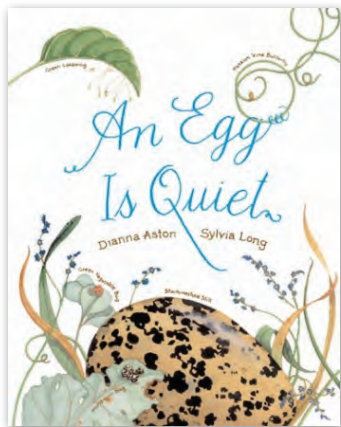


COMMON CORE-ALIGNED TEACHER GUIDE

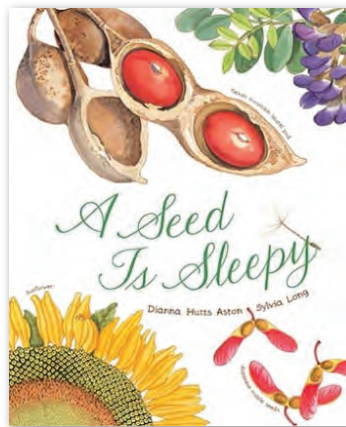
AN EGG IS QUIET • A SEED IS SLEEPY
A BUTTERFLY IS PATIENT • A ROCK IS LIVELY
A NEST IS NOISY • A BEETLE IS SHY

By Dianna Hutts Aston
Illustrated by Sylvia Long

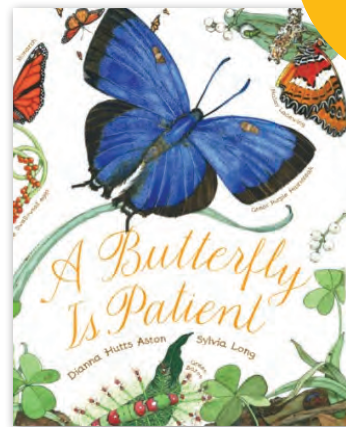
INFORMATIONAL
TEXTS PERFECT
FOR THE
COMMON CORE!



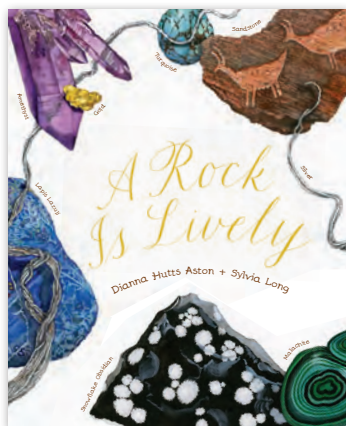
AN EGG IS QUIET
978-0-8118-4428-4 • \$16.99 HC
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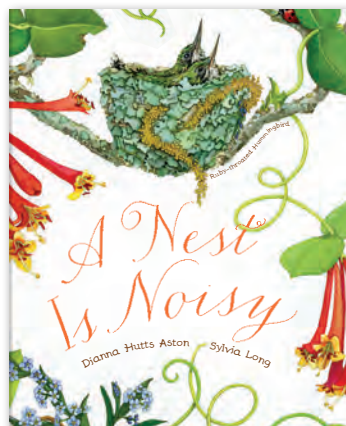
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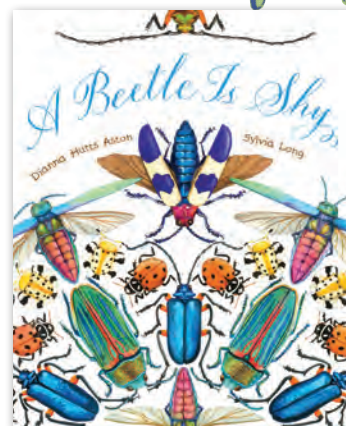
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F&P Text Level Gradient: R
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A BEETLE IS SHY
978-1-4521-2712-5 • \$16.99 HC
978-1-4521-3342-3 • \$10.99 E-Book
F&P Text Level Gradient: P
Lexile® Measure: NC1070L

ABOUT THIS GUIDE:

This teacher guide contains discussion questions and activities aligned with the Common Core State Standards. See inside for reference to the Reading and Writing strands and grade-specific standards.

INTRODUCTION

An Egg Is Quiet, A Seed Is Sleepy, A Butterfly Is Patient, A Rock Is Lively, A Nest Is Noisy, and A Beetle is Shy

By Dianna Hutts Aston, illustrated by Sylvia Long

Dear Teacher:

This series of beautiful picture books opens the door for science connections, language arts extensions, art projects, reading skills building, and more. The books encourage curiosity and exploration of the natural world, while also reinforcing the pleasures of reading in kindergarten through fifth-grade classrooms, offering various levels of learning.

In addition to curriculum alignments, you will find Common Core State Standards for each activity. Since these books cover a wide age/grade span, we've used second grade standards for the early elementary grades and fourth grade standards for the upper elementary grades. These standards are listed at the end of each activity.

We've provided activities for the five books in the series, together and individually. We invite you to step inside the beautiful world presented by Dianna Hutts Aston and Sylvia Long—and, please, bring all your students along.

GENERAL OVERVIEW

This teacher guide contains pre-planned activities for students in the following curriculum areas:

1. READING
2. LANGUAGE ARTS
3. SCIENCE
4. ART
5. MATHEMATICS
6. GEOGRAPHY
7. SOCIAL STUDIES



1 READING

Match The Details

Scientists are careful observers. They need to look and look again to test their observations. Reading, too, requires attention to details. For youngest readers of *A Seed Is Sleepy* and *An Egg Is Quiet*, this matching activity will support the careful paying of attention.

Each of the seeds pictured on the first two pages of *A Seed Is Sleepy* have a match in the plants pictured on the last couple of pages of the book. This is true, too, for the eggs shown on the first two pages on *An Egg Is Quiet* and *A Nest Is Noisy*. Individually or as a class, have your students examine the seeds, eggs and nests and write the name of each on an index card. When every seed, egg, and nest has a card, the students should alphabetize the cards. Then they should turn to the last picture on the last spread of each of the books, and look at the plants or animals. As they look, they should go through the deck of cards and put a check mark on each plant or animal as they find its match in the spread. One by one, they will connect each seed to a plant, each egg to an animal, and each nest to the animal who makes a home there. They might also illustrate the cards with their own drawings of the seed or the plant, the egg or the animals, the nest or the various inhabitants.

Your class can do a similar activity with *A Rock Is Lively*. Look closely at the detailed illustrations on the first two pages of the book. Does anyone recognize any of the rocks shown? Can anyone name any of the rocks? Now turn to the last two pages of the book which shows the same rocks labeled with their names. Each student should select six of the rocks and create an individual flash card for each. Using crayons or colored pencils, they should copy the illustrations as closely as possible, then write the name of the rock on the back on the card. They should write their own name there as an artist's signature.

Collect the cards and go through them with the children, having them identify the rocks you hold up. Keep the cards handy. Children can partner with each other to play rock identification when they have time.

Defining Terms

For *A Beetle Is Shy*, ask students to explain what they think an insect is. Next, ask them to describe one group of insects known as beetles. On sticky notes, have them write questions that they want answered about beetles. Post the notes on a wall marked with the name of the book.

Divide the class into small groups and assign each group two or three of the following terms: shy, kaleidoscopic, colossal, microscopic, tasty, runner, digger, hopper, swimmer, telegraphic, guarded, helpful, harmful, prehistoric, armored, or bold. Instruct each group to make a poster that includes the word, its definition, and a picture that portrays the meaning of the word. Hang the posters around the classroom.

(Suggestion: Make sure each group gets one of the nouns, and label the posters "Beetle Olympics.")

Correlates to Common Core Reading Standards for Informational Text: Craft and Structure, 2.5; Integration of Knowledge and Ideas, 2.7

Reader's Theater

A BUTTERFLY IS PATIENT AND THE VERY HUNGRY CATERPILLAR

One of early childhood's favorite books, *The Very Hungry Caterpillar* by Eric Carle, can make a simple reader's theater project. One child has the role of the caterpillar. He should have color scarves tied behind him. The other students play the food he eats. Simple signs naming the foods can serve as their costumes.

As you narrate the story, the caterpillar approaches a food. As he eats each item, the child playing that food steps behind him. After he eats all of the food, he crouches into his cocoon. When he emerges, he holds the edges of the scarves out to reveal that he is a beautiful butterfly.

After the performance, discuss with your class which parts of *The Very Hungry Caterpillar* conform to what they have learned from *A Butterfly Is Patient*.

Correlates to Common Core Reading Standards for Informational Text: Integration of Knowledge and Ideas, 2.9

A ROCK IS LIVELY AND ANANSI THE SPIDER AND THE MOSS-COVERED ROCK

Likewise, you can create a reader's theater for *A Rock Is Lively* with second through fourth grade classes using the "trickster" folktale *Anansi the Spider and the Moss Covered Rock*, retold by Eric Kimmel with illustrations by Janet Stevens.

The trickster folktale often recounts an adventure of the trickster who encounters a situation and responds with guile or stupidity, and in the end is tricked himself. In this story, Anansi is walking through the forest and he comes across a magical moss covered rock. He realizes he can use the rock to trick the other animals in the forest and steal their food. In the end his ruse is foiled, and it is he who is tricked. Your students will discover that despite this, Anansi doesn't learn his lesson and lives to trick another day.

Read and discuss the story with your class. As a class, rewrite the story into play form. The characters should include:

Narrator

Anansi

Animals that Anansi tricks

Little Bush Deer

Other animals your students want to add into the story.

Enhance the activity by adding scenery and costumes to make it a full-fledged play. After performing it in class, present it to other classes in the school. You might want to videotape the play and post it on the school's intranet.

A Beetle is Shy

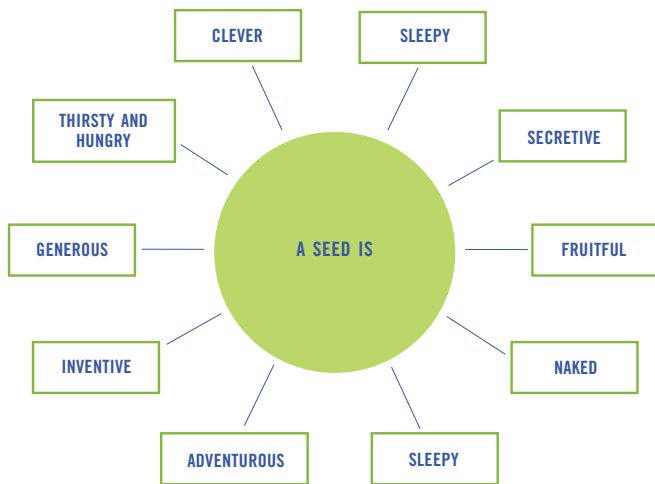
After going over the vocabulary and reading the book, assign students to be narrators or actors. Each actor will act out a trait as a narrator reads, "A beetle is..." (e.g. colossal, microscopic, etc.); for the upper grades, ask students to add an explanation after they act out a word (e.g. "I am a shy beetle because I hide under leaves").

Correlates to Common Core Reading Standards for Informational Text: Key Ideas and Details, 4.1; Craft and Structure, 4.5; Integration of Knowledge and Ideas, 4.7; Reading Standards for Literature: Key Ideas and Details, 4.2-3; Writing Standards: Text Types and Purposes, 4.3; Production and Distribution of Writing, 4.4-5; Speaking and Listening: Comprehension and Collaboration, 4.1-2

2 LANGUAGE ARTS

Descriptive Language: Activity 1

Second and third graders are ready to appreciate figurative language, and this set of books offers many opportunities for that. Dianna Hutts Aston uses vivid words and phrases in the chapter headings to describe seeds, eggs, butterflies, rocks, nests, and beetles. As your students read each of the books, have them identify those words. Discuss with the class the different types of descriptive language used. Create a graphic organizer like the one below to connect those words visually. Then have students write sentences for each word that explores the meaning (literal or figurative). For example: A seed is _____ because _____, or Eggs are _____ because _____, or A rock is _____ because _____, etc.



For example:

Sleepy – A seed is sleepy when it is beneath the soil
 Quiet – An egg is quiet as it sits under its mother's feathers
 Patient – A butterfly is patient because it grows slowly from an egg to a butterfly.

Do these words also describe the children themselves or people they know? Have them use the words from the exercise to describe themselves or others.

For example:

I am patient because I don't rush.
 My mother is protective when I feel sick.
 A rock is helpful when animals like chimpanzees use it to crack the hard shells of nuts.
 A nest is spiky sometimes when it is built on a cactus to protect it from snakes.

Creative Writing/Poetry

Brainstorm with the children to create a list of as many words as they can that relate to butterflies. If they have trouble, you can suggest words from the list below. With older classes, separate the words into nouns, verbs, adjectives, and adverbs. Then have them use words from the list to write haiku. Remind them that haiku is a form of Japanese poetry of three lines of approximately 17 syllables (5-7-5).

garden	flittering	playful
rests	bush	leaping
drift	flighty	flowers
falling	colorful	above
field	yellow (& other colors)	nature
summer	bright	tree
sun	air	dancing
fluttering	dew	branch

Correlates to Common Core State Standards for Writing: Text Types and Purposes, 2.1, 2.3, 4.1, 4.3; Production and Distribution of Writing, 4.4

Writing

People often wonder what it would be like if they were someone else or if they were an animal. What about a butterfly? Each child should write, then illustrate, a paragraph about what it would be like if he/she were a butterfly. The paragraph can begin with the phrase "If I were a butterfly..."

Informative/Explanatory Writing

Ask your students: Where is your most comfortable spot in your home? Have them make a list of the reasons why they've chosen that place. Then have them write a paragraph about their "nest." They should include where it is; what it looks like; what they do there; and how they feel when they are in it.

Descriptive Language: Activity 2

Rocks and minerals have found their way into our own everyday language. Below are some expressions your students should be familiar with:

- “A rolling stone gathers no moss.”
- “solid as a rock”
- “between a rock and a hard place”
- “as good as gold”
- “Every cloud has a silver lining.”

After discussing the meanings of these, have your middle grade students list other expressions or sayings they know that refer to rocks and minerals. They might ask their parents for suggestions, and they can also research expressions on the Internet by typing in “rock expressions” in the search box. Assign each student an expression and have them write and illustrate a short story that conveys the message of the expression.

Correlates to Common Core State Reading Standards for Literature: Craft and Structure, 2.4, 4.4; Reading Standards for Informational Text: Craft and Structure, 2.5; Integration of Knowledge and Ideas, 2.7, 4.7; Writing Standards: Text Types and Purposes, 2.2, 4.2; Research to Build and Present Knowledge, 2.8, 4.8

Write a Narrative

After reading the book, ask students to look at the following website: www.insectidentification.org/beetles.asp

Instruct students to choose a beetle from the book or the website and use the information they’ve learned about beetles to write a narrative from the insect’s point of view. For example, a student “beetle” may introduce himself to readers, stating what variety of beetle he is and offering reasons why he should not be harmed. These narratives may include dialogue, or they may not.

Correlates to Common Core State Writing Standards: Text Types and Purposes, 2.1, 2.3, 4.1, 4.3; Production and Distribution of Writing, 4.4

3 SCIENCE

Growing Seeds in Your Classroom

Science is all about experimenting, experiencing, and keeping good records. After reading *A Seed Is Sleepy* with the class, have the children make a list of what a seed needs in order to grow into a plant. For example, from the picture spread “A seed is clever,” they will see that a seed needs sunlight. Once they have their list, your second through fourth grade student-scientists can test this out by planting beans and other seeds under various growing conditions and in different planting media. They should make hypotheses of what they think will happen, record their observations, measure the growth or lack of growth of the seeds, test to see which hypotheses are correct, and then draw conclusions based on the results.

Brainstorm with them about how they can vary the growing conditions and planting media. Some examples are:

- Planting seeds in containers in soil with water and sunlight
- Planting seeds in containers in soil with water but placed in the dark
- Planting seeds in soil and sunlight but without water
- Planting seeds in a container with cotton, water, and sunlight
- Planting a seeds in a container just filled with water and placed in the sun

Each planting should be labeled carefully.

The children should fill out an experiment sheet for each of the plantings they make. The experiment sheet should contain:

- Name of planting
- Hypothesis (what I think will happen)
- Observations (what I saw and recorded)
- Conclusions (what I learned)

Lima beans are easy to use for this project, but your students might also try grass, zinnias, marigolds, or other flowering plants. To the right is a sample record-keeping chart that you can reproduce for each student.

NAME OF SEED: _____

Seeds planted in soil, water, placed in dark		
Day	Growth in millimeters	Comments
Start Date:		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
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25		
26		
27		
28		
29		
30		

Seeds of the Food We Eat

Observation is key to the scientific method. Your fourth and fifth graders are encouraged to be careful observers.

Make a list with the class of the many foods they eat that grow from seeds. Elicit from them what these foods are called: fruits, vegetables, and grains. Bring in as many examples as you can. Cut them open and have the class examine the seeds for size, color, texture, and shape. Everyone should contribute to completing the classroom chart below.

FOODS	COLOR	SIZE	SHAPE	TEXTURE
Apple				
Pear				
Green Bean				
Tomato				
Orange				
Squash				
Banana				

Foods to include (but not limited to) are:

Apple	Tomato	Potato
Pear	Squash	Celery
Peach	Banana	Lettuce
Green bean	Carrot	Orange

The Parts of a Plant

Introduce your first or second grade class to the parts of a grown plant:

- Roots
- Stems or stalk
- Leaves
- Flowers
- Fruit

A good reference you can use for the parts of a plant can be found online at The Missouri Botanical Garden's online educational resources page.

Cut open a carrot, a celery stalk, head of lettuce, or a potato. Are there any seeds? Have the children come up with possible reasons why they can't find any seeds. Explain that different plants have different edible parts. Some are the fruit, some are the roots, some are the leaves, and some are the stalks. The children will only find seeds in the fruit part of the plant. (Have the children categorize the different foods according to where the edible form of the plant is. Some foods will be in more than one category.)

FOODS	STEM (STALK)	LEAF	ROOT
Tomato	Celery	Lettuce	Carrot

Identifying Rocks Using the Mohs Hardness Scale

How can you identify an unknown rock or mineral? Scientists use a number of tests and observations of characteristics to identify unknown specimens. Often each simple test will tell not what the rock is, but what it *isn't*.

In 1812, the German geologist Friedrich Mohs developed a scale to characterize the scratch resistance of minerals. This test demonstrates which mineral is harder by rubbing one mineral against another and observing which scratches which. This enables us to approximate the hardness of an unknown sample. The scale goes from one to ten, the softest, talc, being one and the hardest, diamond, being ten. To do the test, use ordinary materials of known hardness.

Below is the known hardness of some common materials:

Fingernail	2.5
Copper penny	3.5
Iron wire nail	4.5
Steel nail	5.5
Glass	5.5
Unglazed porcelain tile	7

Your fourth- and fifth-grade students should collect rocks from around the school and their homes. For the rock being tested, they should first try to scratch it with a fingernail. They should continue to do the same with a penny, a nail, and an object such as unglazed porcelain tile. Once they find what can scratch the rock or what the rock will scratch, they'll know a range of values that represents the rock's hardness. For example, if a fingernail won't scratch the rock but a penny will, its hardness is between 2.5 and 3.5. Results should be recorded, and students should compare their findings.

Note: Care should be taken if they are using a piece of glass. Make sure your students are not performing the test on valuable jewelry.

Your students should take notes describing what they did and what they observed. Curious students will find more information about the Mohs Hardness Scale online at the website of the American Federation of Mineralogical Societies.

Correlates to Common Core State Writing Standards: Text Types and Purposes, 4.2; Research to Build and Present Knowledge, 4.7-9

Creating a Classroom Exhibit

Create a classroom display of rocks and minerals from the rocks your students used for the hardness test, other rocks and minerals they find in their yard or garden, or a personal rock collection a student might have. Each rock should be displayed with an index card noting its characteristics. If the name of rock or mineral is known, it should be at the top of the card. The characteristics recorded should include:

- Name of rock or mineral (if known)
- Name of student who brought the rock in
- Place it was found
- Color
- Feel (smooth, rough)
- Luster (shiny, dull)
- Hardness
- What it looks like with a magnifying glass
- Streak (color of the powder residue when the rock is rubbed on an unglazed porcelain tile)

Each student will need:

- Box for rock collecting
- Magnifying glass
- Unglazed porcelain tile
- Index cards
- Pencil

Set up your museum display and invite other classes and parents in to view it.

Correlates to Common Core Reading Standards for Informational Text: Craft and Structure, 2.5, 4.5; Integration of Knowledge and Ideas, 2.7-8, 4.7-8; Writing Standards: Text Types and Purposes, 4.2; Production and Distribution of Writing, 4.4; Research to Build and Present Knowledge, 4.7-8

Science Vocabulary

A Butterfly Is Patient is filled with scientific words and terms relating to butterflies. Have your students create a butterfly glossary. Start them off with these words:

- Caterpillar
- Pupa
- Chrysalis
- Metamorphosis
- Pollinate

When appropriate they might want to include a small picture of the glossary word or term entry.

Watch Them Grow

If your school has the funding, a wonderful activity is to hatch butterflies in the classroom. There are a number of websites that sell kits. Your students can chart the growth of the butterflies through its different stages, and then have the pleasure of releasing them into nature.

Compare and Contrast

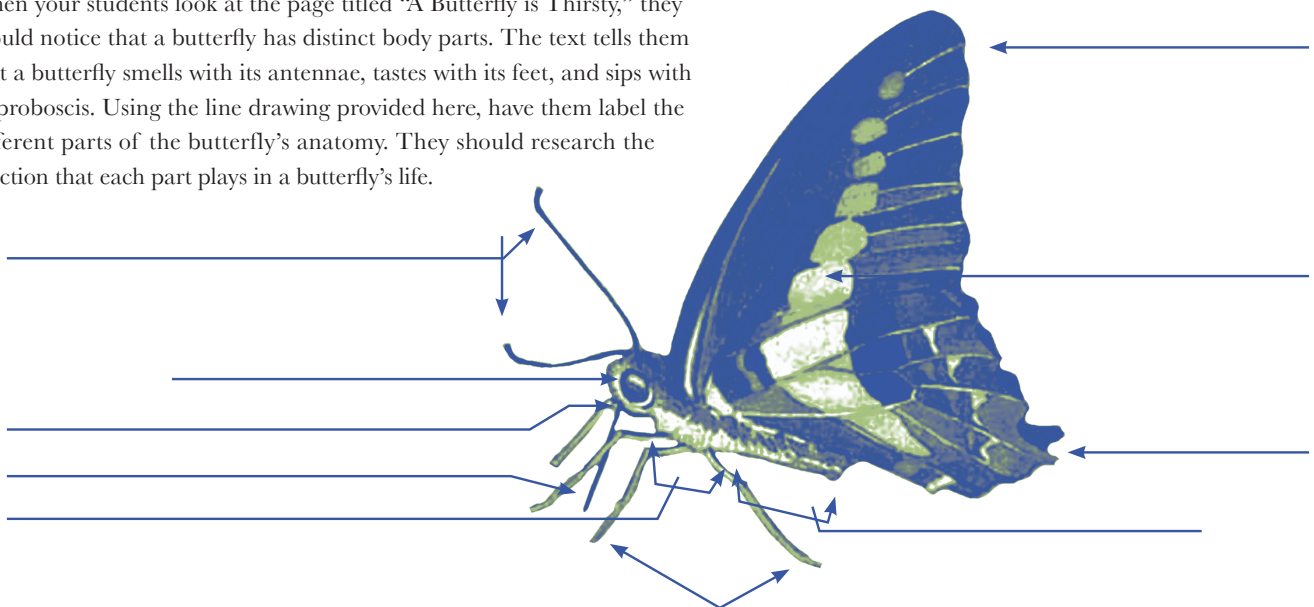
Have the class read *A Butterfly Is Patient* and *A Beetle is Shy* together. After reading, ask students to make Venn diagrams of the similarities and differences between a butterfly and a beetle.

Mini Research Report

Instruct students to research a real beetle not featured in the book. Have students make a chart and then draw the beetle in full color on the chart. Ask students to include on the chart such information as the beetle's common name, scientific name, size, habitat, diet, and other unique characteristics. Then have students give oral reports using their charts, or combine all of this information in a slideshow presentation.

Butterfly Anatomy

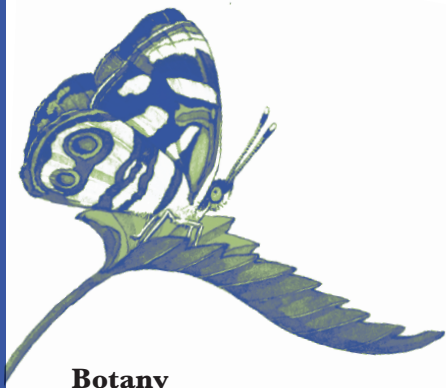
When your students look at the page titled "A Butterfly is Thirsty," they should notice that a butterfly has distinct body parts. The text tells them that a butterfly smells with its antennae, tastes with its feet, and sips with its proboscis. Using the line drawing provided here, have them label the different parts of the butterfly's anatomy. They should research the function that each part plays in a butterfly's life.



Science Vocabulary

When is a nest not a nest? When is it called a lodge, sett, eyrie, form, hive, burrow, roost, cave, den, or mound? These are some of the names for different animals' homes. Divide your second through fourth grade class into teams to research and write about these "nests" and the animals that inhabit them. As a class, create a chart of animal homes. Encourage students to find other animal homes and add them to the chart. A sample chart follows the activities..

NAME OF HOME	ANIMAL(S)	LOCATION	MATERIALS USED	PICTURE OF HOME
Lodge	Beaver	River banks and lakes	Branches and mud	(Students should draw or paste in a picture of the animal home)
Sett				
Eyrie				
Form				
Hive				
Burrow				
Roost				
Cave				
Den				
Mound				



Botany

You and your students can lure butterflies to the school grounds by planting a butterfly bush garden. There are a number of bushes of the buddleia species that are specific for attracting butterflies. They come in a variety of colors, need only a small plot of land, and are inexpensive. Visit your local nursery or go to websites such as these to find out more about how you can get started.

Butterfly Characteristics

The endpapers at the back of the book show 34 different butterflies. Pair off the children and have each pair research two butterflies. Create a butterfly chart comparing the characteristics: size, coloring, and habitat. A sample chart is below. We made some entries for them.

(Some butterflies named in the book may be difficult to research. If children hit a roadblock, feel free to reassign them other butterflies.)

BUTTERFLY CHARACTERISTICS

NAME	WINGSPAN (MM)	COLORATION	MAJOR HABITAT
common buckeye	69	Yellow	North America
Queen Alexandra's birdwing	310	Green and Brown	Papua New Guinea
Moonlight Jewel	38	Dark Brown and Blue w/ Red dots	Eastern Australia
Arian Small Blue	7		

An Egg Is Strong

In *An Egg Is Quiet*, your students learn that an egg “sits there, under its mother’s feathers.” Why can a mother bird sit on its eggs without breaking them? Have the students discuss why they think the mother does not break her eggs. Then propose the question: Can six empty eggshells support the weight of three or four heavy dictionaries? Have the students make hypotheses about the answer.

Hypothesis A: Heavy dictionaries will break the eggshells.

Hypothesis B: Heavy dictionaries will not break the eggshells.

TEST THESE HYPOTHESES WITH THIS EXPERIMENT:

MATERIALS

- Six large eggs
- Scissors
- A cup
- Three to four dictionaries
- Masking tape

PROCEDURE

- Using a serrated knife carefully cut about a dime-size hole off the other end of the egg.
- Shake the yolk and the egg white into a bowl and set it aside. (If you have the facilities, you can use the eggs to make a giant omelet for the children.)
- Wash the shells with warm soapy water and let them dry.
- Once the egg is completely dry, apply a small piece of masking tape over the hole to cover it.
- Arrange eggshells in a square and put one dictionary on top. Does it break the eggs? Before you continue allow each student the opportunity to change his/her hypothesis if he/she wishes.
- Place the second dictionary on the eggs. Did the eggs hold up the dictionaries? Again ask the students if they want to change their minds.
- Continue placing dictionaries on the eggs. After all of them are sitting on top of the eggs, what do the children observe? They should see that the dictionaries do not break the eggshells.

Discuss with them why the eggs don’t break. The arc-like shape of the egg helps support the weight of the dictionaries. The shape of the egg is the reason it doesn’t break when a bird sits on it. Explain to the class that this is exactly the way scientists work: they make a guess or hypothesis about something; they try it out; and then they change the hypothesis if their observations prove otherwise.

Another important aspect of the scientific method is keeping records. Your students should record the experiment using this format:

Title of Experiment:

Hypothesis:

Procedure:

Observations:

Conclusion:

4 ARTS

Build a Bird Nest

Bird nests come in all shapes and sizes and vary with the use of construction material. According to the “A nest is welcoming” page in *A Nest Is Noisy*: “Many birds assemble a cradle for their eggs, knitting together leaves and twigs, and softening it with grass, hair, moss, fluffy seeds, leaf skeletons, or even a snake’s old skin. They may also add candy wrappers, plastic bags, and bits of cloth or paper.” In short, birds will use whatever materials they find to create their nests.

Your students can build model bird nests using some of these materials. To help them along, they can start with one half of an old tennis ball as a foundation. But don’t make this too easy: instead of using their fingers to construct the material around the ball, they should mimic a bird’s use of its beak by using tweezers to move the nest-building material onto the foundation.

MATERIALS NEEDED FOR THE NEST

- Twigs
- Grass
- Bits of paper, cloth or plastic bags
- Gum wrappers
- Pine needles
- Half of a tennis ball
- White glue
- Tweezers
- Clay
- Tempera paint

PROCEDURE

- __ Place the tennis ball flat side-down on the workspace and squeeze on some lines of glue.
- __ Using the tweezers, start building the nest with the available materials.
- __ Keep adding material until the nest is about six inches in diameter. Add glue when necessary.
- __ Turn the nest over and add new material to the inside.
- __ When you cannot see the tennis ball, the nest is complete.
- __ With clay, form some small “eggs.”
- __ Paint each egg white, then repaint, coloring them light blue, light pink, speckled, etc.
- __ Place the eggs in the nest for display.

As a follow-up activity, each student should write a short story about the bird, real or imagined, that built the nest.

Correlates to Common Core Writing Standards: Text Types and Purposes, 2.3, 4.3; Production and Distribution of Writing, 4.4



Mexican Confetti Eggs

When the “An Egg Is Strong” activity is finished recycle the eggshells into an art activity! The class can use the shells to make colorful Mexican confetti-filled cascarones. Have your students access the Internet to find out what cascarones are and what Mexican and Southwestern American children do with them. Some Web sites to look at:

MATERIALS

- Clean eggshells (see “An Egg is Strong” experiment for cleaning instructions)
- Colored tissue paper
- White glue
- Mixing container

DIRECTIONS FOR EACH EGG

- __ Cut up or tear the colored tissue into 1-inch by 1-inch squares and set them aside.
- __ Carefully remove the masking tape from the edge of the eggshell.
- __ Cut up colored construction paper into small 1/4-inch by 1/4-inch squares to make the confetti.
- __ Fill the eggshell about half-full with the confetti and replace the masking tape.
- __ Make a diluted solution of glue and water (half-glue and half-water).
- __ Paint the white glue onto the entire eggshell and cover it with the cut-up colored tissue paper overlapping the paper until the entire egg is covered.
- __ Place in the egg crate to dry.

When the eggs are dry the children will have authentic cascarones. Don’t break them indoors because you’ll make a mess. Go outside and have some fun!

Butterfly Masks

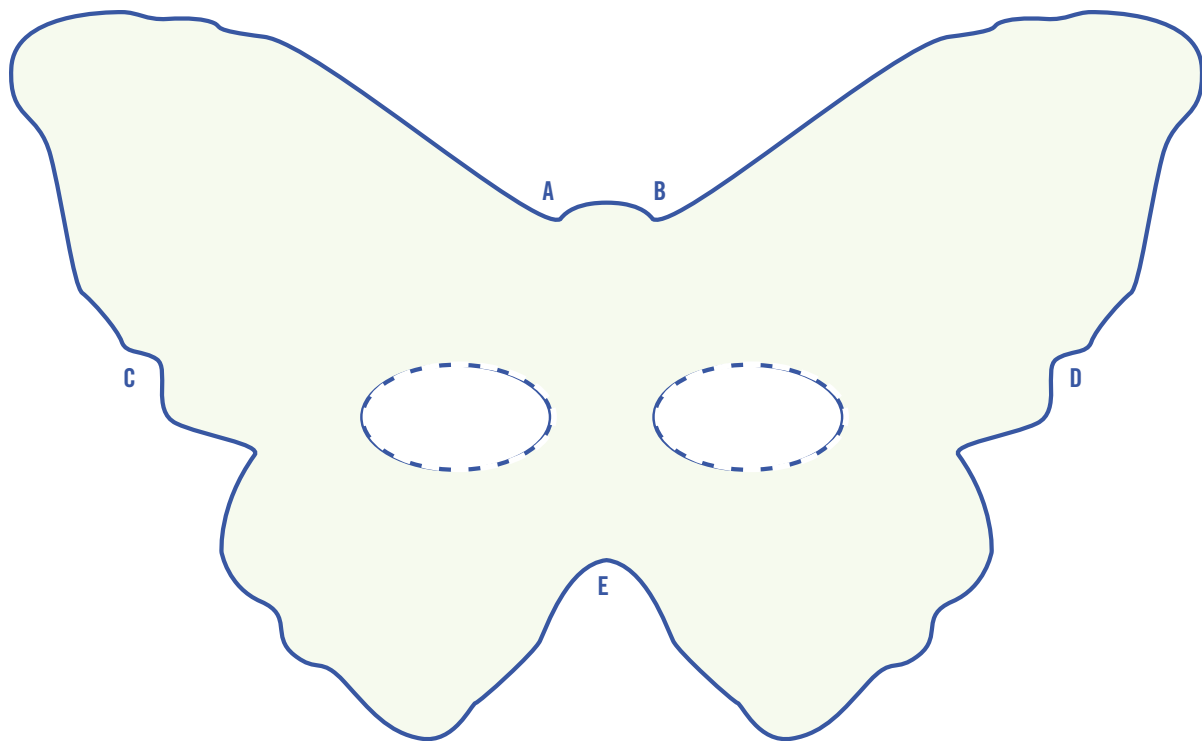
Partygoers have worn masks in the shape of butterflies for hundreds of years. Reproduce the template below on oak tag stock and have your students create their own butterfly masks. The cut outs for your students' eyes are for reference. You should adjust the hole size and place to suit the needs of the children.

MATERIALS

- Crayons
- Glitter glue
- Decorative feathers
- Cut colored paper
- Small colored paper dots
- Sequins
- White glue
- Ribbon
- Scotch tape
- Colored pipe cleaners (optional)
- 18-inch dowel stick (optional)
- Water
- Scissors
- Plastic spoon
- Masking tape
- Colored construction paper
- Two egg crates

Before the children begin, discuss with them the symmetry of a butterfly wing. From the illustrations in the book they should note that the markings on the wings are almost mirror images, and they should use that concept in decorating their masks. Make butterfly antennae from the left over oak tag or from the pipe cleaners and tape them to the top inside of the mask at points A and B.

When a child is finished decorating his/her mask, attach a length of ribbon to each side of the mask at points C and D or attach a dowel stick handle at point E with some scotch tape. Now you are ready to have a butterfly ball.



BUTTERFLY MASK TEMPLATE

Beetle Jewelry

Beetles are often imitated in jewelry. Instruct students to use beads to make a beetle that can be worn on a leather cord as a necklace.

5 MATHEMATICS

Measurement

If you and your class have entered the data for butterfly wingspan on a Butterfly Characteristics chart, it will be clear that there is a great difference between the smallest butterfly and the largest. Your young students will get a better understanding of the relative sizes with a pictorial representation.

First rearrange the data so that it is sequenced from the smallest butterfly to the largest. Then have the children go around the room and find objects that are approximately the same size as a particular butterfly. (They will need a ruler that measures in millimeters.) For example, the smallest butterfly, the Arian Small Blue, has a wingspan of 7mm. The top of a standard pencil eraser is about 7mm. The largest butterfly is the Queen Anne's Birdwing, with a wingspan of up to 310mm. That makes it about the size of an 8 1/2 x 11 piece of paper. Place the objects they've found in a display labeled "Comparing Butterfly Wingspan to Objects Found in the Classroom."

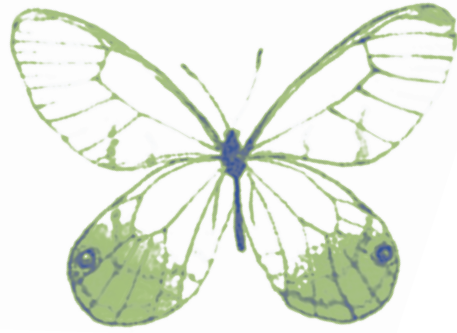
Some students might want to figure out how many Arian Small Blue butterflies it would take to occupy the same amount of space as the Queen Anne's Birdwing.

You might also have the students graph the sizes on a bar graph.

Beetle Word Problems

Have students create word problems connected with beetles (e.g. If nine beetles went to a shoe store and they all bought shoes, how many shoes would the store have sold? How many pairs would they have sold?) Have students solve each other's problems.

Correlates with CCSS.Math.Content.4.OA.A.1, CCSS.Math.Content.4.OA.A.3.



6 GEOGRAPHY

Using a Map

Using the information from the Butterfly Characteristics chart, map with your class the distribution of butterflies on a classroom world map. Cut strips of paper 1/2 inch x 1 1/2 inches from index card stock. Write the name of a butterfly on the strip and with a pushpin or tape, place the strip on the map where the butterfly can be found. Most butterflies have more than one habitat, so you'll need several strips for each butterfly.

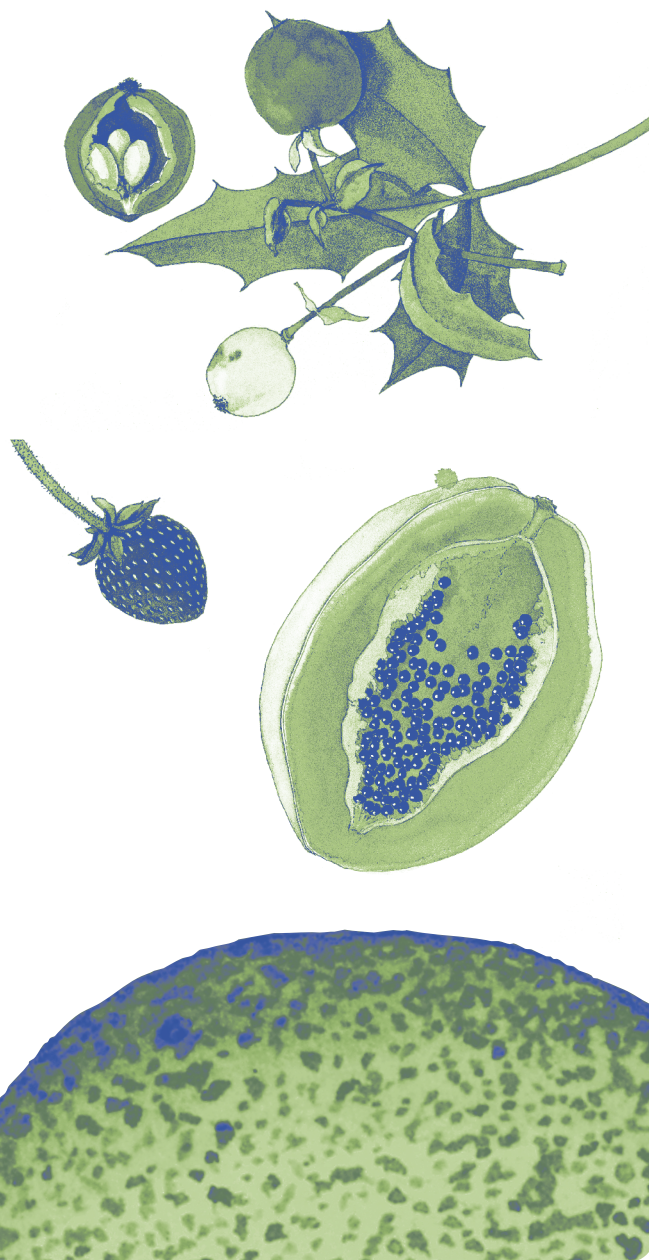
Travel with the Monarch Butterfly

Every fall, the monarch butterfly migrates from north Canada and the United States to its wintering habitat in the mountains of Mexico. In the spring it begins its journey back to its summer home. You and your students can track its migration on Journey North's Monarch Butterfly Migration Tracking Project website.

There are photos, maps, stories, slideshows, news, and updates about the monarch butterfly. There is even a place for you and your students to enter your sightings of monarch butterflies. The first time you go to the site, click on “Welcome to New Participants” to get useful information and a quick overview.

Entomophagy

Entomophagy is the eating of insects as food. It is also a safe and healthy way to help reduce pest insects without using insecticides. Thirty-six African countries are “entomophagous,” as are twenty-three countries in the Americas, twenty-nine in Asia, and eleven in Europe. Have students read the following *National Geographic* article: “U.N. Urges Eating Insects; 8 Popular Bugs to Try” (May 14, 2013). After reading, ask students to label a world map to indicate where entomophagy is practiced.



7 SOCIAL STUDIES

Food Preparation and Sharing

Students as young as kindergarteners and as grown up as fifth graders will enjoy sharing their favorite family egg recipes with their classmates. Ask your students to bring in family recipes for egg dishes from omelets, frittatas, egg salads, and custards to cakes, muffins, and some specialty breads, since eggs are necessary ingredients for many baked goods.

Gather the recipes your students bring into an EGGS-TRAORDINARY COOKBOOK by the families of your class. Parents, grandparents, and others might want to contribute stories of egg recipes from their native countries.

Have a publishing party for your recipe book. Invite the families of your students and serve some of the egg dishes.

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