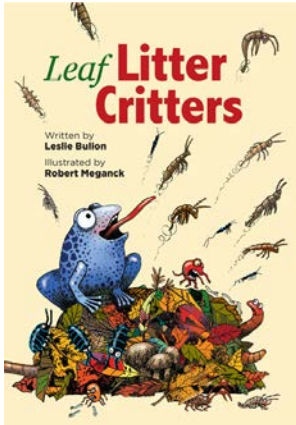




PEACHTREE

# TEACHER'S GUIDE

Includes Common Core Standards Correlations



## Leaf Litter Critters

Written by Leslie Bulion | Illustrated by Robert Meganck

HC: 978-1-56145-951-3 | PB: 978-1-68263-183-6

Ages 8–12 | Science, Poetry  
Lexile • F&P • GRL U; Gr 5

### ABOUT THE BOOK

Have fun on this poetic tour through the leaf litter layer and dig into the fascinating facts about the tiny critters who live there. Nineteen poems in a variety of verse forms with accompanying science notes take readers on a decomposer safari through the “brown food web,” from bacteria through tardigrades and on to rove beetle predators, with other busy recyclers in-between.

### THEMES

Ecology | Ecosystems | Food Webs | Poetry

### BEFORE YOU READ

Consider the front cover and discuss the following statements with the class. Then, ask them to predict what the story is going to be about.

- Describe the action taking place in this illustration.
  - How many different kinds of critters do you see in the layers of leaves the frog is sitting on?
  - Can you name any of these critters?
  - Note that there is a feeling of action and activity in the scene. Explore the notion that what seems at first glance to be a motionless pile of decomposing leaves can be a very active place.
- Examine the title of the book—*Leaf Litter Critters*.
  - Make a connection between the title of the book and the action taking place in the illustration.
  - How do you think critters get into leaf litter?
  - What do you think they are doing there?

- Introduce the following terms. Explore the definitions of each. Associate the definitions with the activity featured in the illustration.
  - Ecosystem
  - Food Web
  - Decomposers
  - Organic Matter

### AFTER YOU READ

Discuss the topics introduced in the “Before You Read” section again. After a close reading and consideration of the contents of the book, students will be prepared to complete the activities included in this guide.

### REVIEWS

★ “The poems are expertly crafted in a variety of forms (identified in the backmatter). The language is lively and the imagery appropriate. With alliteration, internal rhymes, and careful rhythm, these will be a delight to read aloud and learn.... Meganck’s engaging digital drawings give each creature pop-eyes and attitude....

A delightful, memorable introduction  
to an unsung ecosystem.”

—*Kirkus Reviews*

“In this ecological poetry collection, Bulion works her own magic, turning potentially dull life science into zany fun.... An amusing way to get the dirt on food chains.”

—*Booklist*

“Bulion stuffs her poems with scientific detail and puts even more into accompanying ‘science notes.’

Meganck’s cartoons strike sillier notes...

balancing all of the information Bulion provides with hefty doses of fun.”

—*Publishers Weekly*

“Educational and highly entertaining...

rich with cross-curricular teaching opportunities.

Meganck’s humorous, digitally rendered cartoon artwork will have readers giggling as they learn....

An excellent find for science fans and teachers alike.”

—*School Library Journal*

## ABOUT THE AUTHOR

Leslie Bulion has written poetry since fourth grade and has always been interested in science and nature. She earned graduate degrees in oceanography and social work and worked both as a medical and a school social worker. She is the author of *Hey There, Stink Bug!*, *At the Sea Floor Café*, *Leaf Litter Critters*, *Superlative Birds*, and several novels for young readers. When Leslie is not on a research adventure or visiting schools, she enjoys birding closer to her home in Connecticut.

[www.lesliebulion.com](http://www.lesliebulion.com)

## ABOUT THE ILLUSTRATOR

Robert Meganck is a professor of illustration and graphic design at Virginia Commonwealth University. He has received over three hundred awards for his work. He lives in Virginia.

[www.meganck.com](http://www.meganck.com)

Teacher’s Guide  
prepared by Debbie Gonzales

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Updated 3/26/20

Name: \_\_\_\_\_

### Leaf Litter Critter Glossary Terms Match-Up

Write the letter of the correct match to each term.

- |     |                |       |    |   |
|-----|----------------|-------|----|---|
| 1.  | alga           | _____ | A. | a one-celled organism that can be free-living or a parasite (two or more are called bacteria)   |
| 2.  | bacterium      | _____ | B. | the layer of soil near roots and rootlets   |
| 3.  | brown food web | _____ | C. | live or previously living organisms like plants and animals; material from previously living organisms  |
| 4.  | decomposer     | _____ | D. | an organism that feeds on dead and decaying plants and animals, breaking down their cells and beginning the process of recycling  |
| 5.  | duff           | _____ | E. | a fundamental substance an organism needs to function and grow  |
| 6.  | enzyme         | _____ | F. | a compound, usually a protein, that speeds up the chemical reaction in an organism.   |
| 7.  | green food web | _____ | G. | an interconnected group of organisms that recycles nutrients from dead plants and animals back into the ecosystem   |
| 8.  | humus          | _____ | H. | a plant or animal that depends on an unrelated plant or animal for its food and/or protection and may harm its host in the process  |
| 9.  | leaf litter    | _____ | I. | a thick-walled reproductive cell of fungi and some other organisms that can develop into a new individual when environmental  |
| 10. | microbe        | _____ | J. | the nutrient-rich, spongy, dark layer of decomposed plant and animal parts in soil  |
| 11. | nutrient       | _____ | K. | a plant or plantlike organism without roots that lives in saltwater or freshwater and uses energy from the sun to make food   |
| 12. | organic matter | _____ | L. | the layer of decaying leaves, plant parts, and animal wastes found <i>under</i> the newer fallen leaves and twigs of leaf litter and <i>on top of</i> the spongy, already decomposed dark brown humus layer |
| 13. | parasite       | _____ | M. | a living organism too small to be seen without a microscope   |
| 14. | rhizosphere    | _____ | N. | the layer of leaves, twigs, and other dead plant parts on top of soil that is partly or not yet decomposed  |
| 15. | spore          | _____ | O. | an interconnected group of organisms that begins with green plants transforming energy from the sun into food   |

## Leaf Litter Critter Glossary Terms Match-Up

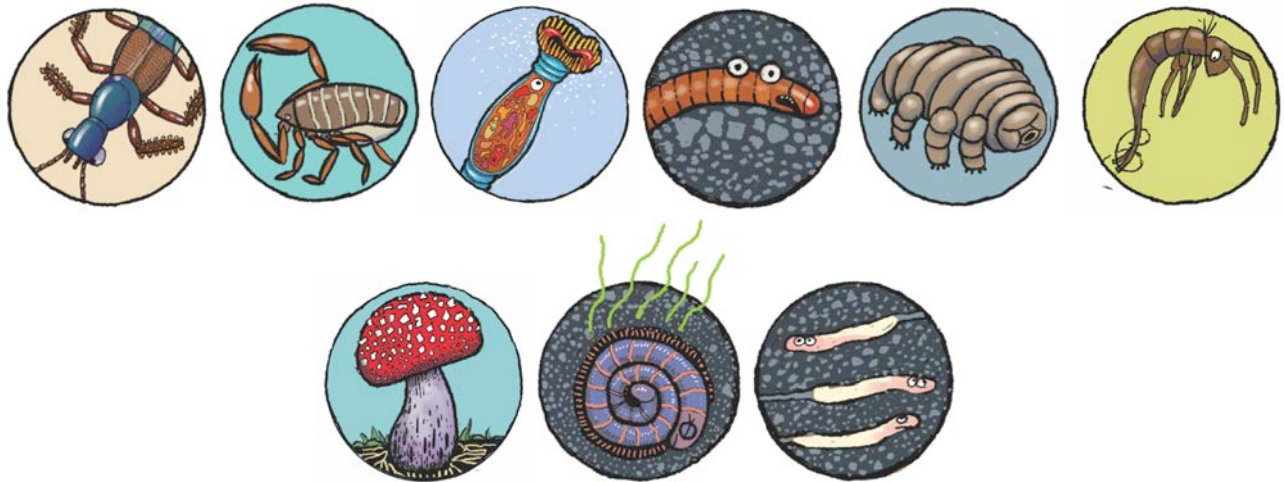
### ANSWER KEY

- |     |                |              |    |   |
|-----|----------------|--------------|----|---|
| 1.  | alga           | <u>  K  </u> | A. | a one-celled organism that can be free-living or a parasite (two or more are called bacteria)   |
| 2.  | bacterium      | <u>  A  </u> | B. | the layer of soil near roots and rootlets   |
| 3.  | brown food web | <u>  G  </u> | C. | live or previously living organisms like plants and animals; material from previously living organisms  |
| 4.  | decomposer     | <u>  D  </u> | D. | an organism that feeds on dead and decaying plants and animals, breaking down their cells and beginning the process of recycling  |
| 5.  | duff           | <u>  L  </u> | E. | a fundamental substance an organism needs to function and grow  |
| 6.  | enzyme         | <u>  F  </u> | F. | a compound, usually a protein, that speeds up the chemical reaction in an organism.   |
| 7.  | green food web | <u>  O  </u> | G. | an interconnected group of organisms that recycles nutrients from dead plants and animals back into the ecosystem   |
| 8.  | humus          | <u>  J  </u> | H. | a plant or animal that depends on an unrelated plant or animal for its food and/or protection and may harm its host in the process  |
| 9.  | leaf litter    | <u>  N  </u> | I. | a thick-walled reproductive cell of fungi and some other organisms that can develop into a new individual when environmental  |
| 10. | microbe        | <u>  M  </u> | J. | the nutrient-rich, spongy, dark layer of decomposed plant and animal parts in soil  |
| 11. | nutrient       | <u>  E  </u> | K. | a plant or plantlike organism without roots that lives in saltwater or freshwater and uses energy from the sun to make food   |
| 12. | organic matter | <u>  C  </u> | L. | the layer of decaying leaves, plant parts, and animal wastes found <i>under</i> the newer fallen leaves and twigs of leaf litter and <i>on top of</i> the spongy, already decomposed dark brown humus layer |
| 13. | parasite       | <u>  H  </u> | M. | a living organism too small to be seen without a microscope   |
| 14. | rhizosphere    | <u>  B  </u> | N. | the layer of leaves, twigs, and other dead plant parts on top of soil that is partly or not yet decomposed  |
| 15. | spore          | <u>  I  </u> | O. | an interconnected group of organisms that begins with green plants transforming energy from the sun into food   |

Name: \_\_\_\_\_

### WHO AM I?

**DIRECTIONS:** Fill in the blanks with the correct name of each leaf litter critter. Refer to the book if you need help.



I grab onto a beetle (or some other insect) when I want to fly: \_\_\_\_\_

I have eight scabbly legs and I'm not really a bear: \_\_\_\_\_

Part of me *mushrooms* into fun shapes, but I do most of my work using hair-like threads: \_\_\_\_\_

I am smelly and have lots of feet: \_\_\_\_\_

I have six legs. I am a bendy, flexible predator: \_\_\_\_\_

I wiggle my thin, white-ish body through narrow channels in the soft, duff layer: \_\_\_\_\_

I wear a crown of waving hairs: \_\_\_\_\_

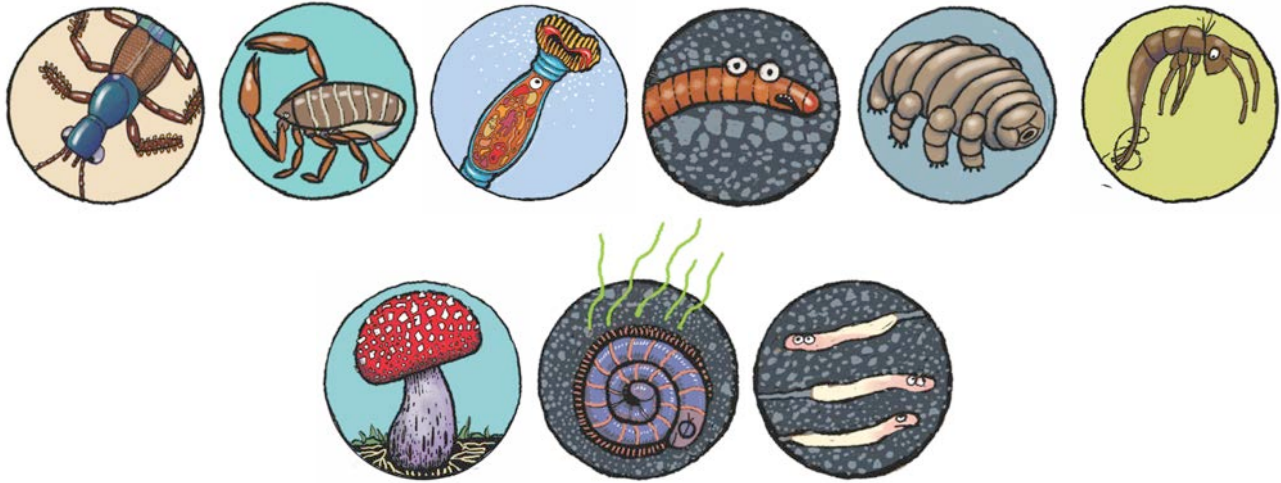
I can't fly but I can POP into the air: \_\_\_\_\_

**Bonus:** You probably know me, but did you know that I stick my throat *outside* my mouth to eat?

\_\_\_\_\_

## WHO AM I? ANSWER KEY

**DIRECTIONS:** Fill in the blanks with the correct name of each leaf litter critter. Refer to the book if you need help.



I grab onto a beetle (or some other insect) when I want to fly: pseudoscorpion

I have eight scabbly legs and I'm not really a bear: tardigrade or water bear

Part of me *mushrooms* into fun shapes, but I do most of my work using hair-like threads: fungus

I am smelly and have lots of feet: millipede or centipede

I have six legs. I am a bendy, flexible predator: rove beetle

I wiggle my thin, white-ish body through narrow channels in the soft, duff layer: pot worm

I wear a crown of waving hairs: rotifer

I can't fly but I can POP into the air: springtail

**Bonus:** You probably know me, but did you know that I stick my throat *outside* my mouth to eat?

earthworm

## LEAF LITTER CRITTER BINGO

**Objective:** Make a connection with the organisms and structure of the ecosystem of the compost pile.

**Materials:**








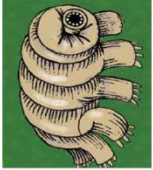


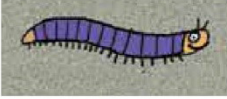





- *Leaf Litter Critters*, the book
- The Leaf Litter Critters Bingo Board (pg. 8)
- The Leaf Litter Critters Bingo Definition Cards (pgs. 9–10)
- Cardstock
- Scissors
- 16 place-savers such as pennies, buttons, or beans per player

**Procedure:**

- Depending upon how many players will engage in the activity, print two to four copies of the *Leaf Litter Critters* Bingo Board and Definition Cards on cardstock. Use scissors to trim around the borders of the game boards and definition cards. (Notice that the content of each card is labeled on each definition card. Refer to these labels whenever necessary.)
- Distribute copies of *Leaf Litter Critters*, game boards, and 16 place-savers to players.
- Stack definition cards face-down in the center of the playing table.
- Select a student to choose the top card from the stack. Ask the student to read the card aloud and find the graphic that matches the definition on his or her game board. (Note: no other students should mark their game board until their turn.) Refer to *Leaf Litter Critters* if necessary, to associate definition with graphic. Once a match is discovered, the student may put the appropriate place-saver on the graphic. The player to the left of the first draws a card next and the game should continue clockwise. If a card is chosen and the graphic is already covered by a place-saver, the player loses a turn.
- The first player to cover all the graphics with place-savers is the winner of the game.



## LEAF LITTER CRITTER BINGO BOARD

 nematode	 fungal filaments	 bacteria	 pot worm
 ciliates	 sow bug	 rove beetle	 tardigrade
 symphylan	 rotifer	 millipede	 dipluran
 predatory mite	 earthworm	 beetle mite	 flagellates



## Leaf Litter Critters Bingo Definition Cards & Answer Guide

This tiny critter can stretch out and back in like a telescope. Its crown of hair-like cilia beats to help it swim in water and in water films on soil and in leaf litter.

rotifer

This is a larger mite and it eats springtails, nematodes, and other tiny soil animals.

predatory mite

Although its name means “thousand feet,” the leggiest one of these critters ever studied has 375 pairs of feet—750 total.

millipede

This wingless critter is one of the smallest six-legged relatives of insects. Instead of antennae, this critter uses its first pair of legs for sensing information about its environment.

proturan

This critter can pull its body and legs completely inside its hard exoskeleton.

beetle mite

This critter's soil-mixing tunnels and crumbly piles of solid waste (castings) help change the structure of the soil. This earned it the nickname “ecosystem engineer.”

earthworm

These tiny critters move through water films with whip-like flagella as they absorb or engulf food.

flagellates

This critter can eat twenty times its own weight every day, so the wastes it produces help move nutrients up and down in the soil.

symphytan

## Leaf Litter Critters Bingo Definition Cards & Answer Guide

These critters live in the thin films of water between soil grains. Most of them graze on bacteria and fungi. Their wastes release directly into the rhizosphere lots of the nitrogen that plants can use.

**nematodes**

These are threads (called hyphae) that channel through soil, scouting for sources of food.

**fungal filaments**

You need a powerful microscope to see the one hundred million to one billion of these single-celled critters you might find living in the water film within one teaspoon of soil.

**bacteria**

These grazers and shredders are thin, nearly see-through white worms that chew up rotting plant matter and the bacteria and fungi helping it rot.

**pot worms**

Rows of fine hairs called cilia propel these critters through water-filled spaces and create currents to help bacteria flow toward this critter's mouth.

**ciliates**

To avoid becoming a meal for birds, this critter plays dead. Like other soil animals that chew up dead and decaying organic matter, this critter breaks leaves and bark into smaller pieces.

**sow bug**

This critter prowls the leaf litter layer hunting a wide variety of prey, including newly hatched fly larvae (maggots), mites, aphids, snails, and slugs.

**rove beetle**

This critter's name means "slow stepper." Also called water bear or moss piglet, it needs water to live and hunt.

**tardigrade**

## LEAF LITTER CRITTERS POETRY PAGE

**Objective:** To write an explanatory/informative poetic piece using the features text as reference in both a factual and creative manner.

**Materials:**

- *Leaf Litter Critters*, the book
- Leaf Litter Critter Poetry Planner (pg. 12)
- Pencil

**Procedure:**

- Examine the various types of poetry presented in *Leaf Litter Critters*. Discuss the various types of poems and how each structure serves to represent the unique qualities of the leaf litter critter. Note that the types of poetry used in *Leaf Litter Critters* are referenced on pages 48 and 49.
- Instruct the students to choose a critter they would like to write about. Tell them to read the poem and the Science Notes closely. Encourage them to do additional research about their leaf litter critter of interest.
- Using the Leaf Little Critter Poetry Planner found on the following page, instruct students to record content to be used in their original poem.
  - Key Words: List words that might lend themselves to some form of creative expression. These words might be easily rhymed or have complex syllabication—anything that might inspire the poet within.
  - Role in Ecosystem: Take note of how this critter connects with the rest of the ecosystem. What is their role in the habitat?
  - Size, Shape and Physical Features: Describe the physical nature of the critter and how this assists in their survival.
  - Interesting Facts: In this space, list anything of quirky interest. Perhaps use these facts as a springboard for further research.
  - Poetic Form: Decide upon the type of poem to be used to describe the selected leaf litter critter. Direct the students to make notes regarding the specifics of the form and how they plan on connecting the poetic structure and the critter.
- Encourage students to illustrate their work.
- Share illustrations and poems with the class.

Name: \_\_\_\_\_

## LEAF LITTER CRITTER POETRY PLANNER

Name of Leaf Litter Critter: \_\_\_\_\_

Key Words

Role in Ecosystem

Size, Shape, and Physical Features

Interesting Facts

Poetic Form

Name: \_\_\_\_\_

## POETRY WORD SCRAMBLE

Unscramble each of the clue words. Copy the letters in the numbered cells to other cells with the same number. Fill in any additional letter blanks to complete the sentence.

TAASZN

1	21	30	37	43
---	----	----	----	----

Clue: A set of lines in a poem.

LELBAYLS

18	28	39	5	26
----	----	----	---	----

Clue: A part of a word.

LUCPOET

11	45	19	29	7
----	----	----	----	---

Clue: Two lines that rhyme.

PESHA MOPE

20	25	32	40
----	----	----	----

36	3
----	---

Clue: A poem in which the placement of words on the page relates to the subject.

NATKA

8	33
---	----

Clue: An ancient Japanese poem form.

WERILCEH

38	12	13	4
----	----	----	---

Clue: A a four-line poem that begins with a name.

FEER SERVE

9
---

22	17	24
----	----	----

Clue: A poem with no set pattern of rhythm or rhyme

LYKLIREE

44	10	23	31	42
----	----	----	----	----

Clue: A nine-line poem with repeated lines.

NOMROEMYH

41	2	27	34
----	---	----	----

Clue: A poem with one rhyme sound at the end of every line.

1	2	3	4
---	---	---	---

5	6	7	8	9	10
---	---	---	---	---	----

11	12	13	14	15	16	17	18
----	----	----	----	----	----	----	----

J	19	20	21
---	----	----	----

22	23	24	6	7
----	----	----	---	---

8	25	26	27
---	----	----	----

28	29	30	22	31
----	----	----	----	----

32	33	D
----	----	---

15	34	35	20	36
----	----	----	----	----

13	37	38	39	19	40
----	----	----	----	----	----

41	42
----	----

43	27	D
----	----	---

44	45	19	!
----	----	----	---

## POETRY WORD SCRAMBLE ANSWER KEY

TAASZN    

S	T	A	N	Z	A
1	21	30	37	43	

*Clue: A set of lines in a poem.*

LELBAYLS    

S	Y	L	L	A	B	L	E
18	28 39			5 26			

*Clue: A part of a word.*

LUCPOET    

C	O	U	P	L	E	T
11	45	19	29 7			

*Clue: Two lines that rhyme.*

PESHA MOPE    

S	H	A	P	E
20	25	32	40	

P	O	E	M
36			3

*Clue: A poem in which the placement of words on the page relates to the subject.*

NATKA    

T	A	N	K	A
8	33			

*Clue: An ancient Japanese poem form.*

WERILCEH    

C	L	E	R	I	H	E	W
38	12 13			4			

*Clue: A four-line poem that begins with a name.*

FEER SERVE    

F	R	E	E
9			

V	E	R	S	E
22	17 24			

*Clue: A poem with no set pattern of rhythm or rhyme*

LYKLIREE    

K	Y	R	I	E	L	L	E
44	10	23	31	42			

*Clue: A nine-line poem with repeated lines.*

NOMROEMH    

M	O	N	O	R	H	Y	M	E	
41	2	27	34						

*Clue: A poem with one rhyme sound at the end of every line.*

S	O	M	E	L	I	T	T	E	R	C	R	I	T	T	E	R	S	J	U	S	T	V	I	S	I	T
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	6	7	
T	H	E	N	L	E	A	V	E	A	N	D	T	H	O	S	E	I	N	C	L	U	D	E			
8	25	26	27	28	29	30	22	31	32	33	15	34	35	20	36	13	37	38	39	19	40					
M	E	A	N	D	Y	O	U																			
41	42	43	27	44	45	19																				

## Common Core Standards Alignment

		Discussion Questions	Match-up	Word Scramble	Bingo	Poem
<b>English Language Arts Standards » Reading: Literature</b>						
CCSS.ELA-Literacy.RL.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	●	●	●	●	●
CCSS.ELA-Literacy.RL.3.4	Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.		●	●	●	●
CCSS.ELA-Literacy.RL.3.7	Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story.	●				
CCSS.ELA-Literacy.RL.3.10	By the end of the year, read and comprehend literature, including stories, dramas, and poetry, at the high end of the grades 2-3 text complexity band independently and proficiently.	●	●	●	●	●
CCSS.ELA-Literacy.RL.4.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.		●		●	●
CCSS.ELA-Literacy.RL.4.4	Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters.		●	●	●	●
CCSS.ELA-Literacy.RL.4.5	Explain major differences between poems, drama, and prose, and refer to the structural elements of poems (e.g., verse, rhythm, meter) and drama (e.g., casts of characters, settings, descriptions, dialogue, stage directions) when writing or speaking about a text.					●
CCSS.ELA-Literacy.RL.5.4	Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.		●	●	●	●
CCSS.ELA-Literacy.RL.5.7	Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text .	●				●
CCSS.ELA-Literacy.RL.6.4	Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone		●	●	●	●
CCSS.ELA-Literacy.RL.7.4	Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of rhymes and other repetitions of sounds (e.g., alliteration) on a specific verse or stanza of a poem or section of a story or drama.		●	●	●	●
<b>English Language Arts Standards » Reading: Informational Text</b>						
CCSS.ELA-Literacy.RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.		●	●	●	
CCSS.ELA-Literacy.RI.3.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 3 topic or subject area</i> .		●	●	●	●
CCSS.ELA-Literacy.RI.3.5	Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.			●		
CCSS.ELA-Literacy.RI.3.10	By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2-3 text complexity band independently and proficiently.	●	●	●	●	●
CCSS.ELA-Literacy.RI.4.1	Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.				●	
CCSS.ELA-Literacy.RI.4.4	Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a <i>grade 4 topic or subject area</i> .		●	●	●	●
CCSS.ELA-Literacy.RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a <i>grade 5 topic or subject area</i> .		●	●	●	●
CCSS.ELA-Literacy.RI.6.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings.		●	●	●	●



		Discussion Questions	Match-up	Word Scramble	Bingo	Poem
<b>English Language Arts Standards » Speaking &amp; Listening</b>						
CCSS.ELA-Literacy.SL.3.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 3 topics and texts</i> , building on others' ideas and expressing their own clearly.	•			•	
CCSS.ELA-Literacy.SL.3.2	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.	•	•		•	
CCSS.ELA-Literacy.SL.3.6	Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification	•	•	•	•	•
CCSS.ELA-Literacy.SL.4.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 topics and texts</i> , building on others' ideas and expressing their own clearly.	•			•	
CCSS.ELA-Literacy.SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 5 topics and texts</i> , building on others' ideas and expressing their own clearly.	•			•	
CCSS.ELA-Literacy.SL.6.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.	•			•	
CCSS.ELA-Literacy.SL.7.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.	•			•	
<b>English Language Arts Standards » Writing</b>						
CCSS.ELA-Literacy.W.3.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.					•
CCSS.ELA-Literacy.W.3.7	Conduct short research projects that build knowledge about a topic.	•	•	•	•	•
CCSS.ELA-Literacy.W.3.8	Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.	•	•	•	•	•
CCSS.ELA-Literacy.W.4.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.					•
CCSS.ELA-Literacy.W.4.7	Conduct short research projects that build knowledge through investigation of different aspects of a topic.	•	•	•	•	•
CCSS.ELA-Literacy.W.4.8	Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.	•	•	•	•	•
CCSS.ELA-Literacy.W.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.					•
CCSS.ELA-Literacy.W.5.7	Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.	•	•	•	•	•
CCSS.ELA-Literacy.W.5.8	Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.	•	•	•	•	•
CCSS.ELA-Literacy.W.6.2	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.					•
CCSS.ELA-Literacy.W.6.7	Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.	•	•	•	•	•
CCSS.ELA-Literacy.W.7.2	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.					•

## Next Generation Science Standards

		Discussion Questions	Match-up	Word Scramble	Bingo	Poem
<b>2-LS2-1 Ecosystems: Interactions, Energy, and Dynamics</b>						
<i>Crosscutting Concepts-Cause &amp; Effect</i>						
	Events have causes that generate observable patterns.	●	●		●	
<b>5-LS2 Ecosystems: Interactions, Energy, and Dynamics</b>						
<i>Disciplinary Core Ideas</i>						
	LS2.A: Interdependent Relationships in Ecosystems	●	●	●	●	●
	LS2.B: Cycles of Matter and Energy Transfer in Ecosystems	●	●	●	●	●
<i>Crosscutting Concepts-Systems &amp; Models</i>						
	A system can be described in terms of its components and their interactions.	●	●	●	●	●
<b>3-LS2-C Interdependent Relationships in Ecosystems: Environmental Impacts on Organisms</b>						
<i>Disciplinary Core Ideas</i>						
	LS4-C: Adaption	●	●		●	
<i>Crosscutting Concepts-Systems &amp; Models</i>						
	A system can be described in terms of its components and their interactions.	●	●		●	