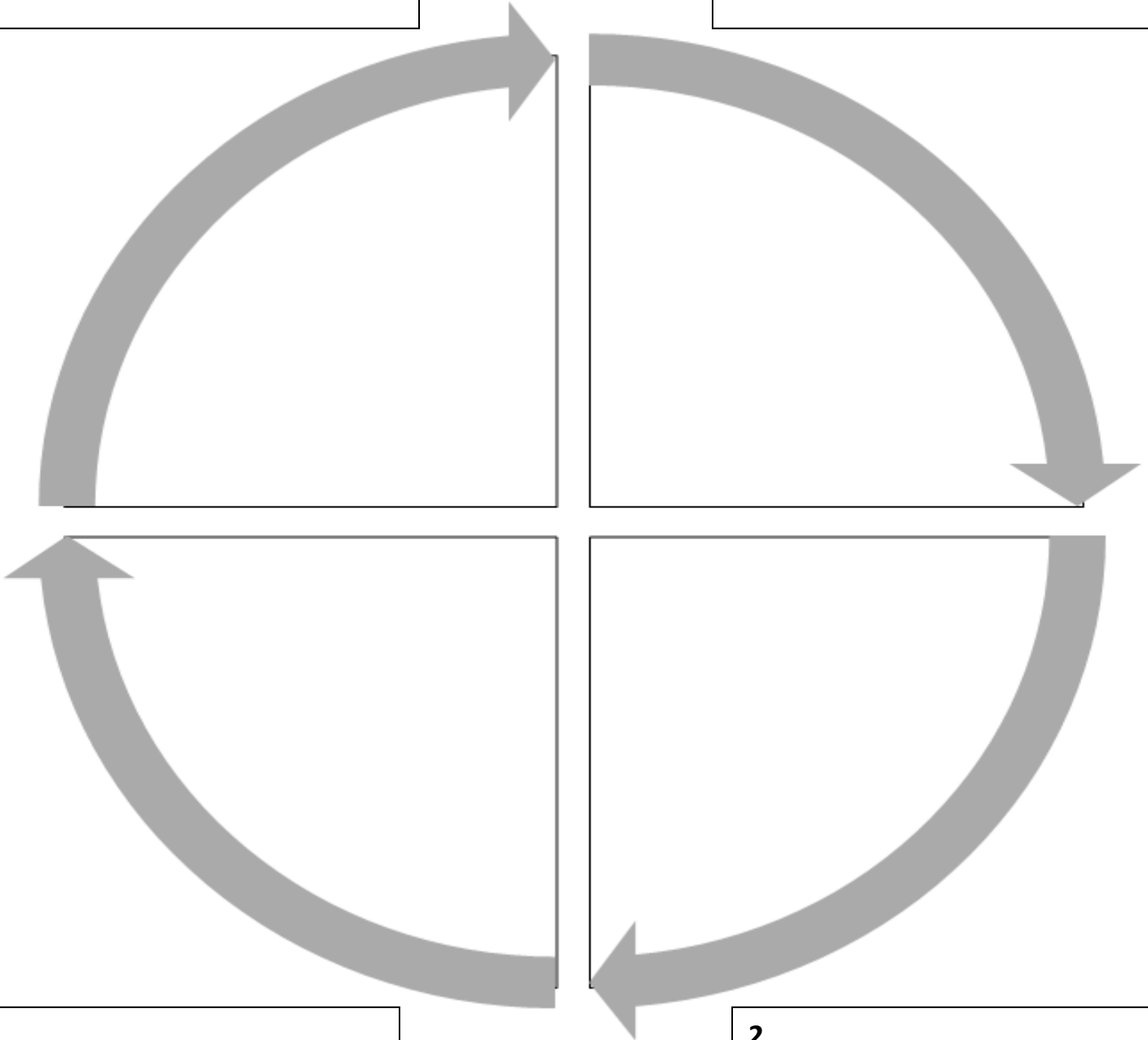
Science: Take the opportunity to further discuss insect "babies." Instruct students to examine the text box on the bottom of page 16, which lists the names of various insect larvae. (Ex: a fly larva is called a maggot; a butterfly larva is called a caterpillar, etc.) Assist students in using books/internet to discover other names of newly hatched insects. Have students fold a piece of paper in half and illustrate and name an insect larva on the left side and its corresponding adult insect on the right side.

Inspect the Insect

Explore Life Cycle: Refer to the article to identify the four stages of the insect life cycle (egg, larva, pupa, adult). Explain the details of each stage and make a drawing that shows the appearance of the insect in each phase.

4.

1.



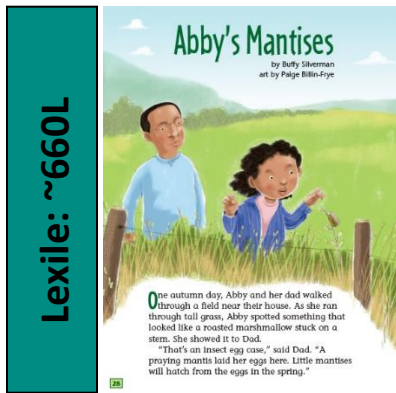
3.

2.

Abby's Mantises

pp. 28–34, Realistic Fiction

Readers will take a walk with Abby and her Dad and make a special discovery—an egg case of a praying mantis! Observe the life cycle and learn how the insects ultimately become the perfect birthday present for Mom.



RESOURCES

Analyze Patterns: *The Birthday Bug*

OBJECTIVES

- Students will learn about the life cycle of the praying mantis.
- Students will analyze cyclical patterns.
- Students will learn how some insects and animals are named for their abilities or appearances.

KEY VOCABULARY

- **hatch** (p. 29) to come out of an egg
- **egg case** (p. 29) a protective capsule that encloses and protects the eggs of an insect
- **swarm** (p. 32) a great number of insects that act together and quickly

ENGAGE

Conversation Question: How do insects grow and change?

Ask students to think about gifts they have received as birthday presents. Next, have them recall things they have given as presents. Present the title of the article, "Abby's Mantises," and tell the class that they will be reading about a girl who gives her mom an insect for her birthday. Poll the class: *Do you think Abby's Mom will be happy with the gift?* (Yes/No). Revisit after reading and discuss how learning about the characters and the situation may have caused a change in thinking. Repeat the poll and discuss.

INTRODUCE VOCABULARY

Post and discuss the vocabulary terms with the class. Be sure that they understand what each object looks like by showing them the drawings throughout the article or using the internet. Then, have them fold a piece of paper into quarters and label three of the boxes with the key words and make a visual representation of each. After reading the article, they will use the remaining box to illustrate an additional theme-related word of their choosing from the text.

READ & DISCUSS

Post and discuss questions prior to reading the article aloud. Then reread the article, pausing when answers to the questions are revealed.

1. Why did Dad agree to take an egg case home?
2. Where did Abby place the egg case for the winter? Why?
3. How did Abby prepare Mom's birthday gift?
4. Why will mantises be helpful to Mom's garden?
5. How did Abby and Mom stop the babies from eating each other?

SKILL FOCUS: Cyclical Patterns

INSTRUCT: Discuss with students that the days, weeks, months and years pass in a cyclical pattern. For example, there are always 24 hours in day, seven days in a week, etc. In addition, seasons occur in the same sequence every year.

Discuss how natural processes have predictable patterns as well. Instruct students to notice patterns on the calendar, and to complete *The Birthday Bug* worksheet by carefully following the directions.

ASSESS: Circulate as students are working. Ask: *Why wouldn't this present have worked if Mom's birthday was in February (winter)?*

EXTEND

Mathematics: Have the class view a video clip of a praying mantis, readily available online. Reflect with students on the fact that the insect is called a "praying" mantis because it often holds its front legs together resembling a person praying. Pose the question, *"What other animals or insects are named because of how they look?"* Discuss the features that helped name them. For example, the firefly is named for its ability to produce a flashing light and the puffer fish is named for its ability to puff itself up, while the ring-tailed lemur is named for the rings circling its tail.

The Birthday Bug

Analyze Patterns: Use this calendar of April 2024 to answer the questions below.

April 2024

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

- Abby's mom's birthday was on April 19. Mark that date with a birthday cake.
- Mark April Fool's Day, April 1, with a funny face.
- What day of the week do April 2, 9, 16, 23 and 30 fall on? _____
- School had Spring Break from April 22—April 26. Mark those days with a sun.
- Color all of the odd numbered days yellow.
- Earth Day is on the fourth Monday of the month. What is the date?

- How many Saturdays are in the month of April? _____
- What day of the week will the first day of May fall on? _____