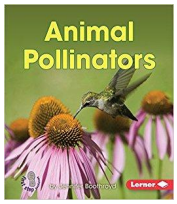
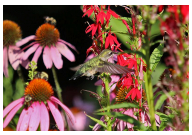
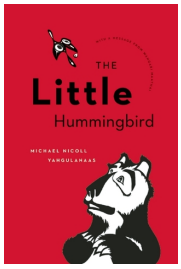
WEEK 4 At a Glance

Weekly Question:
How does pollination happen?

Texts







Vocabulary and Language

Days 1 & 2: Introduce Weekly Words: *brilliant, buzz, ecosystem, effective, extraordinary, lure, match, protein*

Day 3: Shades of Meaning: Verbs

Day 4: Shades of Meaning: Verbs

Day 5: Answering the Weekly Question

Text Talk

Day 1: *Animal Pollinators*

Day 2: "Insect Pollinators" (informational text), Read 1

Day 3: "Insect Pollinators," Read 2

Day 4: "Bees Are Not the Only Pollinators that Buzz" (informational text)

Day 5: *The Little Hummingbird*, Read 1

Stations

Guided Independent Reading ("Wasp" poem)

Listening & Speaking: Listen & Respond (*Amazing Bees*)

Science Literacy: Do you notice any new leaves growing on the trees outside our classroom? Write and draw about them.

Vocabulary: Choose 3!, Talk About It

Word Work: select from activities

Writing: follows from Text Talk Week 4, Day 1; Mid-unit Assessment (Day 3)

Science and Engineering

Lesson 1: Ecosystems: Learning about Leaves

Lesson 2: Ecosystems: Plant Growth and Development

Studios

Children choose familiar media to explore diverse pollinators and learn a new procedure for printmaking in the Art Studio.

Writing: Report

Day 1: Peer-to-Peer Feedback

Day 2: Introduction to and Beginning Revising and Publishing

Day 3: Introduction to Publishing and Continued Revision

Day 4: Publishing

Day 5: Presentation and Celebration

WEEK 4 Days 1 & 2

Vocabulary & Language

Weekly Words

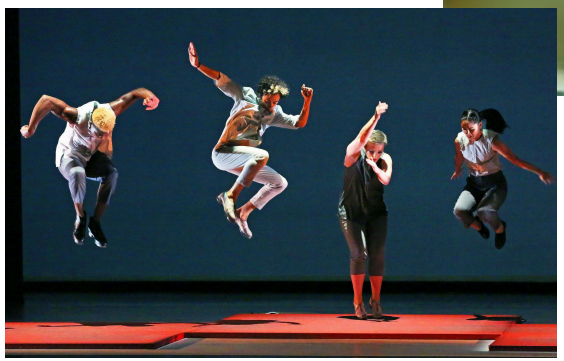
Weekly Question	How does pollination happen?
Language Objectives	I can talk with my classmates about words. (SL.1.2) I can define and use new words. (L.5) I can connect words to my own real-life experiences. (L.5.2.a)
Vocabulary	**brilliant**: very shiny or bright, glittering; extremely wonderful or well done **buzz** (n): a soft, low hum; (v): to produce a humming noise **ecosystem**: a group of animals and plants living in one place and impacting each other **effective**: producing a good or positive result **extraordinary**: very unusual, remarkable **lure**: to attract **match**: a person or thing that relates to another as an equal in a particular way **protein**: a substance that gives energy and is essential for life
Materials and Preparation	Choose four words to teach each day, following the steps of the Weekly Words routine. ● Week 4 Weekly Words cards ● Week 4 Weekly Words slides ● chart paper Create the week's Weekly Words chart by writing out the Weekly Words and their definitions. Add icons, sketches, or images as needed.
Opening Day 1	*This week we are learning more about how pollination happens and the roles of animals and their relationships with plants. Our Weekly Words are ones we can use to talk about this. Today's words are: _____, _____, _____, and _____.*

	As children rate their knowledge of each word, ask a few children to share their ideas about the word. Use this opportunity to highlight connections, similarities, and differences to other words used in the classroom, remarking on parts of speech and morphology and affirming children's word knowledge. As children respond to the Think, Pair, Share prompts, encourage them to use the word as they speak. Offer sentence stems where it might be helpful.
Day 2	*Let's continue learning our words for this week. Today's words are: _____, _____, _____, and _____.*
Teaching the words	**brilliant** (adjective) Elaboration: *This hummingbird can be described as brilliant; its feathers are shiny and glittering.* *These dancers can also be described as brilliant; they are extremely talented and wonderful to watch!* Think, Pair, Share prompt: *Try to describe an object that is brilliant and what makes it brilliant. And then tell your partner something you do or your partner does that is brilliant!*
	buzz (noun, verb) Elaboration: *Buzz can be a noun, a sound. Let's make a buzz.* *Buzz can also be a verb, an action. Bees and flies buzz when they move their wings very, very quickly.* Think, Pair, Share prompt: *Tell your partner two sentences, using the word "buzz" as a noun and then as a verb.*
	ecosystem (noun) Elaboration: *An ecosystem includes many different kinds of plants and animals.* Think, Pair, Share prompt: *What do you notice about the ecosystem that includes saguaro cacti and bats?*
	effective (adjective) Elaboration:

	We have learned that a mask is one effective way to not share germs with other people. Think, Pair, Share prompt: *Talk with your partner about the things that make a bee a very effective pollinator.*
	extraordinary (adjective) Elaboration: *"Extra" is a prefix meaning "more than."* *Something that is extraordinary is more than ordinary or usual. When you see something extraordinary, you might find yourself saying "Wow!"* *This is a real flower, the largest flower on Earth. It grows in rainforests. People say it smells like rotting meat, and this smell attracts flies, beetles, and other insects for pollination.* Think, Pair, Share prompt: *What or who is extraordinary to you? What makes it or them extraordinary?*
	lure (verb) Elaboration: *The bright red color, flower-shaped holes, and sweet liquid all lure hummingbirds to this feeder. "Lure" is a synonym for "attract."* Think, Pair, Share prompt: *What kinds of smells lure you to the table for a meal?*
	match (noun) Elaboration: *"Match" has a variety of definitions. In this context, it refers to two things going together in some way. The cardinal flower and hummingbird are a pollination match.* *You might know other meanings of the word "match," such as something used to light a fire. A "match" could also be a game, such as a soccer match.* Think, Pair, Share prompt: *What are two things that are a match when we talk about the process of pollination, such as an apple blossom and a bee?*
	protein (noun) Elaboration:

	Pollen is the most important source of protein for bees. They collect pollen from flowers and convert it into protein-rich food for young bees and the queen bee. Think, Pair, Share prompt: *What kinds of protein do you most enjoy eating?*
Closing	*This week we are learning about what is required for pollination to happen. The words we're studying this week will help us to talk about this, our texts, and other experiences we're having together.*
Standards	**SL.1.2** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. **L.5** Demonstrate understanding of figurative language, word relationships, and nuances in word meanings sufficient for reading, writing, speaking, and listening. **L.5.2.a** Identify real-life connections between words and their use (e.g., describe foods that are spicy or juicy).
Ongoing assessment	Use information gathered from each lesson to plan for embedded opportunities for teaching and reinforcing words. How do children interact with new and familiar words? Are they playful, curious, perplexed, disengaged? Do children connect words to personal experiences? What connections do children make between words they are learning and familiar words? How do children integrate learning from lessons and other developing morphological knowledge? How do children respond when they discover an error in their understanding or use of a word? How flexible are they when confronted with new definitions? How do children talk with peers about new words—do they use gestures, substitute familiar words, dig for descriptions, tell stories? Keep a list to follow each child's vocabulary growth over time.

Notes



brilliant

adjective

https://commons.wikimedia.org/wiki/File:Green-crowned_Brilliant_Hummingbird_(46436303872).jpg, https://www.nytimes.com/2019/12/06/arts/dance/best-dance.html

buzz

noun, verb

http://fiddleheadcreek.com/a-match-made-in-a-wetland-cardinal-flower-and-the-ruby-throated-hummingbird/, https://butterflymx.com/blog/replace-apartment-buzzer/

ecosystem

noun

https://www.nps.gov/articles/saguaro-cactus-facts.htm, https://desertridgelifestyles.com/coexisting-with-coyotes/, https://www.publicdomainpictures.net/en/view-image.php?image=214145&picture=bird-inside-a-saguaro-cactus

effective

adjective

https://www.ucsf.edu/news/2020/06/417906/still-confused-about-masks-heres-science-behind-how-face-masks-prevent

extraordinary

adjective

https://allthatsinteresting.com/interesting-plants

lure

verb

https://www.goodhousekeeping.com/home-products/g28008704/best-hummingbird-feeders/,
https://www.thestar.com/news/insight/2013/02/24/cardinals_song_means_spring_is_around_the_corner.html

match

noun

https://birdwatchinghq.com/what-do-hummingbirds-eat/ruby-throated-hummingbird-with-cardinal-flower/

protein

noun

https://www.healthline.com/health/baby/baby-rubbing-eyes,
https://www.physioinqpenrith.com.au/blog/worn-out-shoes-cause-back-knee-pain

Weekly Words

Unit 4, Week 4

brilliant

adjective

very shiny or bright, glittering;
extremely wonderful or well done

buzz

noun

a low, soft hum

verb

to produce a humming noise

ecosystem

noun

a group of animals and plants living in one place and impacting each other

effective

adjective

producing a good or positive result

extraordinary

adjective

very unusual,
remarkable

lure

verb

to attract

match

noun

a person or thing that relates to another as an equal in a particular way

protein

noun

a substance that gives energy and is essential for life

WEEK 4 Day 3

Vocabulary & Language

Shades of Meaning: Verbs

Weekly Question	How does pollination happen?
Language Objective	I can generate closely-related verbs. (L.5.2.b)
Vocabulary	**verb**: a word that expresses a physical action, mental action, or state of being **meaning**: definition **similar**: almost the same
Materials and Preparation	• Shades of Meaning: Verbs slides Make a digital copy of the slides for the class to edit. Note: This lesson uses slides 1-6.
Opening	*This week we will distinguish shades of meaning among closely-related verbs.* *Today we will look at some of our Weekly Words and come up with other closely-related verbs. Tomorrow we will take these sets of verbs and talk about their shades of meaning.*
Discussion slide 2	*"Attract" is one of our Weekly Words.* Review the definition.
slide 3	*"Lure" is another Weekly Word.* Review the definition.
slide 4	*"Attract" and "lure" have similar meanings. Let's think of other verbs that have a similar meaning to these words.* On the slide, record at least one verb generated by children that have a similar meaning to "attract" and "lure," such as "draw in" or "interest."

slide 5	*"Depend" was a Weekly Word a few weeks ago.* Review the definition.
slide 6	*Let's think of other verbs that have a similar meaning to "depend."* On the slide, record at least two verbs generated by children that have a similar meaning to "depend," such as "rely on."
Closing	*Today we generated synonyms for the verbs "attract," "lure," and "depend." Tomorrow we will talk about the shades of meaning among these verbs.*
Standards	**L.5.2.b** Distinguish shades of meaning among closely related verbs (e.g., toss, throw, hurl) and closely related adjectives (e.g., thin, slender, skinny, scrawny).
Ongoing assessment	Reflect on the lesson. Do children generate closely-related verbs for each word?

Notes

Shades of Meaning: Verbs

Vocabulary & Language Week 4, Days 3-4

attract

verb

to interest, to draw closer

lure

verb

to attract

attract

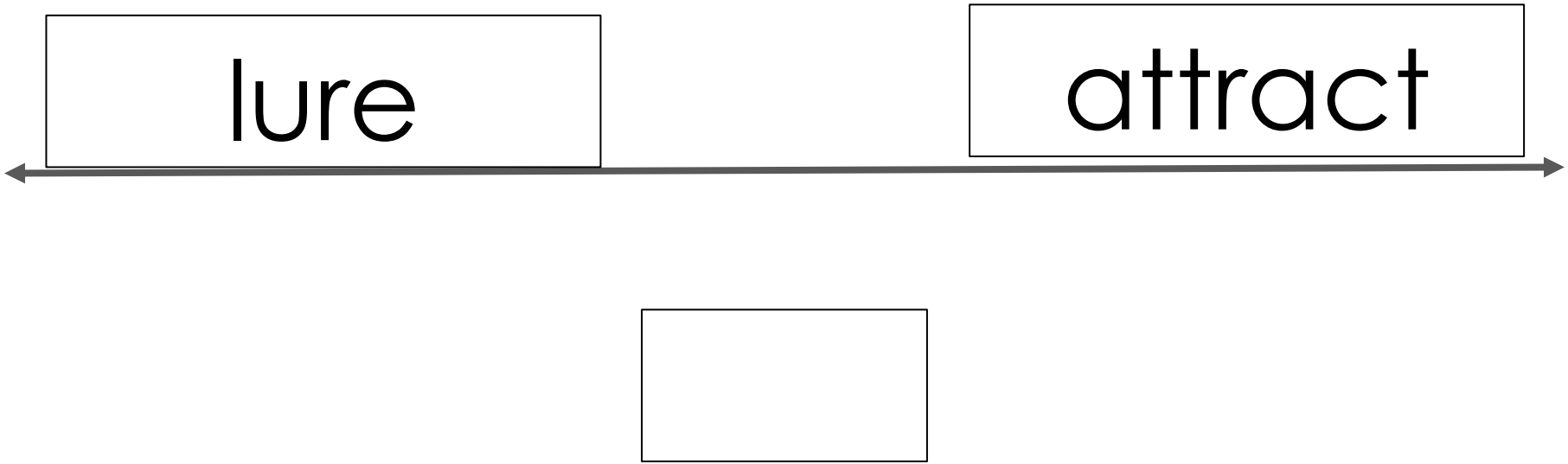
lure

depend

verb

to rely on, to trust

depend


lure
attract

depend

Need

Trust

WEEK 4 Day 4

Vocabulary & Language

Shades of Meaning: Verbs

Weekly Question	How does pollination happen?
Language Objective	I can distinguish shades of meaning among verbs by placing them on a continuum and discussing their meanings. (L.5.2.b)
Vocabulary	**verb**: a word that expresses a physical action, mental action, or state of being **meaning**: definition **similar**: almost the same
Materials and Preparation	• class copy of Shades of Meaning: Verbs slides, from Day 3 Add the words generated during the Day 3 lesson to slides 7 and 8.
Opening	*Today we will look at the sets of verbs we created yesterday and discuss their shades of meaning.*
Discussion slide 7	Use the following steps to discuss each of the three (or more) words on the slide. 1. Read the word. 2. Ask a child to dramatize the word. 3. Ask another child to use the word in a sentence. *These verbs have similar meanings, but there is some difference among them. Let's put them in order from least intense to most intense.* Move the word boxes on the slide to arrange the verbs by intensity. Facilitate further discussion of the nuances in word meanings. Move words on the slide as necessary to demonstrate these nuances.
slide 8	Use the following steps to discuss each of the three (or more) words on the slide. 1. Read the word.

	2. Ask a child to dramatize the word. 3. Ask another child to use the word in a sentence. *These verbs have similar meanings, but there is some difference among them. Let's put them in order from least intense to most intense.* Facilitate further discussion of the nuances in word meanings.
Closing	*Today we discussed the shades of meaning among similar verbs. Thinking about how similar words have slightly different meanings can help us use more precise language when we are speaking and writing.*
Standards	**L.5.2.b** Distinguish shades of meaning among closely related verbs (e.g., toss, throw, hurl) and closely related adjectives (e.g., thin, slender, skinny, scrawny).
Ongoing assessment	Reflect on the lesson. Do children use these verbs in sentences? How do they order the verbs? What do children notice about the nuances in word meanings?

Notes

WEEK 4 Day 5

Vocabulary & Language

Answering a Weekly Question

Weekly Questions	Week 3: What do bees need to survive? Week 4: How does pollination happen?
Language Objective	I can use new words to discuss a particular question with my classmates. (SL.1.2, L.6.2.a)
Vocabulary: **Week 3**	**convert**: to change into another form or state **flicker**: to make small, quick movements **groom** (v): to make clean and neat in appearance **marking**: a pattern of marks or coloring on a plant or animal **navigate**: to find one's way to, around, or through **pluck**: to pick off **plunge**: to push into something **wear out**: to make tired or exhausted
Week 4	**brilliant**: very shiny or bright, glittering; extremely wonderful or well done **buzz** (n): a soft, low hum; (v): to produce a humming noise **ecosystem**: a group of animals and plants living in one place and impacting each other **effective**: producing a good or positive result **extraordinary**: very unusual, remarkable **lure**: to attract **match**: a person or thing that relates to another as an equal in a particular way **protein**: a substance that gives energy and is essential for life
Materials and Preparation	• Week 4 Answering a Weekly Question sheets, one for each small group • pencils, one or two for each small group • Weekly Questions for Weeks 3 and 4, printed or projected • Weekly Words cards for Weeks 3 and 4

	• chart paper and markers (2 different colors) Strategically assign children to groups of four, and plan where each group will work around the classroom.
Opening	*This week we will use the Answer a Weekly Question routine. After you work in small groups, we'll save a few minutes to share one of your sentences with the whole class.*
Key Activity	Facilitate the Answering a Weekly Question routine, as established in even weeks since Unit 1.
Closing	*You have really packed words into your answers to the Weekly Questions!*
Standards	**SL.1.2** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. **L.6.2.a** Use words and phrases acquired through conversations, reading, and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy, that makes me happy).
Ongoing assessment	Listen to children's conversations as they work. How accurately do children use words in context? What contributions do they make to the construction of a response to a specific question? Observe children's interactions in small groups. How effectively do children work in their groups? What roles do they take on? Reflect on the whole group sharing of one group's response. What more was revealed about children's understanding and application of words? Review each sheet. Use children's answers to inform planning for successive lessons, reteaching words, and informal conversations with individual children.

Date: _____

Names: _____

Check the question you answer. Circle the words you use. Write your response.

___ What do bees need to survive?

___ How does pollination happen?

convert	navigate	brilliant	extraordinary
flicker	pluck	buzz	lure
groom	plunge	ecosystem	match
marking	wear out	effective	protein

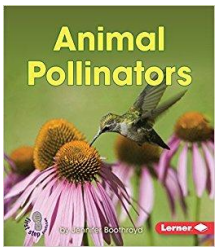
_____

_____

_____

_____

WEEK 4 Day 1



Text Talk
Animal Pollinators

Big Ideas	Organisms in an ecosystem are interdependent. The parts of an organism have specific functions. Pollination is a result of animal behavior. Animals, including humans, benefit from and depend on pollination.
Weekly Question	How does pollination happen?
Content Objective	I can determine the author's main point and the reasons that support it. (R.10.2.a)
Language / SEL Objective	I can discuss reasons that support an author's main point with a partner and in a large group. (SL.1.2, Relationship Skills)
Vocabulary	**carpel**: another word for stigma; female part of the flower, made up of style, stigma, ovary **hand pollinators**: tools used by people for pollinating flowers *** match**: a person or thing that relates to another as an equal in a particular way **pollinator**: animal that moves pollen from one flower to another
Materials and Preparation	● *Animal Pollinators*, Jennifer Boothroyd, 4 copies ● *Animal Pollinators* slides ● "The Beauty of Pollination" video chart, from Week 1, Day 3 Review the chart and mark any questions about pollinators other than bees. ● Parts of a Flower poster ● children's copy of *Animal Pollinators* (text only), one copy for each child

	• writing tools • Text Talk notebooks • chart paper and marker Prepare the Weekly Question Chart. • Writing Station Response: *Animal Pollinators*, 1 copy On the whiteboard, write the Writing Station prompt. Children will read the text with partners. Pair children strategically.
Opening 3 minutes	Introduce the text. *Last week, we explored a very important pollinator: bees. This week, we will explore other pollinators. Today we'll read* Animal Pollinators *by Jennifer Boothroyd. Take a look at the front cover. What animal pollinators might we read about?* Refer to the "The Beauty of Pollination" video chart. *Let's look quickly at our questions from Week 1. We had some questions about other pollinators, aside from bees. Perhaps we will address some of these questions this week.* [Read the questions.] Set a purpose for reading. *At the end of the book, the author, Jennifer Boothroyd, states that it takes many helpful animals and humans to pollinate flowers. As readers, we will gather reasons that support this main point.* Project the slides. *We'll read the book together.*
Text and Discussion 18 minutes slide 2	Show the table of contents. Recall together the purpose of this informational text feature.
slide 3, pages 4-5	Point out the heading, "Pollination." Read the text, including the text box. *Thumbs up if you have any experience with sunflowers or sunflower seeds.*
slide 4, pages 6-7	Read the text, and refer to the diagram. *"Carpel" is a word we have not yet encountered. Look carefully at this diagram and our Parts of a Flower poster. What do you think the word "carpel" means?* Affirm children's thinking and clarify the definition as needed. Read the text on page 7.

	What pollinators have we already talked about?
slides 5-10, pages 8- 19	*Let's read the next several pages all together.* Distribute children's copies of the text. Facilitate shared reading, pointing to the projected text and reading together at a steady pace, with fluency. The children's copy does not include text boxes. Read these aloud as they appear on each page. ● On page 9, support children to use clues in the photograph to read the word "tongues." ● On page 14, support children to use clues in the photograph to read the word "possum." ● On page 18, support children to read the word "honeycreeper" in chunks.
slides 11-12, pages 21-23	This slide shows in two parts. Read the heading and text on page 21. *How do you think humans can be pollinators?* Click the slide to show page 22, and read the text. Show and read page 23. *This is the author's main point: "It takes a lot of helpful animals and humans to pollinate flowers."* Point out the glossary.
Key Discussion 15 minutes	*Now you and a partner will have time to read this book together. You can read together at one time, or you can take turns.* *While you read, find reasons that support the author's main point: it takes many helpful animals and humans to pollinate flowers. You can underline those reasons, or mark them in another way.* Distribute text copies and writing tools, and send children to read together. Circulate to support children's reading. Encourage children to work together to consider, articulate, and mark examples that support the author's main point. Distribute Text Talk notebooks. *What does the author mean when she says it takes many helpful animals and humans to pollinate flowers? What are some reasons that support this main point? Write at least one reason.* Provide children a few minutes to write and/or draw their responses. Circulate and support them in referencing the text, as needed. As children finish writing, invite them to talk with their partners about the

	reasons they wrote down. Bring children back together as a whole group. *What reasons did you find to support the idea that it takes many animals and humans to pollinate flowers?* *How did you identify the reasons the author gives to support her main point?*
Closing 1 minute	*This book teaches us about many kinds of animal pollinators, including people!* *We have several copies of* Animal Pollinators. *You can read it again at the Research Studio or during Stations.* *Tomorrow, we'll continue to learn about different pollinators.*
Weekly Question Chart 2 minutes	Introduce the Weekly Question Chart. *Throughout this week, we will be asking and answering this question: How does pollination happen? Today's text helps us add to what we have already learned about the parts of a flower, what pollinators do, and what kinds of animals can be pollinators. What shall we write on our chart today?*
Writing Station Prompt 1 minute	Introduce the Writing Station prompt. *Today we read about different animals pollinators. At the Writing Station, turn to the section "How do animals pollinate?" to answer the prompt.* Clarify children's questions about the prompt.
Standards	**R.10.2.a** Describe how reasons support specific points the author makes in a text. **SL.1.2** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. **SEL.**Relationship Skills
Ongoing assessment	Do children verbalize, write, and/or draw reasons from the text that support the author's main point? Do children explain their process in identifying reasons that support the author's main point? Do children participate in collaborative, on-topic discussions with their peers? During the shared and partner reading, take note of children's reading behaviors and skills.

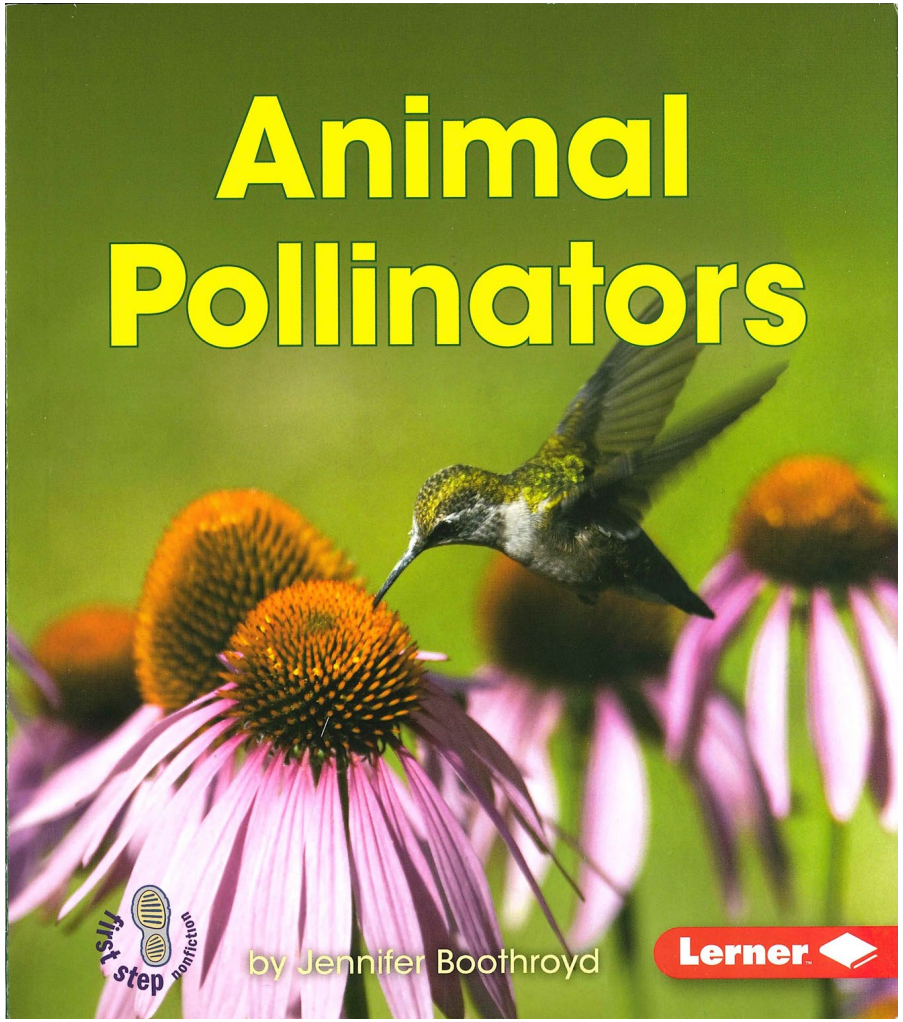
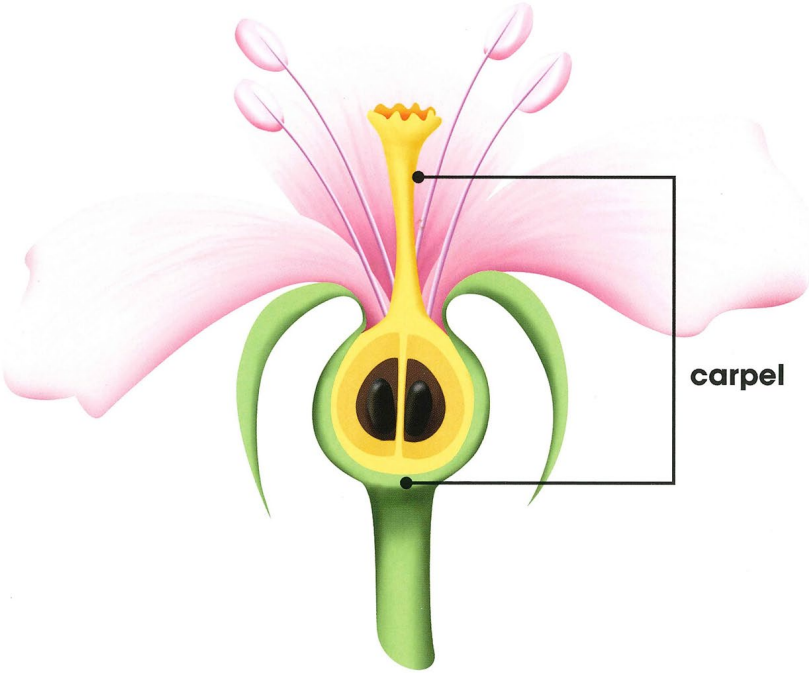

Animal Pollinators
first step nonfiction
by Jennifer Boothroyd
Lerner

Table of Contents

Pollination

Flowers make **pollen**. Most pollen looks like yellow dust.

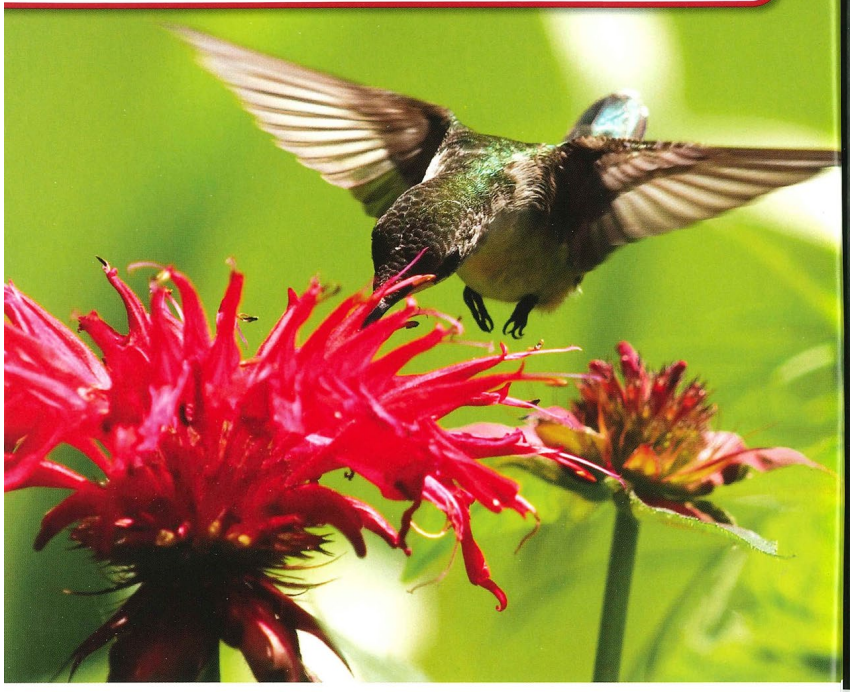
Flowers use pollen to grow seeds.



Pollination happens when pollen moves into a flower's **carpel**. Then the flower can make seeds.

Pollinators help pollen move to a flower's carpel. Many animals are pollinators.

How Do Animals Pollinate?



Some animals drink **nectar** from flowers.

Animals get nectar with their tongues.

Bats drink nectar from flowers.

Pollen sticks to the bat.

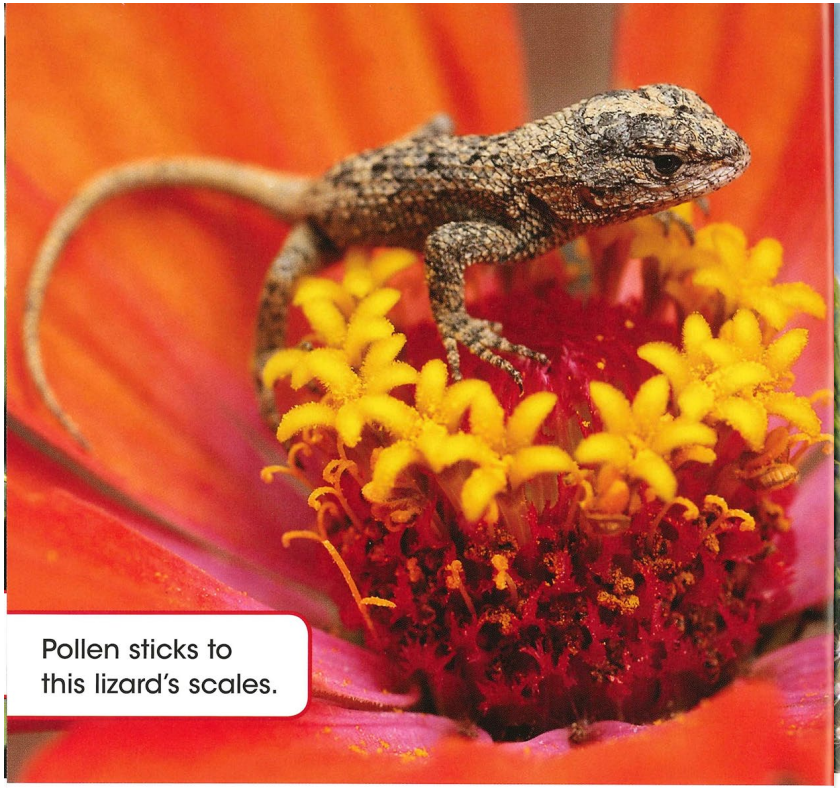
The pollen rubs off on the flower's carpel.

Kinds of Animal Pollinators

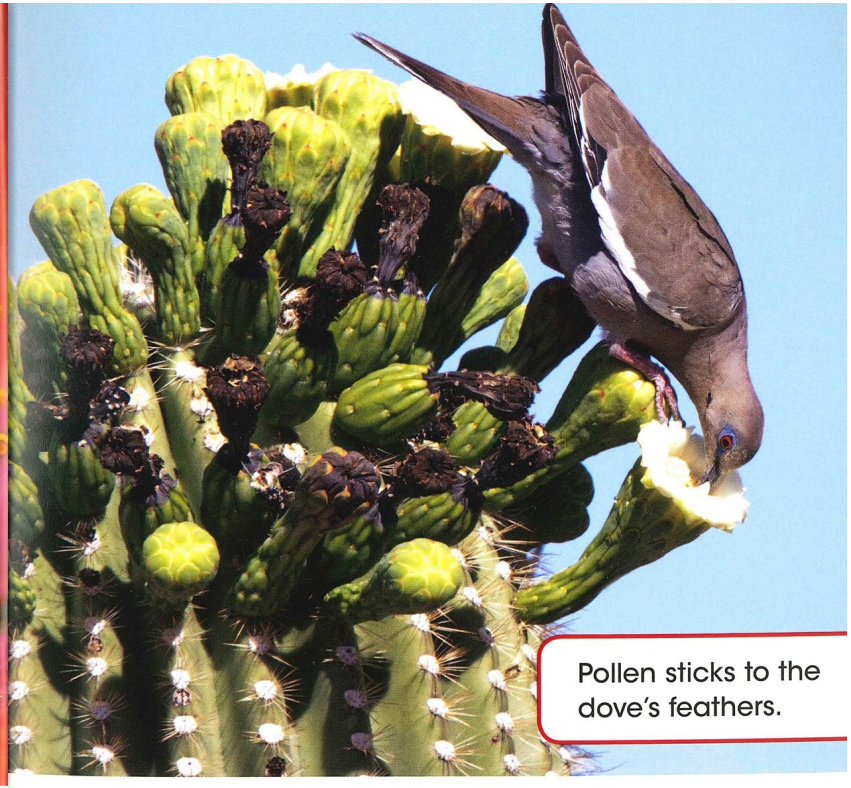
Bats are one kind of animal pollinator. But there are many others.

Honey possums pollinate flowers.

Lemurs pollinate flowers.



Some small lizards pollinate flowers.



Doves pollinate flowers.

Honeycreepers pollinate flowers.

Hummingbirds pollinate flowers.

Human Pollinators

Humans also pollinate flowers.

Hand-pollination can help plants grow better fruit.

It takes a lot of helpful animals and humans to pollinate flowers.

Glossary

carpel – a part of a flower that stores eggs

nectar – a sweet liquid made in flowers

pollen – a powder made inside flowers

pollinators – animals, humans, or wind that pollinate flowers

Animal Pollinators

Jennifer Boothroyd

Pollination

Flowers make pollen. Most pollen looks like yellow dust.

Flowers use pollen to grow seeds.

Pollination happens when pollen moves into a flower's carpel. Then the flower can make seeds.

Pollinators help pollen move to a flower's carpel. Many animals are pollinators.

How do Animals Pollinate?

Some animals drink nectar from flowers.

Animals get nectar with their tongues.

Bats drink nectar from flowers.

Pollen sticks to the bat.

The pollen rubs off on the flower's carpel.

Kinds of Animal Pollinators

Bats are one kind of animal pollinator. But there are many others.

Honey possums pollinate flowers.

Lemurs pollinate flowers.

Some small lizards pollinate flowers.

Doves pollinate flowers.

Honeycreepers pollinate flowers.

Hummingbirds pollinate flowers.

Human Pollinators

Humans also pollinate flowers.

Hand-pollination can help plants grow better fruit.

It takes a lot of helpful animals and humans to pollinate flowers.

Writing Station Response: ***Animal Pollinators***

Name: _____ Date: _____

Use the section "How do animals pollinate?" to answer the question.

How do animals pollinate? Draw and write about an example of animal pollination.

WEEK 4 Day 2

Text Talk
"Insect Pollinators" (informational text)
Read 1 of 2

Big Ideas	Organisms in an ecosystem are interdependent. Pollination is a result of animal behavior. The parts of an organism have specific functions.
Weekly Question	How does pollination happen?
Content Objective	I can use key details from the text to explain how insects help pollinate. (R.4.2)
Language Objective	I can use clues in the sentence to help me understand a word or phrase. (L.4.2.a)
SEL Objective	I can work with my partner to explain ways insects pollinate. (Social Awareness)
Vocabulary	**attract**: to interest, to draw closer (* Week 2) * **effective**: producing a good or positive result **produce:** to make **spread**: to scatter or send out (*Week 5)
Materials and Preparation	• *Animal Pollinators*, Jennifer Boothroyd, for reference • "Insect Pollinators" slides • "Insect Pollinators" text, one copy for each child • Insect Pollinators sheet • clipboards or other writing surfaces • writing and drawing tools On the whiteboard, write, How do insects help pollination?

	Note: In this lesson, the text is read all the way through. Because it is lengthy and complex, in the whole group, invite children to read along without asking them to read independently.
Opening 3 minutes slide 1	Show *Animal Pollinators*. *Yesterday, we read about animal pollinators. What are some things that you have learned about these pollinators?* Flip through the pages. Harvest several ideas, and highlight connections between *Animal Pollinators* and other texts, including "The Beauty of Pollination" video. Introduce the text and the purpose for reading. *We have a new informational text titled "Insect Pollinators." This text features five different pollinators that belong to insect families other than bees: wasps, ants, moths, beetles, and flies. Today we'll read the text all the way through to answer the question, How do insects help pollination?* [Refer to the whiteboard.] Distribute copies of the text, Insect Pollinators sheets, clipboards, and writing tools. *As we read, we'll identify details to answer this question. You can write what you find on this sheet. We'll also define some new words in the text.*
Text and Discussion 20 minutes page 1, slides 2-3	Show slide 2. Chorally read the title and paragraph 1. *What do you think this text is going to be about?* Show slide 3. Read the rest of the page, Wasps, having children follow along with a finger, whisper read, and/or read silently. *The smell of the orchid **lures** the wasp to its flowers. What does it mean to lure something?* Discuss the meaning of the word based on the context of the sentence. Then, note that "lure" is written in bold, signaling that it is found in the glossary at the end of the text. *How do wasps help pollination? What are some details we can use to help us answer this question?* As a few children share their ideas, have all children record their thinking in the Wasps column on their sheets.
page 2, slide 4	Read the first paragraph. Turn and talk.

	What does the author mean when she writes, "Ants are not very effective pollinators?" Read the rest of the page, Ants. *How do ants help pollination? What are some details we can use to help us answer this question?* Turn and Talk. Then, have children record their thinking in the Ants column on their sheets.
page 3 slides 5-6	Read through the first two paragraphs. Begin the third paragraph, then pause after the first sentence, "The yucca plant grows in warm places and produces edible fruits and flowers." *What does it mean if something is **edible**? What clues in the sentence help you figure out the meaning?* Read the rest of the page, Moths. *How do moths help pollination? What are some details we can use to help us answer this question?* Turn and Talk. Then, have children record their thinking in the Moths column on their sheets.
pages 4-5 slides 7-10	*Now you'll read with a partner. Read pages 4 and 5 together aloud. While you read, continue thinking about our question, How do insects help pollination?* Disperse children to read and write notes in pairs. Project slides 7-10 for children to see the color photographs as they work. Circulate to support children's work. Encourage children to identify and record details that help answer the question. Prompt children to talk with their partners about why a detail is important to address the question.
Key Discussion 16 minutes	Bring the group back together. *Pretend that you are out at recess, and a kindergartener runs up to you and asks, "How do insects help pollination?" Maybe they have just seen an insect on a flower! You only have 15 seconds left of recess, which is a very short amount of time to answer! Talk with your partner about how you could answer this question in just a sentence or two. Then write down your response. Use the notes you took while reading to help you write your answer.* Show the back side of the Insect Pollinators sheet, and send children back to talk and write. After several minutes, have children meet with another pair to share their

	responses. Bring children back to the whole group. Invite two or three pairs to share their responses. As they do, briefly jot important information under the question on the board.
Closing 1 minute	*Tomorrow we will read "*Insect Pollinations" *again.*
Standards	**R.4.2** Ask and answer questions about who, what, when, where, how and why. **L.4.2.a** Use sentence-level context as a clue to the meaning of a word or phrase. **SEL.**Social Awareness
Ongoing assessment	Circulate and note how children are taking notes and working in pairs. How do children approach the task of notetaking? Do children answer the question using key details from the text? Do children reference the text during their conversations? Do children use sentence-level context clues to identify the meaning of a word or phrase? Do children work effectively together to craft their short responses? Do they consider their younger audience as they do so?

Notes

Name: _____

Insect Pollinators

Many people know that bees and butterflies are insects. They also know that they are strong pollinators. But other insects pollinate, too.

Wasps

Wasps do not have hairy bodies to pick up pollen, but some pollen does stick to them. The pollen spreads as wasps move from flower to flower. A pollen wasp also brings nectar and pollen to its young.

Common wasps eat caterpillars. Scientists have discovered that one kind of orchid plant smells like caterpillars. This **lures** wasps to its flowers.

A sweet **fig** has its flowers on the inside. The tiny fig wasp crawls inside the fig, lays its eggs, eats nectar, and pollinates the flowers.

fig wasps heading inside the bottom of the fig to get to the flower

the inside of a fig

Ants

Ants are not very effective pollinators, because they can't fly. When we see ants crawling on flowers, they are looking for nectar to eat. They might pick up and carry some pollen to another flower by accident. The flowers ants feed on grow close to the ground.

Nailwort plant

Ants do help pollination in another way. Some flowers produce nectar on the outside of the flowers, instead of inside. This nectar on the outside is easy for ants to crawl to. When other insects see the ants on the outside, they go inside the flower to look for nectar. That's where the pollen is. The ants point the flying insects to the pollen. This helps the flowers get pollinated.

Moths

Moths are excellent pollinators. They pollinate many flowers that bees and butterflies do not. Moths mostly visit flowers that are white, open at nighttime, and have a strong smell.

Like a butterfly, a moth has a **proboscis** that acts as a straw to suck nectar out of a flower. A hawk moth has strong wings and a very long proboscis. It flies quickly from flower to flower to eat, spreading pollen along the way.

The yucca plant grows in warm places and produces **edible** fruits and flowers. Many people use this plant for decoration, too. The yucca plant is only pollinated by the yucca moth, so this plant and insect pair have a special relationship. The female yucca moth crawls inside the yucca flower to lay her eggs. Then she collects pollen from the flower, forms it into a ball, and puts the pollen on the flower's stigma. The pollinated flower can now produce seeds, just in time for the yucca moth **larvae** to hatch and feed on them.

Beetles

Beetles were one of the first insects to visit flowers, starting about 150 million years ago. Today, they are still important pollinators. They are attracted to flowers with spicy or fruity **scents**, such as magnolia and spicebush.

Most beetles that visit flowers do not sip nectar. Instead, they chew and eat other parts of the plants. They get pollen on them as they eat. Families of beetles that pollinate flowers have interesting names:


blister beetles


long-horned beetles


soldier beetles


jewel beetles


checkered beetles


tumbling flower beetles


soft-winged flower beetles


flower scarab beetles

4

Flies

Flies are pollinators. There are many different species of flies. They visit

flowers for nectar, for pollen, to lay eggs, or to feed on other smaller insects that might be on the plants. Many flowers that attract flies smell terrible, like rotten meat!

Scientists and farmers believe that flies like the bluebottle fly are the most important pollinator for mangoes.

Hoverflies look like honeybees, but they are flies. They are important pollinators for carrots and avocados.

Mosquitos are a type of fly. Nectar is mosquitos' most important food. Mosquitos also feed on blood. That's why they bite people and other animals. Some orchids give off a smell like a human body smell to attract mosquitos.

Glossary

edible: able to be eaten
fig: a small, soft, pear-shaped fruit with seeds inside
larvae: the young form of an insect, as a caterpillar is to a butterfly
lure: to tempt, to draw something in
proboscis: long, sucking part of an insect's mouth
scent: smell or odor

Written by Melissa Tonachel

Sources: Information and photos

General information:
https://www.thoughtco.com/insect-pollinators-that-arent-bees-or-butterflies-1967996
https://www.fs.fed.us/wildflowers/pollinators/animals/beetles.shtml
http://discoverpollinators.org/

Potter wasp on aster, Beatriz Moisset: https://www.fs.fed.us/wildflowers/pollinators/animals/wasps.shtml
Helleborine: http://goweros.blogspot.com/2011/07/broad-leaved-helleborine.html
Fig pollination: http://www.figweb.org/Interaction/Who_pollinates_fig_trees/index.htm
Figs: https://gardentodoorstep.com/product/brown-turkey-fig-tree/
Inside of fig: https://www.esa.org/esablog/research/the-story-of-the-fig-and-its-wasp/
Ants: http://gardeningsoul.blogspot.com/2015/05/ants-unlikely-pollinators.html
Nailwort plant: https://www.fredswildflowers.com/paronychia.html
Hawk moth: http://nationalmothweek.org/2015/06/25/the-year-of-the-sphingidae-pollination/
Yucca flower: http://www.wisegeek.com/what-is-a-yucca-flower.htm
Yucca moth: https://sites.jmu.edu/
Soldier beetle: https://www.whatsthatbug.com/category/beetles/soldier-beetles/
Jewel beetle: https://nature.mdc.mo.gov/discover-nature/field-guide/scarab-beetles
Blister beetle: https://en.wikipedia.org/wiki/Blister_beetle
Long-horned beetle:
http://www.post-gazette.com/life/my-generation/2017/07/11/Let-s-talk-about-parks-Asian-longhorned-beetle/stories/201707110027
Checkered beetle: https://wiki.bugwood.org/HPIPM:Clerid_Checkered_Beetle
Tumbling flower beetle: http://www.pybio.org/13550/mordellidae/
Soft-winged flower beetle: http://www.dpughphoto.com/beetles.htm
Flower scarab beetle: https://nature.mdc.mo.gov/discover-nature/field-guide/scarab-beetles
Mosquito: http://www.mosquitoreviews.com/mosquitoes-eat.html,
A mosquito with pollen sacs attached to its head visits a Platanthera orchid. Photo: Jeff Riffell
https://phys.org/news/2017-01-orchids-mimic-human-body-odor.html#jCp
http://www.prairiepollination.ca/pollinisateur-pollinator/moustiques-mosquitoes/

Insect Pollinators

Text Talk Week 4, Day 2

Insect Pollinators

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flower scarab beetle

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A mosquito with pollen sacs attached to its head visits a Platanthera orchid.

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lure: to tempt, to draw something in

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scent: smell or odor

terrible: extremely bad or unpleasant

Citations

Potter wasp on aster, Beatriz Moisset: https://www.fs.fed.us/wildflowers/pollinators/animals/wasps.shtml
Helleborine: http://goweros.blogspot.com/2011/07/broad-leaved-helleborine.html
Fig pollination: http://www.figweb.org/Interaction/Who_pollinates_fig_trees/index.htm
Figs: https://gardentodoorstep.com/product/brown-turkey-fig-tree/
Inside of fig: https://www.esa.org/esablog/research/the-story-of-the-fig-and-its-wasp/
Ants: http://gardeningsoul.blogspot.com/2015/05/ants-unlikely-pollinators.html
Nailwort plant: https://www.fredswildflowers.com/paronychia.html
Hawk moth: http://nationalmothweek.org/2015/06/25/the-year-of-the-sphingidae-pollination/
Yucca flower: http://www.wisegeek.com/what-is-a-yucca-flower.htm
Yucca moth: https://sites.jmu.edu/
Soldier beetle: https://www.whatsthatbug.com/category/beetles/soldier-beetles/
Jewel beetle: https://nature.mdc.mo.gov/discover-nature/field-guide/scarab-beetles
Blister beetle: https://en.wikipedia.org/wiki/Blister_beetle
Long-horned beetle: http://www.post-gazette.com/life/my-generation/2017/07/11/Let-s-talk-about-parks-Asian-longhorned-beetle/stories/201707110027
Checkered beetle: https://wiki.bugwood.org/HPIPM:Clerid_Checkered_Beetle
Tumbling flower beetle: http://www.pybio.org/13550/mordellidae/
Soft-winged flower beetle: http://www.dpughphoto.com/beetles.htm
Flower scarab beetle: https://nature.mdc.mo.gov/discover-nature/field-guide/scarab-beetles
Mosquito:http://www.prairiepollination.ca/pollinisateur-pollinator/moustiques-mosquitoes/
A mosquito with pollen sacs attached to its head visits a Platanthera orchid. Photo: Jeff Riffell
https://phys.org/news/2017-01-orchids-mimic-human-body-odor.html#jCp

Name: _____

Insect Pollinators

	Wasps	Ants	Moths	Beetles	Flies
How do these insects help pollination?					
Evidence					

How do insects help pollination?

WEEK 4 Day 3

Text Talk
"Insect Pollinators" (informational text)
Read 2 of 2
and
Mid-Unit Assessment

Big Ideas	Organisms in an ecosystem are interdependent. The parts of an organism have specific functions. Pollination is a result of animal behavior.
Weekly Question	How does pollination happen?
Content Objective	I can identify the key ideas of specific paragraphs within a text. (R.5.2.b)
Language Objective	With partners and within a small group, I can identify key details in a text and share why they are important. (SL.2.2.a)
SEL Objective	I can share my thinking in a respectful way and actively listen as others share their ideas. (Relationship Skills)
Vocabulary	**attract**: to interest, to draw closer (* Week 2) *** effective**: producing a good or positive result **produce:** to make **spread**: to scatter or send out (*Week 5)
Materials and Preparation	• "The Beauty of Pollination" video chart, from Week 1 • "Insect Pollinators" text, from Day 2, one copy for each child • writing tools • Insect Pollinators Photographs slides Set up the projection to play the Insect Pollinators Photographs slides on a loop.

	● chart paper and markers Prepare the following Presentation Stems chart. **Presentation Stems** A key detail about _____ is … I found the information about _____ interesting. I have some questions about _____. My first question is … ● Annotations chart, from Week 2, Day 1 and previous units On the whiteboard, write the introductory sentences from "Insect Pollinators": Many people know that bees and butterflies are insects. They also know that they are strong pollinators. But other insects pollinate, too. There are five sections of text. Children will first read one assigned section together, in a small group. Then children will reform new groups of five (one child who has read each section) to discuss the text as "experts" in the Jigsaw routine. Consider the number of children in the class and children's varying needs for support to plan these groups and to assign specific sections of text. ● Mid-unit Assessment Text, one copy ● Mid-unit Assessment Questions sheet, one copy for each child
Opening 3 minutes	Reintroduce the text and purpose for reading. *Yesterday we read "Insect Pollinators" and looked for details in the text to answer the question, How do insects help pollination? Today we will reread and annotate one section of the text. Remember that each section of the text is about a different family of insect pollinators: wasps, ants, moths, beetles, and flies.* *Annotating a text as we read can help us think more deeply about the information we are reading.* Refer to the chart and briefly review the annotation marks. *Are there any other annotation marks or notes we might add to this chart?* *By reading and annotating one section of the text, you will become experts on how one insect family pollinates. You'll identify*

	important details in that section of the text, and this will help you prepare to share information about your insect pollinator with a small group. In that group, you'll also listen to other experts about their insect pollinators. In the end, we will all understand the whole text better.
Text and Discussion 11 minutes	*Let's read these sentences all together.* Chorally read the sentences written on the whiteboard. Referring to the Annotations chart, reread the sentences. *Underline the main ideas about your insect pollinator so you remember what you want to share. You might share other interesting facts and or questions you have, too.* Assign children to their small groups, distribute the text and writing tools, and send them to read in spaces that will accommodate them comfortably. It may help some children to read with a partner within the small group. As children read, annotate, and discuss their assigned sections, play the slides so children can see the color photographs. Circulate to support children's work. Encourage them to be thoughtful about their annotations, and ask them to explain their thinking (*Why did you put that annotation there?*). Facilitate discussion among the group members. Prompt children to collaboratively identify important information, surprising facts, and questions, to prepare to present their section to their classmates.
Key Discussion 14 minutes	Bring children back to the whole group. *Now you have a chance to share what you learned with one another. In the order of the sections—Wasps, Ants, Moths, Beetles, and Flies—you'll share information from the text.* *You can use these Presentation Stems when you present information from your section.* Refer to the Presentation Stems chart. Model using this language to present and discuss information. Assign children to discussion groups, ensuring that each group includes at least one expert for each type of insect pollinator. Children in small groups share information with each other in clusters around the classroom. Encourage children to refer to their annotated text for support. Circulate to support their conversations. Provide timing signals throughout to make certain that each child has had enough time to present.

	Bring children back to the whole group. *How did that Jigsaw routine go?* *How did the Jigsaw routine help you understand the whole text?*
Closing 2 minutes	*We learned about many important insect pollinators over the past couple of days: wasps, ants, moths, beetles, and flies.* Think, pair, and share. *What is one interesting thing you learned about an insect pollinator from a classmate?* Add any key information to the Weekly Question Chart.
Mid-unit Assessment 10 minutes	Briefly introduce the Mid-unit Assessment. Distribute the Assessment Questions sheets so children can read along. Show the Assessment Text, indicating that it is an excerpt from the text "Insect Pollinators." Read the questions. *What do you notice about these types of questions?* *This assessment has two multiple choice questions. The first multiple choice question asks you to circle the answer that is NOT true.* *The second multiple choice question asks you to reread two sentences from the text to determine the meaning of a word.* *For the third question, you'll find evidence in the text and the photographs to respond.* *You will complete this assessment during Stations. While you do, you can listen to the text on the slides.*
Standards	**R.5.2.b** Identify the main topic of a multi-paragraph text and the central ideas of specific paragraphs. **SL.2.2.a** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. **SEL.**Relationship Skills
Ongoing assessment	Circulate as children annotate the text and engage in the Jigsaw. How are children annotating the text? Do children discuss the key ideas from their section of the text? Do children engage in two-way discussions? Do children piece together all the parts of the text? Do children actively listen to their peers?

Insect Pollinators Photographs

Text Talk Week 4, Day 2

wasp

orchid

fig wasps heading inside the bottom of the fig to get to the flower

the inside of a fig

ant

Nailwort plant

moth

yucca plant

yucca moth

blister beetle

long-horned beetle

soldier beetle

jewel beetle

checkered beetle

tumbling flower beetle

soft-winged flower beetle

flower scarab beetle

fly

hoverfly

mosquito

WEEK 4 Day 4

Text Talk
"Bees Are Not the Only Pollinators that Buzz"
(informational text)

Big Ideas	Organisms in an ecosystem are interdependent. The parts of an organism have specific functions. Pollination is a result of animal behavior. Animals, including humans, benefit from and depend on pollination.
Weekly Question	How does pollination happen?
Content Objective	I can answer questions such as Who, What, Why, and How to demonstrate my understanding that hummingbirds are important pollinators. (R.4.2)
Language /SEL Objective	I can discuss interesting details about hummingbirds with my partners and with the whole group. (SL.1.2, Relationship Skills)
Vocabulary	**lap**: to drink water with a fast, licking motion **lure**: to attract
Materials and Preparation	• "Bees Are Not the Only Pollinators that Buzz" slides • "Bees Are Not the Only Pollinators that Buzz" informational text, one copy for each child Note: This text is formatted as a booklet. Copy two-sided and fold the pages in half. • How do hummingbirds pollinate? sheet, one copy for each child • clipboards or other writing surfaces • writing tools • Annotations chart On the whiteboard, write these questions: How does pollination happen?

	Why are the particular parts of an organism important? What makes a plant and a pollinator a good match? Prepare to read the text on slides while children read along in their booklets. Children will also read and then write responses with partners. Pair children strategically.
Opening 2 minutes	Introduce the text, showing the cover slide. *Today we'll read a new informational text, titled "Bees Are Not the Only Pollinators that Buzz." What might this text be about?* Set a purpose for today's lesson. *Earlier this week, we read about many different animal pollinators. Today's focus is on just one of those pollinators: hummingbirds. As we read, let's keep these three questions in mind.* Read the questions on the whiteboard. *How does pollination happen?* *Why are the particular parts of an organism important?* *What makes a plant and a pollinator a good match?*
Text and Discussion 15 minutes slides 2-3, pages 1-2	Distribute children's copies of the text, clipboards, and writing tools. *Read silently along with me while I read aloud.* Read slide 2 and continue onto slide 3, stopping after the second sentence ("... beat their wings 80 to 100 times each second.") *Can you believe it—hummingbirds beat their wings 80 to 100 times in just one second? That's a surprising and interesting detail!* *If it's also interesting to you, you might mark that sentence with an exclamation point.* Read the remainder of the page. *On this page, make one or two more exclamation points next to interesting details about hummingbirds. Then turn and tell a partner a detail you marked.*
slide 5, page 4	Read through slide 5. Refer to the first question on the board. *How does pollination happen? Specifically, how do hummingbirds pollinate flowers? Think about the information we just read. Then turn and talk, using details from the text in your conversation. Decide together what you might annotate with exclamation points on this page.*
slide 8, page 7	Continue reading. Stop on slide 8. Refer to the second and third questions on the whiteboard.

	Think about the information we just read. Why are the particular parts of an organism important? What makes a plant and a pollinator a good match? Harvest ideas in the whole group. Invite children to annotate the text.
slide 11, page 10	Read through slide 11. Invite children to annotate the text and then share their annotations with the same or a new partner.
Key Activity 22 minutes	*Now you have time to go back to read this book with a partner and answer some questions.* Show the sheet, How do hummingbirds pollinate?, and read the questions aloud. *Remember to refer to the text to answer the questions.* Send children to work. Circulate to support them. Remind them to cite the text.
Closing 1 minute	Invite children to share any information they learned that connects to the Weekly Question. Add notes to the Weekly Question Chart. *The hummingbird is an amazing pollinator! Tomorrow, we will read a different kind of text about a hummingbird.*
Standards	**R.4.2** Ask and answer questions about who, what, when, where, how and why. **SL.1.2** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. **SEL.** Relationship Skills
Ongoing assessment	Circulate as children read and write. Review children's sheets to assess their understanding of the text. Do children use details from the text to answer questions? Do children work collaboratively with their partners?

Notes

Text Talk U4 W4 D4

Bees Are Not the Only Pollinators that Buzz

Name: _____

Written by Melissa Tonachel

Sources: Information

https://www.fs.fed.us/wildflowers/pollinators/pollinator-of-the-month/ruby-throated_hummingbird.shtml
https://aggie-horticulture.tamu.edu/galveston/beneficials/beneficial-62_pollinators-hummingbirds.htm
https://www.massaudubon.org/learn/nature-wildlife/birds/hummingbirds
http://www.audubon.org/news/hummingbirds-see-red

Sources: Photos

https://bybio.wordpress.com/tag/cardinal-flower/
https://sciencing.com/effects-extinction-organism-desert-ecosystem-food-chain-23435.html
https://hummingbirdgardener.com/2011/10/09/a-petunia-for-hummingbirds/,
http://www.birdsandblooms.com/gardening/plants-and-flowers-to-attract-hummingbirds/top-10-red-flowers-to-attract-hummingbirds/
http://www.pacifier.com/~acashion/002.htm,
http://www.audubon.org/magazine/summer-2016/five-ways-troubleshoot-your-birding-problems
http://www.audubon.org/news/what-do-birds-and-bees-have-do-global-food-supply
https://www.pinterest.com/pin/337558934545314679/,
https://www.flickr.com/photos/tzunun/galleries/72157632784888018/?rb=1
https://www.fs.fed.us/wildflowers/pollinators/pollinator-of-the-month/ruby-throated_hummingbird.shtml, https://www.birdnote.org/show/sapsuckers-and-hummingbirds,
http://www.nenature.com/RubyThroatedHummmingbirdPhoto.htm
https://www.allaboutbirds.org/guide/Annas_Hummingbird/lifehistory
http://www.nwplants.com/business/catalog/rib_san.html
https://neotropical.birds.cornell.edu/Species-Account/nb/species/swbhum1
https://m.dhgate.com/product/wholesale-flower-seeds-devil-039-s-trumpet/390339406.html
https://aggie-horticulture.tamu.edu/wildseed/mixes.html
https://www.countrymax.com/perky-pet-glass-hummingbird-feeder-with-bee-guards/,
http://www.audubon.org/news/hummingbirds-see-red
https://castellowhammock.wordpress.com/2008/11/22/hummingbirds/img_0573/
https://www.bayjournal.com/article/hummingbird_provides_improbable_nectar_for_the_soul
https://www.flickr.com/photos/jesusreinacarvajal/33037178476
http://fiddleheadcreek.com/a-match-made-in-a-wetland-cardinal-flower-and-the-ruby-throated-hummingbird/

Glossary

extraordinary: very unusual or amazing

hover: to stay in one place in the air

stamen: part of the plant that makes pollen

stigma: part of the pistil that receives the pollen

brilliant: very bright

tropical: very hot and humid

climate: the weather in an area

common: often found, not rare

ecosystem: a community of plants and animals that depend on each other, and their environment

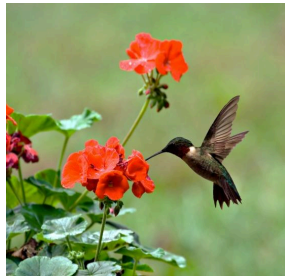
prey: an animal that is hunted by another animal as food

protein: a nutrient that is needed for health

Stand quietly near some red flowers on a summer day. You might hear a buzzing sound. It's not a bee, although it is a pollinator. It's not even an insect…

That buzz is the sound of a hummingbird's wings.

Hummingbirds can beat their wings 80 to 100 times each second. This **extraordinary** wing motion allows hummingbirds to fly forward, backward, side to side, and even upside down. Hummingbirds can also **hover**. This means they can stay in one place in the air, as if they were hanging on a string.



Hummingbirds hover to get to their food. Then they buzz away.

Hummingbird Facts

Hummingbirds lap up nectar with their tongues. They can lick 10-15 times per second while feeding.

A hummingbird's heart can beat 12 times faster than a human's heart. But when the hummingbird sleeps, it slows its heart down to save energy.

The bee hummingbird is the smallest bird in the world. It is only a little over two inches long.

The bee hummingbird lives mostly in Cuba.

A buzzing sound could mean there's a pollinator close by… but what kind?

People like having hummingbirds around. They are fun to watch and listen to as they fly. They are beautiful. And they are pollinators. One way to lure hummingbirds to an area is to plant flowers that attract them in gardens. Another way to lure hummingbirds is to hang hummingbird feeders and fill them with sweet syrup.

Why might a hummingbird feeder be designed like this?

Hummingbirds eat nectar, so they fly from flower to flower to get food. They are attracted to brightly colored flowers because those are the ones their eyes can see best—especially red and bright pink ones.

petunia

fuchsia

columbine

hibiscus

When a hummingbird sips nectar, it hovers its body and sticks its beak into the flower. Sometimes it sticks its whole head in the flower!

Its head and body brush against the flower's **stamen**. The hummingbird gets pollen grains all over itself.

In North America, hummingbirds mostly pollinate wildflowers. These plants are part of a healthy **ecosystem**. They also make our world more beautiful.

The kinds of flowers hummingbirds feed on produce nectar that is especially tasty to hummingbirds.

Hummingbirds also **prey** on small insects and spiders. Hummingbirds use a lot of energy to fly so much and so fast. Bugs give them the **protein** they need to make this energy.

Young hummingbirds eat insects and spiders that their parents bring back to the nest.

When the hummingbird buzzes off to the next flower, the pollen rubs off onto the **stigma** of the new flower. In this way, hummingbirds help flowers make new seeds.

A hummingbird can feed on a thousand flowers each day. That means a lot of flowers are getting pollen from other flowers.

Hummingbirds are tiny birds with **brilliant** feathers. There are about 300 species of hummingbirds. They live in North America and South America. Most of them live in **tropical climates**.

The ruby-throated hummingbird migrates 500 miles from Mexico to New England every spring.

female

male

It has shiny green feathers. The male bird has a bright red throat.

Hummingbirds have long beaks. But not all hummingbird beaks are shaped the same way. Each hummingbird looks for the flowers that best match the size and shape of its beak.

Anna's Hummingbird and Currant flower

Sword Hummingbird and Trumpet Datura

Name: _____ Date: _____

How do hummingbirds pollinate?

Use details from the text to support your response.

_____

_____

_____

_____

_____

_____

What is one detail you found interesting about hummingbirds?

_____

_____

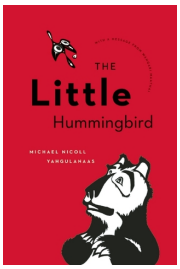
_____

_____

_____

_____

WEEK 4 Day 5



Text Talk
The Little Hummingbird
Read 1 of 2

Big Idea	Organisms in an ecosystem are interdependent.
Weekly Question	How does pollination happen?
Content Objectives	I can retell key events in a folktale. (R.4.2, R.8.2.a) I can locate South America on a map and identify countries where many of the Quechua people live. (2.T2.1)
Language Objective	With a partner, I can recount and write about key events in a folktale. (SL.2.2.a)
SEL Objective	I can organize and share my ideas using a graphic organizer. (Self-Management)
Vocabulary	**abandon:** to leave; to give up on something **ferocious**: intense, fierce **huddle**: a group gathered closely together **rage**: to continue with great force
Materials and Preparation	• *The Little Hummingbird,* Michael Nicoll Yahgulanaas Pre-mark the pages in the book. Page 1 begins, "Here is the story of the great forest fire." • world map and pushpin • Elements of a Folktale: *The Little Hummingbird* sheet, one copy for each child • writing tools • clipboards or other writing surfaces • Elements of a Folktale anchor chart from Week 1, Day 1

Add *The Little Hummingbird* under the title column.

Elements of a Folktale					
Title	**Beginning** Setting, Characters, and Events	**Middle** Problem, Responses to Problem	**End** Solution	**Presence of Magical or Mystical Beings?**	**Central Message, Lesson, or Explanation of Phenomena**
Cuckoo					
The Little Hummingbird					

Select pairs of children to work together. Have children sit so that they can take notes with a partner throughout the lesson.

Opening
5 minutes

Introduce the book.

Yesterday we read an informational text about hummingbirds as pollinators. Turn and tell a partner one thing you now know about hummingbirds as pollinators.

Today we will read a folktale called The Little Hummingbird*, told by Michael Nicoll Yahgulanaas. It is based on a story from the Quechua people. They were one of the first people to live in South America.*

Refer to the world map. Outline or have a child outline the continent of South America. Point to and name countries where many of the Quechua people still live: Peru, Ecuador, Bolivia, Argentina, Chile, and Colombia.

Are you familiar with any of these countries?

Share the purpose for reading.

A few weeks ago we read Cuckoo*, another folktale—an old story, passed down through generations and retold by Lois Ehlert.*
Like we did with Cuckoo*, as we read, we will gather information about what makes this story a folktale.*

Remember that like many other stories we've read together, a folktale includes a beginning, middle, and end. But folktales are different because they often include special, magical beings. Also, a folktale often tries to tell us something—a central message, a

	lesson, or an explanation of how something came to be. We refer to that as "an explanation of phenomena." *Today as we read, we'll begin to identify important elements of the folktale and see if the story has any magical beings. We'll record our ideas in the Elements of a Folktale sheet and on this chart. Tomorrow, we'll think about the central message or explanation of phenomena.*
Text and Discussion 15 minutes page 1	Show the title page and invite children to look closely at the illustrations. Think, Pair, Share. *What do you notice here?* *These illustrations are inspired by Native American wood carvings and sculptures. We will have more time in Studios to explore this artform.* Read page 1. Think aloud. *This is an interesting beginning! Are you already wondering about the fire in the great forest?*
page 2	Define the word "raged." ***Rage** means to be very angry and to show it. However, when a fire is described as raging, it means the fire is burning strongly and spreading fast.*
page 3	*Who are the main characters in the story? What is the setting? Talk with your partner. Also, think about what is happening here, at the beginning of the story.* While children think about this question, distribute the Elements of a Folktale*: The Little Hummingbird s*heets, writing tools, and clipboards. *Talk with your partner about the characters, setting, and events in the beginning of the story, and complete the "Beginning" section.* Continue reading.
page 6	Define the word "abandon" and check for comprehension. ***Abandon** means to leave something and give up on it.* *What is Little Hummingbird's immediate response to the fire?* Harvest a few ideas, and continue reading.
page 9	Think, Pair, Write. *What's the problem in this story? How does the Little Hummingbird respond? Talk with your partner, then write your notes in the "Middle" section.*

page 12	Think, Pair, Write. *How are the characters, like Owl and Rabbit, responding to the problem? Talk with your partner, and add notes to the "Middle" section.*
page 13	Think, Pair, Write. *Based on the text and the illustrations, what does the Little Hummingbird do? What do the other animals do? Talk with your partner, and complete the "End" section.*
page 16	Think, Pair, Write. *How does the story end? Is the problem solved? Talk with your partner, and complete the "End" section.*
Key Discussion 12 minutes	*Now, with a partner, practice retelling the folktale, each person taking a turn to try it, or telling it collaboratively, section by section. Refer to your sheets to guide you.* Bring children's attention back to the whole group. *Are there any magical creatures in this folktale?* Facilitate a whole group discussion, and then have children complete the final column on the sheet. *Today we identified the main events in the story and whether or not there are magical creatures. We will talk about the central message tomorrow.* Complete the whole group chart by inviting children to share information from their own sheets. Collect the sheets.
Closing 4 minutes pages 20-21	Read the last two pages of the book, "The Amazing Hummingbird." Facilitate a whole group discussion. *How does this information help us to understand the Little Hummingbird's character?* *Based on what you already know about hummingbirds, why do you think the storyteller chose a hummingbird as the main character in this story?*
Weekly Question Chart 4 minutes	Refer to the Weekly Question Chart. *This week we have been thinking about this question: How does pollination happen?*

	Read the chart together. Add any essential ideas that may be missing. Identify and color-code 2-3 themes that emerge. Some themes might be: Many different animals pollinate. Animals pollinate in different ways. Pollination contributes to animals' survival. Save this chart for use in Week 5.
Standards	**R.4.2** Ask and answer questions about who, what, when, where, how and why. **R.8.2.a** Describe the overall structure of a text, including describing how the beginning introduces the story and the ending concludes the action. **SL.2.2.a** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. **2.T2.1** On a map of the world and on a globe, locate all the continents and some major physical characteristics on each continent (e.g., lakes, seas, bays, rivers and tributaries, mountains and mountain ranges, and peninsulas, deserts, plains). **SEL.**Self Management
Ongoing assessment	Collect and read children's Elements of a Folktale: *The Little Hummingbird* sheets. How do children map out the folktale elements?

Notes

Name: _____ Date:_____

Elements of a Folktale: *The Little Hummingbird*

Beginning Setting, Characters, and Events	**Middle** Problem, Responses to the Problem	**End** Solution	**Presence of Magical or Mystical Beings?**
Central Message, Lesson, or **Explanation of Phenomena**			

WEEK 4 Stations

Stations overview table follows information for the Mid-Unit Assessment.

Mid-Unit Assessment
Materials and Preparation ● Mid-unit Assessment Text, one copy for each child ● Mid-unit Assessment Questions sheet, one copy for each child ● "Insect Pollinators" slides, with technology for children to view and play audio ● POP! Answering Multiple Choice Questions chart and/or half-sheets ● Mid-Unit Assessment rubric ● Mid-Unit Assessment responses In advance of the week, if useful, plan a schedule for each child to work at the Writing Station to complete the assessment.
At the close of the Day 3 Text Talk, teachers briefly introduce the Mid-Unit Assessment to the whole group. The assessment is based on an excerpt from "Insect Pollinators," read and discussed on Days 2 and 3 for Text Talk. After the assessment is introduced, children work on it independently at the Writing Station. Provide the text slides with audio, and invite children to listen to the recording in advance of responding to the questions independently.

Stations overview page follows.

WEEK 4 Stations

Station	Activities	Materials Writing tools at each station
Guided Independent Reading		• individual book bags • "Wasp" poem
Teacher groups: strategic small group instruction		
Listening & Speaking	Listen and Respond	• audio recording and technology • *Amazing Bees* book and slides • conversation prompts
Science Literacy	Do you notice any new leaves growing on the trees outside our classroom? Write and draw about them.	• Unit 4 Science and Engineering packets • colored pencils
Vocabulary	Choose 3!	• **Week 3** Weekly Words cards • Recording sheets • Choose 3! menu
	Talk About It: What features of the bee and the flower make them a good match for pollination? What more do you want to find out about this?	• Weeks 3 and 4 Weekly Words cards • Week 4 image, 2 copies cut apart • Week 4 sheets
Word Work *(align skills with literacy program)*	Marking double vowels	• Week 4 Name It, Write It, Mark It sheets
	Finding words with ue/oo vowel teams in text	• Week 4 Read, Annotate, Write sheets
	Writing words, using them in sentences	• Week 4 Look Cover Write Check sheets
Writing	Prompt from Text Talk Day 1: Responding to *Animal Pollinators*	• Writing Station Response sheet
	Mid-Unit Assessment, introduced on Day 3	• Mid-Unit Assessment Text and Question sheets • Mid-Unit Assessment slides, as needed

Wasp

By Jeremy Walters

As I walked
One early morn
I was alarmed to see
A buzzing ball
Black and yellow
Flying right at me!

I closed my eyes
And stood so still
The wasps just flew right past
One landed on a purple orchid
Breakfast time, at last!

The others each
All did the same
And orchid pollen spread
On wings on legs and in their bellies,
even on their heads!

Next time a wasp
Might fly my way
Or buzz into my room
I'll keep my calm
And hope it finds
A flower still in bloom.

Photo: https://www.flickr.com/photos/the-hawk-69/9452698652/

***Amazing Bees*, Chapters 2 & 3** Conversation Prompts: Cut apart and provide with text and audio recording.

Page 15: Find the **bold** word on page 15. Why did the author choose to make this word **bold**? ***Amazing Bees***	**Page 19:** How do extra colors help bees to survive? ***Amazing Bees***
Page 29: Describe a few different jobs of bees. ***Amazing Bees***	I agree with you, and I would like to add on that____. I respectfully disagree because _____. What evidence do you have to support that?

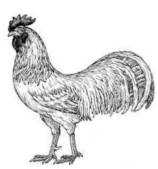
Name: ______________________________

Name It	Write It	Mark It

Write the word. Circle and mark the suffix and the double vowel if present.

Word Bank		shampoo	chewing	rooster
outgrew	blooming	mildew	cooking	hooking

drooling
d s

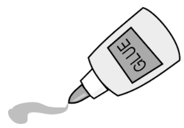


Skills: Know spelling-sound correspondences for additional common vowel teams; Decode words with common prefixes and suffixes.

Name: ____

Read	Annotate	Write

Read "The Rescue Team." Underline words with **ue** and **oo**.
Then write each word in the correct column.

ue 	oo 

Skills: Know spelling-sound correspondences for additional common vowel teams.

Underline words with
ue and **oo**

The Rescue Team

Mr. Stroub works with a rescue team. He enjoys the work, and he likes the other members in his group. They all know how important their work is. Back when he was a kid in school, Mr. Stroub worked at his town pool. Once, he saved a child from drowning. From that point on, he was hooked on rescue work.

The job of the rescue team is to help boats that are stranded out at sea and get everyone safely back to shore. The crew also teaches classes about boat safety. They do not go out on a rescue every day. Some days the job is even a bit dull. The crew is happy when this happens, because it means all of the boaters are safe. However, if a storm blows in, the crew knows they will be needed soon.

Many people on the coast have boats. They enjoy fishing trips and sailing on the clear, smooth, blue waters. Most of the boaters are careful. They remember to bring life jackets for each person on the boat. They go slowly when there are

Underline words with **ue** and **oo**

other boats around. A few boaters are foolish. They scoot across the water at top speed and dart around other boats. They crowd too many people and too much stuff onto their boats. They ignore the rules and stay out in stormy seas.

One cloudy afternoon, Mr. Stroub told a group that they should not take their small boat out to sea. News reports said that a large storm was expected soon. Mr. Stroub tried to explain that the strong winds would make it hard to get back in. The driver of the boat argued with Mr. Stroub. Then he took off in his boat and sped out to sea. Mr. Stroub shook his head. He wished people knew that he was not trying to spoil their fun. He just wanted to keep them safe.

Shortly after the boat left the dock, thunderclouds formed in the sky. Waves began to pound the shore. Mr. Stroub frowned as he looked out the window. He was hoping to see the small boat returning, but there were no boats around. He told his crew to prepare for a rescue.

Name: _____

Look	Cover	Write	Check √
enough			
special			
December			

Skills: Recognize and read grade-appropriate irregularly spelled words.

Use it in a Sentence

enough

special

December

Writing Station Response: ***Animal Pollinators***

Name: _____ Date: _____

Use the section "How do animals pollinate?" to answer the question.

How do animals pollinate? Draw and write about an example of animal pollination.

Name _____ Date _____

Directions: Use the text "Insect Pollinators" to answer the questions.

1. Which of the following is **not** true about why flies visit flowers?

    a. for nectar
    b. for pollen
    c. to feed on smaller insects
    d. to be with other flies

2. Reread the sentences below.

> *Many flowers that **attract** flies smell terrible, like rotten meat!*
>
> *Some orchids give off a smell like a human body smell to **attract** mosquitos.*

What does the word "attract" mean?

    a. to disgust
    b. to draw close
    c. to excite
    d. to upset

Keep going on the next page.

3. What is the main idea of this section of the text? Use evidence from the text and the photographs to explain your thinking.

Add an illustration to show your ideas about the main idea of this section.

Excerpt from **"Insect Pollinators"**

by Melissa Tonachel

Flies

Flies are pollinators. There are many different species of flies. They visit flowers for nectar, for pollen, to lay eggs, or to feed on other smaller insects that might be on the plants. Many flowers that attract flies smell terrible, like rotten meat!

Scientists and farmers believe that flies like the bluebottle fly are the most important pollinator for mangoes.

A blue bottle fly picks up pollen from a mango flower.

Hoverflies look like honeybees, but they are flies. They are important pollinators for carrots and avocados.

A hoverfly visits an avocado flower.

Mosquitos are a type of fly. Nectar is mosquitos' most important food. Mosquitos also feed on blood. That's why they bite people and other animals. Some orchids give off a smell like a human body smell to attract mosquitos.

A mosquito drinks nectar from an orchid.

1. Which of the following is **not** true about why flies visit flowers?

    a. for nectar
    b. for pollen
    c. to feed on smaller insects
    d. to be with other flies

2. Reread the sentences below.

    > Many flowers that **attract** flies smell terrible, like rotten meat!
    >
    > Some orchids give off a smell like a human body smell to **attract** mosquitos.

    What does the word "attract" mean?

    a. to disgust
    b. to draw close
    c. to excite
    d. to upset

3. What is the main idea of this section of the text? Use evidence from the text and the photographs to explain your thinking.

_____

_____

_____

More space to write on the other side of the paper

Add an illustration to show your ideas about the main idea of this section.

Excerpt from **"Insect Pollinators"**

by Melissa Tonachel

Flies

Flies are pollinators. There are many different species of flies. They visit flowers for nectar, for pollen, to lay eggs, or to feed on other smaller insects that might be on the plants. Many flowers that attract flies smell terrible, like rotten meat!

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A blue bottle fly picks up pollen from a mango flower.

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A hoverfly visits an avocado flower.

Mosquitos are a type of fly. Nectar is mosquitos' most important food. Mosquitos also feed on blood. That's why they bite people and other animals. Some orchids give off a smell like a human body smell to attract mosquitos.

A mosquito drinks nectar from an orchid.

Mid-Unit 4 Assessment Responses and Exemplars

Question 1.

Which of the following is **not** true about why flies visit flowers? (RI.2.1)

a. for nectar
b. for pollen
c. to feed on smaller insects
d. to be with other flies

Question 2.

What does the word “attract” mean?

a. to disgust
b. to draw close
c. to excite
d. to upset

Question 3.

What is the main idea of this section of the text? Use evidence from the text and the photographs to explain your thinking.

The main idea of this section is that flies are important pollinators. The text says, "they visit flowers for nectar, for pollen, and to lay their eggs." Also, scientists believe that some flies are the main pollinators for certain fruits and vegetables. A photograph in the text shows the bluebottle fly pollinating a mango flower. This evidence shows that these insects are pollinators.

Mid-Unit Assessment Rubric: Unit 4

Text: “Insect Pollinators” excerpt
(500-600 Lexile)

Child’s name:

Date:

Prompt

Question 3. What is the main idea of this section of the text? Use evidence from the text and the photographs to explain your thinking. (R.5.2.b, R.11.2.c, R.11.2.d, L.2)

Unit 4 Big Ideas

- Organisms in an ecosystem are interdependent.
- Pollination is a result of animal behavior.

1 = Shows little evidence of meeting the standard; **2** = Shows some evidence of meeting the standard; **3** = Meets the standard

	1	2	3
Explains the main idea of the section of text (R.5.2.b) (Question 6)	Does not explain the main idea of this section of text.	Partially explains the main idea of this section of text.	Fully explains the main ideas of this section of text.
Uses details from the text and photographs (R.11.2.c, R.11.2.d) (Question 3)	Does not use any details from the text or a photograph.	Uses at least one detail from the text or a photograph.	Uses at least one detail from the text and one detail from a photograph.
Demonstrates conceptual understanding and knowledge about the topic. (overall)	Does not align response to the unit’s Big Ideas.	Somewhat aligns response to the unit’s Big Ideas.	Demonstrates conceptual understanding and knowledge about the unit’s Big Ideas.

1 = Shows little evidence of meeting the standard; **2** = Shows some evidence of meeting the standard; **3** = Meets the standard; **4** = Exceeds the standard				
Conventions	**1**	**2**	**3**	**4**
Sentence Complexity L.2.3.f	Errors in usage are frequent; sentences are often difficult to understand.	Writes in clear, simple sentences and phrases.	Writes in complete simple and compound sentences.	Produces, expands, and rearranges complete simple and compound sentences.
Capitalization L.2.2.a	Minimally or incorrectly uses uppercase letters.	Inconsistently capitalizes the first word in a sentence, holidays, product names, and geographic names.	Aside from one error, it capitalizes the first word in a sentence, holidays, product names, and geographic names.	Consistently capitalizes the first word in a sentence, holidays, product names, and geographic names.
Punctuation L.2.2.b L.2.2.c	Makes frequent errors in end punctuation, making the piece difficult to read.	Inconsistently uses end punctuation, commas, and apostrophes.	Aside from one error, it correctly uses end punctuation, commas, and apostrophes.	Correctly uses end punctuation, commas in the greetings and closings of letters, and apostrophes to form contractions and frequently-occurring possessives.
Spelling L.4	Makes severe errors in spelling, often obscuring meaning.	Makes frequent errors in the spelling of learned spelling patterns and high-frequency words.	Aside from one or two exceptions, spelling reflects learned spelling patterns and evidence of using reference materials (word walls, personal dictionaries, etc.).	Generalizes learned spelling patterns and shows evidence of using reference materials (word walls, personal dictionaries, etc.) when writing words.
Language L.6.2.a	Uses minimal academic and domain-specific words or phrases.	Inconsistently uses academic and domain-specific words or phrases.	Aside from one or two exceptions, uses academic and domain-specific words and phrases with accuracy.	Correctly uses academic and domain-specific words and phrases consistently.

Talk About It

https://uwm.edu/news/where-the-bees-are/

https://uwm.edu/news/where-the-bees-are/

Talk About It

Name: _____ Date: _____

What features of the bee and the flower make them a good match for pollination?

What more do you want to find out about this?

Look carefully at the image. **Talk** with your partner, **draw and write** about your ideas, and then **share** your writing. Use important vocabulary words as you talk and write. **Circle** the important words you use.

_____

_____

_____

_____

_____

WEEK 4 Lesson 1

Science and Engineering: Life Sciences

Ecosystems: Learning about Leaves

Big Idea	The parts of an organism have specific functions.
Guiding Question	Why are the particular parts of an organism important?
Content Objectives	I can conclude that leaves use light, water, air, and nutrients to make the food that plants need to grow and develop. (Science 2-LS2-3(MA)) I can write and draw my observations of how my plant has changed. (W.3, 2-LS2-3, Practice 4)
Language Objective	I can ask questions and talk about the role of leaves in plant growth and development. (SL.1.2, SL.2.2.b)
Vocabulary	**leaf**: part of the plant that is flat, green, and grows from the stem, and which is involved in making the plant's food **stem**: the part of the plant that grows leaves, supports the plant, and transports food; also called a stalk or trunk **photosynthesis**: the process a plant uses to make food by converting sunlight to energy
Materials and Preparation	• Science and Engineering packets • writing and drawing tools • children's Plant Growth Graphing papers, from Week 3, Lesson 2 • bean plants with rulers • About Plants chart, from previous lessons • *From Seed to Plant*, Gail Gibbons Flag page 20. • Bean Time-Lapse video (https://www.youtube.com/watch?v=w77zPAtVTuI), optional
Opening 5 minutes	*Your plants are getting bigger. Today you will complete another entry to record changes that have happened since your last*

	observation. Just like before, record the date and the question you are investigating at the top of your paper. Draw and write your observational notes. Measure your plant and record its length on your Plant Growth graph. *Then, talk with your group members about what you are wondering now about how plants grow and develop.* *Then we'll gather on the rug to share observations, think about the changes you noticed, and discuss your questions.*
Investigation 10 minutes	As children work in small groups, observe how they record observations, measure and graph plant growth, and exchange questions. Support children to: ● make close observations and record relevant details in their drawings; ● measure precisely and compare their measurements to their previous entries; ● develop and consider new questions, especially about leaves. Provoke children's wondering with questions such as: *Why do you think the leaves are getting larger?* *We know that one job of the roots is to absorb water. What do you think the job of the leaves might be?* *Do you have a question about that?*
Discussion 15 minutes	Bring children back to the whole group with their plants, packets, and graphs. Invite them to share their observations of plant changes, referring to their notes and plants as they do. Likely, leaves will have grown larger and new ones developed; stems will have grown taller. Refer to and add to or amend children's original ideas on the About Plants chart, as appropriate. If time allows, show the first minute of the Bean Time-Lapse video. *What new questions do you have about how plants grow and develop?* Record children's questions on the About Plants chart. If children have not asked questions specifically about the function of leaves, begin that conversation. *Each part of a plant has a job, or function. We know that one function of roots is to absorb water. What do you think is the function of the leaves?* *What makes you say that?* Continue the conversation.

	Plants need food, but they do not eat like humans and other animals do. They make *their own food. For plants to make their own food they need water, vitamins, air, and light.* *Let's think about how plants get what they need in different stages of development.* *Do you remember where the food came from when the plant was an embryo, inside the seed?* Encourage children to refer to their packets. Arrive at and confirm a common understanding. [The cotyledons, part of the embryo, provide required food for the embryo to grow and develop.]
From Seed to Plant	Continue to facilitate group recall about plant development, stage by stage, based on the children's experiences and recorded observations. As is helpful, refer to the illustrations in *From Seed to Plant*, beginning with the flagged page and flipping through pages as the stages are described. *A seed has an embryo, the cotyledons are part of that embryo, and water supplies nutrients.* *Once the seed has germinated, roots reach down and absorb water and other nutrients from the soil.* *A shoot grows up and we see the cotyledons on the stem.* Pause to consider the cotyledons, if they are still attached on some of the plants. They may have begun to shrivel at this point. Alternatively, a child may have drawn a strong representation in their packet. Refer to the plant and/or child's drawing. *Why do you think the cotyledon is shriveling?* Facilitate thinking time and discussion. [As true leaves emerge, these become the plant's food source. The cotyledons (seed leaves) are no longer needed and do not continue to produce food for the plant.] Return to the illustrations. *As the plant continues to grow, true leaves develop. This is where the plant makes its own food from nutrients in the water and soil, air, and sunlight.* [Close book]
	This book makes more sense to us, now that we have been observing plants in real life. We can see why the leaves are so important! The roots absorb water and vitamins from the soil. These travel through the stem to the leaves. At the same time, leaves absorb light. The light provides the energy the plant needs to make its food.

	Think about this: sometimes we might pull leaves off plants, because they are interesting to us and we want to show them to someone else. If the plant is small and has just a few leaves, how do you think doing this might affect the plant? Harvest children's ideas, highlighting understanding of the leaves' function.
Closing	*Today we learned about how important leaves are to plants. Each **species**, or kind, of plant needs a certain amount of water, air, light, and nutrients, but they all need some of each of these things.*
Standards and Practices	**W.3** Routinely produce a variety of clear and coherent writing in which the development, organization, and style are appropriate to the task, audience, and purpose. **SL.1.2** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. **SL.2.2.b** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. **2-LS2-1** Plan and conduct an investigation to determine if plants need sunlight and water to grow**.** **2-LS2-2** Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
Ongoing assessment	Reflect on the class discussions, and review children's packets. What evidence do children show of their understanding about the function of the various structures of a plant? How do children incorporate and consolidate knowledge they are developing through Text Talks, Writing, Studios, and Science lessons?

Notes

WEEK 4 Lesson 2

Science and Engineering: Life Sciences

Ecosystems: Plant Growth and Development

Big Idea	The parts of an organism have specific functions.
Guiding Question	Why are the particular parts of an organism important?
Content Objective	I can work with a group to make a claim about the growth and development of a plant and support it with evidence. (2-LS2-3, Practice 7) I can conclude that plants develop at different rates in different ways. (Science 2-LS2-3(MA).)
Language Objective	I can discuss my interpretation of data clearly with classmates. (SL.1.2, SL.1.2.a) I can respectfully ask questions to better understand my classmates' ideas. (SL.2.2.b)
Materials and Preparation	• chart paper, 2 pieces On each piece of chart paper, write two questions from the Plant Growth and Development Questions sheet, one question at the top and the other halfway down the page. • tape or glue stick • About Plants chart, from previous lessons Review the chart and mark compelling questions about plant growth and development. Set up a separate work space for each group, with: • the bean plant that the group has been observing and measuring • Plant Growth and Development Questions • group members' Science and Engineering packets and graphs • writing and drawing tools • one large strip of paper (about 6 inches wide) or sentence strip
Notes	In some cases, children will observe that their plant has not been growing

	taller. Still, leaves might be growing larger and new ones developing. As leaves develop and grow, the cotyledon dries up. The cotyledon, part of the embryo, was the seed's food source; now the leaves have taken over that function. Leaf growth and development is essential for the plant's life cycle. Growth of neither stem nor leaves may be a sign that growing conditions should be adjusted to offer the plant the right amount of water and light.
Opening 3 minutes	*You have been observing, measuring, and recording the growth of your plants for a week. Today you'll get together with your groups to talk about what you've been noticing, what you think about what you've noticed, and what you predict.* Show and read through the questions on the Plant Growth and Development Questions sheet. Indicate the box at the bottom of the sheet. *In this box are some other questions to make sure you really understand each other's ideas. You won't record answers to these questions.* Read the prompts. *As you talk in your group, refer to your drawings and graphs for evidence for your answers.* *Then, as a group, choose just one of these four questions to answer. Use evidence from your plants, graphs, and your plant observation pages to answer the question. Agree on an answer, and then work together to write it clearly on a strip of paper. You might want to include an illustration to make your answer even more clear.* Send children in their groups to work.
Investigation 15 minutes	Encourage children to reference their observations in their packets, their graphs, and their plants as they discuss the questions. Each group should discuss all of the questions on the sheet and use the discussion prompts to clarify each other's ideas. Guide children to choose one question and agree to a claim that answers that question. Insist that the group supports their claim with evidence from their observations. Once each group agrees on an answer, have one or more children write it on the paper strip. Encourage groups to include illustrations as appropriate to supporting their claim.

Discussion 12 minutes	Bring children back to the whole group with their answer strips. Ask one group at a time to present and hang their answers under the appropriate question on chart paper. If needed, prompt children to point out the evidence they have to support their answer. Invite children to engage in respectful argument about each other's claims. Refer to previous experiences (plants in containers and seeds germinating in bags) and emphasize discussion around two primary ideas: ● Conditions affect plant growth. Seeds and plants need different conditions at different points of development. For example, seeds do not need light to germinate, but plants do need light to grow and develop. ● Plants develop different parts at different times in order to continue their life cycle. For example, leaves develop in order to produce the food plants need. If time permits, refer to the marked questions on the About Plants chart, and continue the discussion. *Let's think about some of the interesting questions you've had about how plants grow and develop.*
Closing	*Today we talked about how plants grow and develop differently and at different rates. Sometimes plants don't grow taller but do develop new parts, such as leaves. They need energy to develop those parts. On the other hand, sometimes plants grow a lot taller from one day to the next.* *We also talked about the best conditions for plant growth. For example, we know that plants, unlike seeds, need a lot of light to grow. And that too much water might not be good for them; they just need the right amount.*
Standards and Practices	**SL.1.2** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups. **SL.1.2.a** Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). **SL.2.2.b** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue. **2-LS2-1** Plan and conduct an investigation to determine if plants need sunlight and water to grow**.**

	2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.
Ongoing assessment	Reflect on the class discussions. Do children access their observations to think and present ideas logically? How do children integrate developing knowledge in their claims? What new questions are they posing? How do children understand the factors that account for plant growth and development? How do children engage in discussion in small and large groups? Do they listen to, acknowledge, and build on each other's ideas?

Notes

Plant Growth and Development Questions

Did the plant grow the same amount every day? What is your evidence?

If you notice that growth slowed down, what other changes have been happening, if any?

If you notice that growth sped up, what other changes have been happening, if any?

What do you predict will happen next? Why?

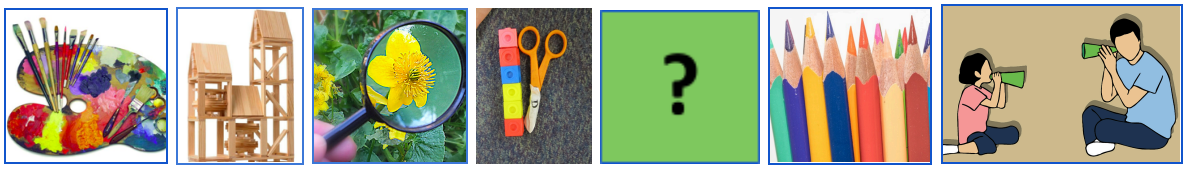
Discussion prompts

Does anyone want to add something to that idea?

Does anyone have a different idea?

Can you say why you think that?

WEEK 4 Studios



Exploring Pollination and Pollinators (continued)

Children choose familiar media to explore diverse pollinators
and learn a new procedure in the Art Studio.

Big Ideas	The parts of an organism have specific functions. Pollination is a result of animal behavior. Animals, including humans, benefit from and depend on pollination.
Weekly Question	How does pollination happen?
Materials and Preparation	• Parts of a Flower poster • new studios prompts Cut apart and replace studios prompts. • Unit 4 Observation Sheet <u>New for the Art Studio:</u> Note: Test the procedure and materials ahead of time. Be prepared to offer additional, specific guidance based on these trials. • *The Little Hummingbird,* Michael Nicoll Yahgulanaas • Printmaking Procedure, 2-4 copies in sheet protectors • scrap paper and pencils • cardboard, cut to about 4 x 6 inches, 1 or 2 pieces for each child • thin cardboard, such as from a cereal box, cut to about 2 x 4 inches, about 2 pieces for each child • scissors • liquid glue or glue sticks • tempera paint • paintbrushes • construction paper of different colors, cut to about 4 x 6 or a bit larger

	• brayers (rollers), cylindrical blocks, or small rolling pins (optional) • paper towels and/or newspaper to cover work surface <u>New for the Building Studio:</u> • unit texts • K'NEX • Beautiful Stuff • adhesives <u>New for the Discovery Studio:</u> • a collection of leaves, including examples of edible ones (kale, lettuce, arugula, etc.) and different-sized leaves of a single species • lightweight paper, such as tracing paper or copy paper • crayons, with paper removed • white drawing paper, various sizes • Science and Engineering packets • pencils and colored pencils • Erasers <u>New for the Math Studio:</u> • Write the Number Gameboard • sheet protectors Place the gameboard in sheet protectors. • dry erase markers <u>New for the Research Studio:</u> • unit texts, including brochures • Massachusetts Native Plants and Pollinators poster • Research Notes packet, one copy for each pair or trio of children <u>New for the Writing & Storytelling Studio:</u> • Storytelling Books or other notebooks • shadow puppets from the Art Studio • shadow puppet theatre • "Wasp Poem," from Stations • unit texts featuring pollinators Decide which studios need particular attention in the opening, and prepare those studios bins for the meeting, along with the Opening Basket. Note that introduction of the Art Studio (Printmaking) may take

	extra time. Have sufficient copies of the Observation Sheet on clipboards. Decide which day(s) to host a Thinking and Feedback meeting, and plan Studios time accordingly.
Opening	*We have some new activities in the studios this week to continue to explore the different pollinators we've been learning about.* *We'll read this story,* The Little Hummingbird*, later this week. But you can still use it for inspiration. Take a look: you'll notice that the images are all in one color, black. The shapes seem simple, but they communicate the story. You can follow this procedure to make a similar kind of print.* Explain what a print is, and model and/or run through the procedure, as will be most helpful to the children. *You made flowers out of K'NEX before…now can you build pollinators! You will probably want to look at some resources of different kinds of pollinators to make sure you include all of their important body parts. You can also use Beautiful Stuff, if you like.* *In the Discovery Studio you'll continue your careful observations and observational drawings. Pay special attention to the leaves of your plants. You may choose to work in your Science and Engineering Notebooks, or you may choose some other paper to work on. You can also measure your plants and add to your graphs.* *In the Research Studio, see what more you can find out about different pollinators. Work with one or two other researchers and use this Research Notes packet to record what you find. It's like the one you used to prepare for writing your plant reports.* *In the Writing and Storytelling Studio, you can continue writing and performing puppet plays. You can also write a poem inspired by a pollinator, like "Wasp Poem." What pollinator would you write about? What kind of picture or feeling would you want to communicate about that pollinator?*

	Children talk briefly with a partner about their plans and are then dismissed.
Facilitation	Plan to spend extra time in the Art Studio to make sure children understand the procedure. Then circulate through the other studios and check in with children about what they are pursuing. Refer to the Weekly Question and to studio-specific prompts and resources. Direct children's attention to each other's work. Encourage them to ask each other for help and collaboration. Identify a piece of work for use during Thinking and Feedback and/or for planning purposes.

Art 	**Prints Inspired by *The Little Hummingbird*** Content Objective: I can follow a procedure to create prints. Process: The illustrations in *The Little Hummingbird* can inspire children's work in printmaking, as both involve shape-based images. Children sketch drafts with ideas they may want to execute in a print. When they have decided on the shapes they need, they follow the Printmaking Procedure to create prints. Facilitation: Offer material and conceptual help as children work, and refer them to each other for support and collaboration. *Does the print look the way you expected? Why do you think that happened?* *Can you think of a way to solve this problem?* *What do you hope your audience sees in your print?* *Where are you getting your ideas for this print?* Ongoing Assessment: Pay attention to how children are using resources for inspiration and how they are following the procedure. Notice their care in use of tools and in execution of the process. Note whether they draw on the unit content in creating images.
Building	**Building Pollinators** Content Objective:

	I can represent pollinators and include body parts that are important for pollination. <u>Process:</u> Children work with K'NEX and Beautiful Stuff to build pollinators, including as many parts as possible. They consult unit texts for reference. <u>Facilitation:</u> Make sure children can easily reference multiple sources for detailed images of pollinators. Support them in using precise and relevant vocabulary. <u>Thinking and Feedback Possibilities:</u> Children can bring their built pollinators to the group. In the whole group conversation, model naming the parts. <u>Ongoing Assessment:</u> Use the observation sheet to record what children are working on, what understandings and misconceptions are revealed in their work, and how they are interacting. How do children understand the form and function of various pollinators? How do they move between a two-dimensional representation and the three-dimensional representation they are building?
Discovery 	**Ongoing Observations and Leaf Rubbings** <u>Content Objective</u>: I can make close observations, ask questions, and write notes about plants as they grow and develop. <u>Process:</u> Children continue recording their observations of plants and measurements of plant growth, paying special attention to the development of leaves on the plants. Children also create leaf rubbings, noticing the similarities and differences among the leaves. Using the sides of crayons on light paper gives the best effect. <u>Facilitation:</u> Engage children in conversation about what they notice about the leaves. Ask them what they know about leaves people eat, how they can describe parts of the leaves, and what questions they have.

	Encourage them to think about the leaf's function for the growth and development of the plant. [The veins circulate needed nutrients; the flat surface absorbs light.] Encourage children to use the conversation prompts provided. Support them with descriptive and precise language. <u>Ongoing Assessment:</u> Observe children as they work and engage them in conversation about what they notice and wonder. What descriptive language do children use? What connections do they make between what they see happening and what they understand about growing conditions? Do children look at all parts of the seeds and plants? What is the quality of their drawings? Do they record all relevant information?
Math 	**Write Numbers** <u>Objective</u>: I can skip count. I can make decisions about how many numbers to add onto a gameboard. <u>Process/Directions:</u> ● Children play in partnerships. ● Partner A chooses to skip count by 2, or 5, or 10. Both partners will skip count by this number. ● Partner A writes the next 1, 2, or 3 numbers on the gameboard. ● Partners take turns choosing how many numbers to write and then writing them. ● The player who writes the last number on the gameboard wins. <u>Facilitation</u>: *Tell me about your mathematical thinking with writing the next 1/2/3 numbers on the board.* *What is your plan for your next move?* *How can you be the last person who writes the number on the board?*
Research	**Researching pollinators** <u>Content Objective</u>: I can read to find out more about pollinators and record what I learn.

?	Process: Working independently or collaboratively, children choose one pollinator for further research. They consult unit texts, including books and informational texts, and any other available resources. They record new information and draw a diagram of the pollinator. Facilitation: *What are you finding out?* *Where did you find that information?* *What new questions do you have about this pollinator?* *How would you like to share this information?* Ongoing Assessment: Observe children as they work and engage them in conversation about what they notice and wonder. How do children approach the task of researching? What new information do they find? How do children record information? How do they generate questions?
Writing and Storytelling  	**Pollination Puppet Plays and Pollinator Poetry** Content Objective: I can draw on information about pollination to develop a story using puppets. I can draw on information about pollinators to write a poem. Process: Children use the puppets they and their classmates create in the Art Studio to perform pollination plays. Inspired by the "Wasp Poem" and referring to unit texts, children write poems about pollinators they choose. Facilitation: *What is your story about?* *Who are the characters?* *What do you hope your audience enjoys and learns from your puppet play?* *What is your poem about?* *Why did you choose this pollinator to write about?* *What do you hope your audience enjoys and learns from your poem?* *What feeling are you trying to communicate?*

	Ongoing Assessment: Consider ways children use information from Text Talks, discussions, and Science Lessons in their stories and poems. Notice how they use language and precise vocabulary related to the topic of pollination and to provide descriptions.

Standards	Some standards addressed will depend on the studios in which children work. Some possibilities include work towards those listed in the Studios Introduction (Part 1) and the following studio-specific standards. Building: **2-LSS2-3(MA).** Develop and use models to compare how plants and animals depend on their surroundings and other living things to meet their needs in the places they live. Discovery: **W.3** Routinely produce a variety of clear and coherent writing in which the development, organization, and style are appropriate to task, audience, and purpose. Math: **QR.C.5** Understand place value. 2.NBT.A.2 Research: **W.1.2.a** Investigate questions by participating in shared research and writing projects. **W.1.2.b** Gather information from provided sources and/or recall information from experiences in order to answer questions. **W.3** Routinely produce a variety of clear and coherent writing in which the development, organization, and style are appropriate to task, audience, and purpose. **SL.2.2.a** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media. Writing and Storytelling: **SL.3.2.a** Describe people, places, and things, tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.

Art Studio

While you are working, think about:

Did this turn out like I expected? Why or why not?

What can I do to change it in some way?

What will my viewers see in this print?

Building Studio

While you are working, think about:

Which parts of this pollinator are important to represent?

Why is each part important?

What does this help us understand about pollination?

Discovery Studio

While you are working, think about:

What's happening here?

What is similar and different about these plants? Why might that be?

What adjectives can describe these leaves?

What might happen next in the plant's growth and development?

Math Studio

While you are working, think about:

Tell me about your mathematical thinking with writing the next 1/2/3 numbers on the board.

What is your plan for your next move?

How can you be the last person who writes the number on the board?

Research Studio

While you are working, think about:

What are we finding out?

Where can we find more information?

What questions do we have about this pollinator?

How could we share this information?

Writing and Storytelling Studio

While you are working, think about:

What is this story or poem about?

Why are we including this pollinator?

What do we hope our audience enjoys and learns from our puppet play or poem?

What feelings do we want to communicate?

Names: _____

Research Notes

Pollinator: _____

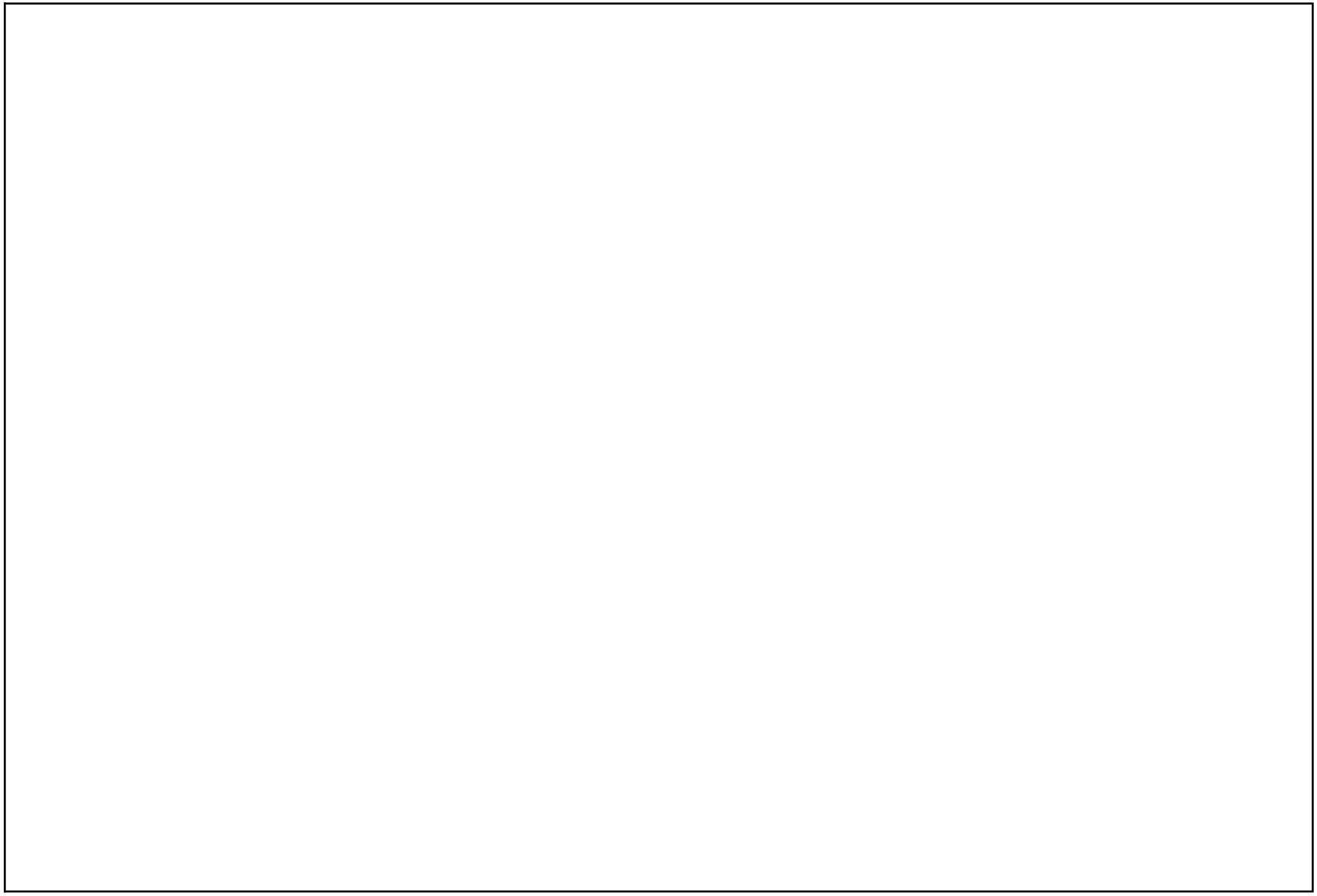
Draw a diagram of this pollinator. Label its parts. Circle the parts that help pollination happen.

Research Questions	What we are learning
What does this pollinator need to survive?	
How does this animal pollinate?	

Research Questions	What we are learning
What kinds of plants does this animal pollinate?	
How are these plants important to people?	

What are we wondering now?	

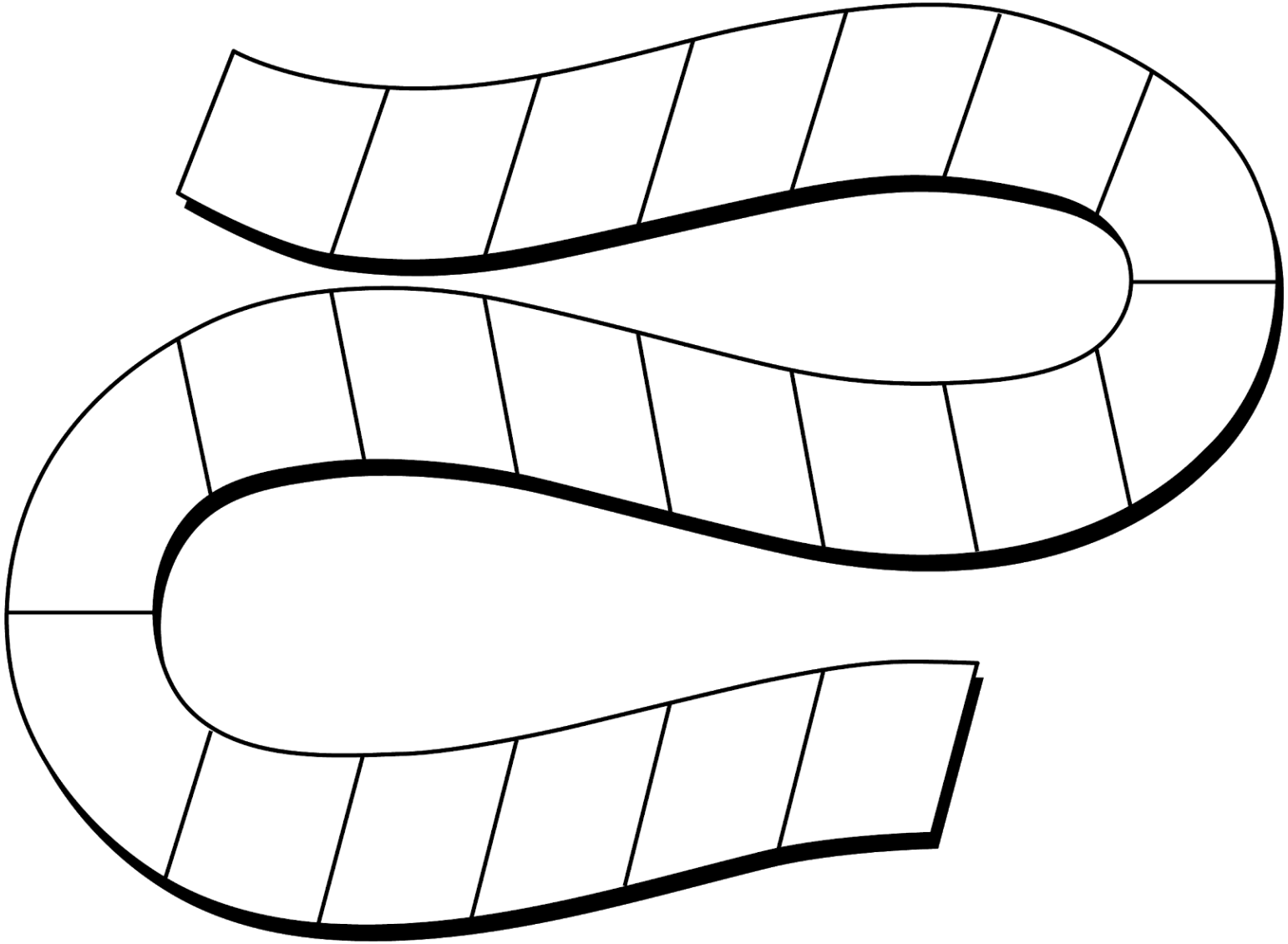
Draw a picture of this pollinator in action.



Write the Number Stage 4 Gameboard

Directions:

- Partner A: Choose whether to start with 2, 5, or 10. You will skip count by that number. Write the next 1, 2, or 3 numbers on the gameboard.
- Take turns choosing how many numbers to write and then writing them. The player who writes the last number on the gameboard wins



WEEK 4 Day 1

Writing Report

Peer-to-Peer Feedback

Content Objective	I can use feedback to plan for revising my writing. (W.2., W.2.2.a, W.3.2, W.2.4)
Language Objective	I can discuss my writing with a partner, following the routine for providing feedback. (SL.1.2.a)
Vocabulary	**feedback**: specific, helpful suggestions given to improve work
Materials and Preparation	• Report Feedback packet, one copy for each child • writing tools • children's writing folders, including their reports Children will work with partners. Pair them strategically so that each child can give and receive meaningful feedback, including pairing children who wrote about the same plant.
Opening 1 minute	*Today you will work with a partner to provide feedback about each other's writing. Remember, when you give **feedback** you give specific, helpful suggestions to help your partner improve their work.*
Peer-to-Peer Feedback Introduction 8 minutes	Show the Report Feedback packet, pointing to each part as it is discussed. *This is the packet you will use to give feedback. At the top, there is a space for the writer's name and the reviewer's name. If you are the person reading your own writing, you are the writer. If you are the person giving feedback, you are the reviewer.* *Choose whose report will receive feedback first. Then the writer will read their report to the reviewer.* *The reviewer will then answer the questions in the packet.* Read the questions.

	This is the process you will use to answer the questions. 1. *Read the question.* 2. *Check "Yes" or "No."* 3. *If the response is "No," talk about why.* 4. *Make a plan for revising based on your discussion.* *After providing feedback to one partner, repeat the process to provide feedback to the other partner.*
Peer-to-Peer Feedback 20 minutes	Send children to work with partners, with writing folders, writing tools, and Report Feedback packets. As the children work, circulate to support them in giving specific and helpful feedback and articulating plans. Have children store their Report Feedback packets in their writing folders.
Closing 1 minute	*Today you provided each other with feedback to make your writing even better! Starting tomorrow you will revise and publish your reports.*
Standards	**W.3.2** Use a combination of drawing and writing to communicate a topic with a beginning, middle (including details), and an end. **W.2** Develop, strengthen, and produce polished writing by using a collaborative process that includes the age-appropriate use of technology. **W.2.2.a** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. **SL.1.2.a** Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
Ongoing assessment	Collect the Report Feedback packets and children's folders. What feedback are children given? Does it match your assessment? What next steps do children set for themselves and each other? Do any trends emerge?

Notes

Report Feedback

Writer's Name: _____

Reviewer's Name: _____

Does it make sense?

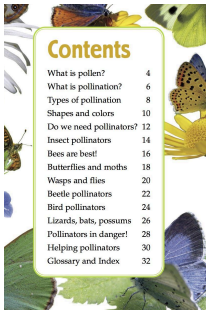
- ❑ Yes
- ❑ No

Plan:

Does it begin with a general statement that introduces and classifies the topic?

- ❑ Yes
- ❑ No

Plan:



Is information organized in subtopics?

- ❑ Yes
- ❑ No

Plan:

Does each subtopic have a heading?

- ❑ Yes
- ❑ No

Plan:

WEEK 4 Day 2

Writing Report

Introduction to and Beginning Revising and Publishing

Today's lesson launches the work of revising and publishing that continues on Days 3-4. This lesson addresses one phase of the work: revisions (children's individual revisions and teacher-directed small group revisions). Note that publishing is introduced on Day 3.

Children work individually and with partners or small groups to review their work and plan for revisions, considering whether their work makes sense and follows the purpose of report: to organize information about a topic.

In preparation, the teacher identifies one area of revision for each child, focused on an aspect of structure or language and drawn from observations made throughout the unit. Children then receive guidance from the teacher to make these revisions by meeting in small groups with similar needs.

Content Objective	I can revise my writing to fit the purpose, structure, and language of report. (W.2., W.2.2.a, W.3.2, W.2.4, L.2.1a, L.1.2.b, L.1.2.e)
Language Objective	I can revise my writing to include general nouns and adjectives. (L.1.2.a, L.1.2.b, L.1.2.e)
Vocabulary	**adjective**: a word or phrase used to describe a person, place, thing, or idea **noun**: a word that names a person, place, thing, or idea **report**: a genre of writing whose purpose is to organize information about a topic **revise**: to make changes to writing
Materials and Preparation	These materials will be used throughout Days 2-4 this week. ● Report Observation Tools and Report Feedback sheets Before the lesson, review the children's Report Observation Tools and Report Feedback sheets, along with other notes taken during Writing, to identify the strongest area of need for each child. Form groups of children with similar needs. Ideally, children should be divided into four groups: two to meet on Day 2, and two to meet on Day 3. See the descriptions below to guide possible group focus

	areas. For Revisions: ● writing tools ● writing folders ● *Amazing Bees*; *What is Pollination?*; *Animal Pollinators*; and *Earth's Landforms and Bodies of Water*, available for children's reference ● Report anchor chart For Small Group Instruction: ● *Amazing Bees* chart, from Week 1, Day 2 ● *Amazing Bees* Subtopics slides, from Week 1, Day 2 ● General Statement and Diagrams slides, from Week 3, Day 4 ● Nouns and Adjectives slides, from Week 2, Day 3
Opening 1 minute	*We have learned a lot about report, and you have written your own reports! This week you are going to revise and publish your work.*
Individual Construction 24 minutes, concurrent with Small Group Instruction	*When you received feedback yesterday, you made plans for revision. Today you will review your plan and begin revising.* *You might find that there are other areas of your work that you would like to revise and edit as well. You can ask a classmate for more feedback, or you can edit your work based on the rules you have learned in* Fundations*.* Send the children with writing folders to revise their work.
Small Group Possibilities 24 minutes, concurrent with Individual Construction	As children work individually and with partners, convene small groups with shared needs to improve one aspect of their reports. The aspects addressed in revisions should be features of report taught during the unit. The following are suggestions for what to address in small groups. <u>Subtopics</u> Review the lessons from Week 1, Days 1-2 and Week 2, Days 4-5. Guide the children to write subtopics in separate, coherent paragraphs, labeled with headings. <u>General Statement</u> Review the lessons from Week 1, Day 2 and Week 3, Day 4. Support the children to write a general statement that introduces and classifies the topic and that is appropriate for the audience. <u>Nouns</u> Review the lesson from Week 2, Day 3. Support the children as they review the nouns in their reports, and ensure that they use general nouns.

	<u>Adjectives</u> Review the lesson from Week 2, Day 3. Support the children as they identify sentences and sections that could be better developed with adjectives. Practice packing more information into one sentence with precise and descriptive adjectives.
Closing 5 minutes	Choose one experience from small group instruction to share with the class. This should be informative to all children as they consider what and how to revise their reports.
Standards	**W.3.2** Use a combination of drawing and writing to communicate a topic with a beginning, middle (including details), and an end. **W.2** Develop, strengthen, and produce polished writing by using a collaborative process that includes the age-appropriate use of technology. **W.2.2.a** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. **L.1.2.a** Use collective nouns (e.g., group). **L.1.2.b** Form and use frequently occurring irregular plural nouns (e.g., feet, children, teeth, mice, fish). **L.1.2.e** Use adjectives and adverbs and choose between them depending on what is to be modified.
Ongoing assessment	Note children's participation in and understanding of the content of each small group.

Notes

WEEK 4 Day 3

Writing Report

Introduction to Publishing and Continued Revision

Content Objectives	I can revise my writing to fit the purpose, structure, and language of report. (W.2.2.a, W.3.2, W.2, L.1.2.e, L.1.2.a, L.1.2.b) I can choose an effective layout for my brochure. (W.2.4)
Language Objective	I can revise my writing to include general nouns and adjectives. (L.1.2.e, L.1.2.a, L.1.2.b)
Vocabulary	**general statement**: the beginning of a report, which introduces and classifies the topic **information**: facts or details about a subject **layout**: the organization of a page **publish**: to prepare writing for an audience **report**: a genre of writing whose purpose is to organize information about a topic **revise**: to make changes to writing **subtopic**: a smaller part of the topic
Materials and Preparation	Write the following questions on the board, leaving space between each to record children's ideas. What is included on the cover? Where does the brochure start? How does information flow across the panels? ● sample brochures, from Week 2, Day 4, one for each pair of children ● materials from Day 2 For Publishing: ● blank paper, folded into thirds, one piece for each child

	• brochure pages, from Week 2, Day 5, one copy for each child • colored pencils • scissors and glue sticks
Opening 1 minute	*Today you will continue revising and begin to publish your report brochures.*
Deconstruction 9 minutes	*Before you publish your brochure, it is important to consider the **layout**—how the information is organized on the page—just like we did for our explanation posters about erosion.* *With a partner, you will analyze one of our sample brochures. Use these questions to guide your conversation.* Read the questions on the board. Review what a "panel" of a brochure means. Give pairs about five minutes to review and discuss the layout of a sample brochure. Bring the class back together. Harvest and record the children's responses to each question on the board. *As you publish, use this guidance to think about the most effective layout for your brochure.* Show the blank paper and brochure pages. *I have prepared blank brochures to use for publishing. You can write each section on the brochure pages and then cut out each and glue it to the blank brochure. Or, you can write directly on the brochure. The general statement and plant diagram should go first. The flower diagram should go with the information about pollinators.* *As you noticed in the other brochures, you need to make sure all of your subtopics are organized in a way that makes sense, and that it is clear how to read each section. For today, you can leave the cover panel blank. We will discuss this section tomorrow.*
Individual Construction and Small Groups 19 minutes	As children work independently and with partners to revise and publish their work, meet with small groups, as described in Day 2.
Closing 1 minute	*Tomorrow you will finish publishing your work.*

Standards	**W.3.2** Use a combination of drawing and writing to communicate a topic with a beginning, middle (including details), and an end. **W.2** Develop, strengthen, and produce polished writing by using a collaborative process that includes the age-appropriate use of technology. **W.2.2.a** With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing. **L.1.2.e** Use adjectives and adverbs and choose between them depending on what is to be modified. **L.1.2.a** Use collective nouns (e.g., group). **L.1.2.b** Form and use frequently occurring irregular plural nouns (e.g., feet, children, teeth, mice, fish).
Ongoing assessment	Review children's work. Note what and how children revised. Review children's published work to see who will need additional support on Day 4.

Notes

WEEK 4 Day 4

Writing Report

Publishing

Content Objective	I can publish my writing. (W.3.2, W.2)
Language Objective	I can add images to clarify my writing. (SL.3.2.b)
Vocabulary	**image**: a representation of something in the form of a drawing, photograph, etc. **publish**: to prepare writing for an audience **report**: a genre of writing whose purpose is to organize information about a topic **series**: a group of things that are related or go together **title**: the name of a piece of writing
Materials and Preparation	• chart paper with titles, from Week 3, Day 5 • sample brochures, for reference • children's reports • publishing materials, from Day 3
Opening 1 minute	*Today you will finish publishing your reports.*
Individual Construction 28 minutes	Refer to the titles chart paper. *The cover of your brochure will include the series title and report title. What else might be helpful to include on the cover?* Harvest children's ideas, referring to professionally published reports, as examples. *Brochures often include images. Your report includes plant and flower diagrams. What other images might be helpful to the community gardeners as they choose what to plant?* Send the children to publish their work, and circulate to support them.

Closing 1 minute	*Tomorrow you will share your work!*
Standards	**W.3.2** Use a combination of drawing and writing to communicate a topic with a beginning, middle (including details), and an end. **W.2** Develop, strengthen, and produce polished writing by using a collaborative process that includes the age-appropriate use of technology. **SL.3.2.b** Create audio/video recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings.
Ongoing assessment	Review children's published work. Note the layout children used and what kinds of images they included.

Notes

WEEK 4 Day 5

Writing Report

Presentation and Celebration

Two suggestions for presentation and celebration are outlined below.
Suggestion 1 involves arranging time with a Kindergarten class to present children's work.
Suggestion 2 involves presenting within the second grade classroom.

Content Objective	I can present my report.
Language Objective	I can ask and answer questions. (SL.2.2.b)
Materials and Preparation	At this time of the year, children in Kindergarten may be preparing to plant seeds. Having information about local plants would be helpful as they choose what to plant. If possible, arrange to partner with aKindergarten class. Set up a time for the classes to be together, when the second graders can share their work with the children in Kindergarten. ● children's published writing
Opening 1 minute	*You have learned so much about plants! Now you have an opportunity to share some of what you have learned by presenting your brochures.*
Suggestion 1: Presenting to Kindergarten Students 28 minutes	Plan to partner with a Kindergarten class. Meet together and introduce the project, making connections to planting. Have second graders partner with Kindergarten students and read their brochures to them. Invite the Kindergarten students to ask questions. Invite children from both classes to reflect on the experience by sharing appreciations and new understandings, including which plants the Kindergarten students think they might want to plant and why.
Suggestion 2: Presenting in	Match together children who wrote about different plants. Have one child read to the other. Allow time for the second child to ask questions and for

the Classroom 28 minutes	the first child to answer. Then, have the children switch roles. Invite children to reflect on the experience by sharing appreciations and new understandings.
Closing 1 minute	*Your brochures demonstrate how much you have learned about plants, and about a new way of communicating information to your audience! Next, you will write to convince local gardeners to choose local plants.* Collect brochures to be presented to community gardeners at the end of the unit.
Standards	**SL.2.2.b** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.
Ongoing assessment	Reflect and make notes about the unit. What did children understand about the purpose, structure, and language of report? What is still challenging? What do I still need to address with children this year? What might I do differently next year?

Notes