

Teacher's Guide

A Cricket Magazine

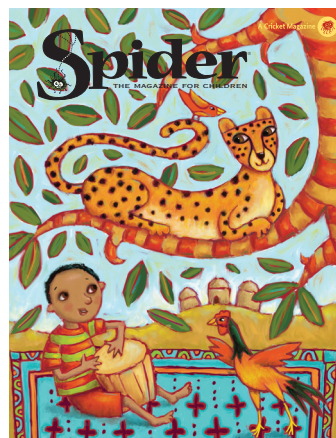


MAGAZINE ARTICLES

- Doodlebug & Dandelion: Super Mouser 4
Adventure 740L
- Lipong and the Ostrich Chicks 11
Folktale 590L
- Dear Tooth Fairy 18
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Teacher's Guide for *Spider*: September 2016

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OVERVIEW

*In this magazine, readers will read about the role animals play in people's lives and will learn life lessons from two folktales. **Spider: September 2016***

includes information about how authors use illustrations to support main ideas and make characters come to life, and how folktales communicate important lessons.

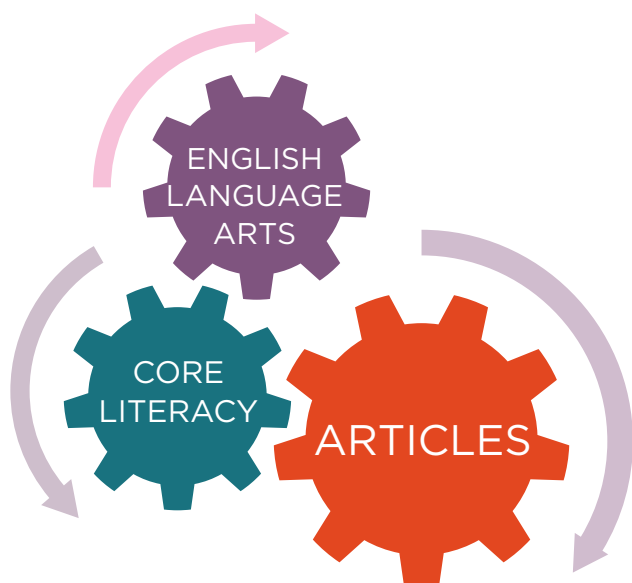
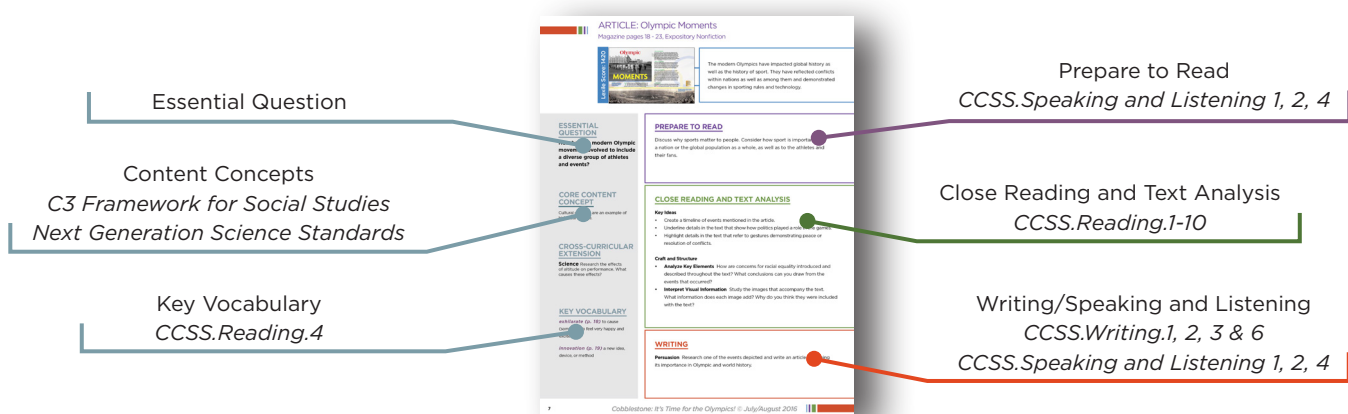
ESSENTIAL QUESTION:

How do authors use illustrations to support a main idea?

We invite you to use this magazine as a flexible teaching tool, ideal for providing interdisciplinary instruction of social studies and science content as well as core literacy concepts. Find practical advice for teaching individual articles or use a mini-unit that helps your students make cross-text connections as they integrate ideas and information.

READ INDIVIDUAL ARTICLES PAGES 4 - 9

Each article in this magazine is well-suited for teaching literacy concepts and content area knowledge. For each individual article in this guide, you'll find the following:



TEACH A MINI-UNIT PAGES 11 - 13

Magazine articles can easily be grouped to make cross-text connections and comparisons. Our Mini-Unit allows students to read and discuss multiple articles and integrate ideas and information (CCSS.Reading.9). Discussing multiple articles (CCSS.Reading.9) prepares students to write texts to share and publish in a variety of ways (CCSS.Writing.2).

Essential Question: How do authors use illustrations to support a main idea?

MAGAZINE ARTICLES	ENGLISH LANGUAGE ARTS CONCEPT	LITERACY SKILLS	CORRESPONDING CCSS ANCHOR STANDARDS
Doodlebug & Dandelion: Super Mouser Adventure	Plot events are affected by characters' actions.	<ul style="list-style-type: none"> • Close Reading • Interpret Visual Information • Analyze Relationships • Write Explanatory Texts 	<i>Reading 1, 3 & 7</i> <i>Writing 2</i>
Lipong and the Ostrich Chicks Folktale	Folktales are passed from generation to generation and often teach a lesson.	<ul style="list-style-type: none"> • Close Reading • Draw Conclusions • Interpret Visual Information • Write Opinions 	<i>Reading 1, 3 & 7</i> <i>Writing 1</i>
Dear Tooth Fairy Narrative Fiction	Persuasive writing presents an argument and evaluates any counterarguments.	<ul style="list-style-type: none"> • Close Reading • Analyze Purpose • Explain Reasons • Write Narrative Texts 	<i>Reading 1, 3, 5 & 8</i> <i>Writing 3</i>
Trading Humorous Poem	Poems may follow a set structure, using rhyme and rhythm.	<ul style="list-style-type: none"> • Close Reading • Analyze Text Structure • Analyze Purpose • Write Narrative Texts 	<i>Reading 1, 3, 4 & 6</i> <i>Writing 3</i>
Flashy Feet Procedure	Procedures list steps to teach or demonstrate a skill or concept.	<ul style="list-style-type: none"> • Close Reading • Interpret Visual Information • Analyze Text Structure • Present Information 	<i>Reading 1, 5 & 7</i> <i>Speaking & Listening 4</i>
Mr. Mosop's Kukus Folktale	Folktales are passed from generation to generation and often teach a lesson.	<ul style="list-style-type: none"> • Close Reading • Identify Main Ideas • Analyze Characters • Write Narrative Texts 	<i>Reading 1, 2 & 3</i> <i>Writing 3</i>

Comparing Texts: CCSS Reading 9

Mini-Unit: CCSS Reading 1, Reading 7, Writing 2, Writing 3, Writing 9, Writing 10

ARTICLE: Doodlebug & Dandelion

Magazine pages 4-8, Adventure


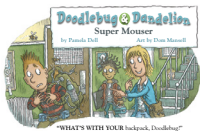
Lexile Score: 740L

Doodlebug & Dandelion
Super Monster
by Francis Holt
Art by Dean Munnell

"WHAT'S WITH YOUR backpack, Doodlebug?"
Dandelion Peabody asked her brother as they tromped into Pine Star Elementary on the first day of school.
"What?" Doodlebug replied, looking over his shoulder. They had just reached the lobby and were about to split up. "Something's happening in there," Dandelion giggled. "Good luck, whenever you go!"
She flitted away to her classroom, but now Doodlebug was nervous. He nervously snuggled the pack. Before it was halfway open, two points rose and a hairy hand appeared. The very next second Doodlebug's brother saw Choo-Choo escape the bag with a flying leap. He dove through the air, landing with silent grace on the stairs of Pine Star's first principal.

Doodlebug stopped and stared. The monster's head seemed to be missing. Choo-Choo wobbled a moment, but not swiveling back and forth. Doodlebug gulped as he realized the awful truth. The entire lobby came to life, as we cringed with a dumb little noise.
"LOST!" he shouted as Choo-Choo lunged for one particularly fat mouse. The very mouse scurried, and the cat ran off behind them at full speed.

A second later, Doodlebug's good health bag was standing in its place. "Oh, that's a shame we need to call in the members of the Cat People Club!"
"But how?" Doodlebug asked.
"You wait right here," they said. "I'll take care of it."
Doodlebug gulped and sat in his bag, hunched off. Whatever Bag's plan was, Doodlebug trusted it would help them get Choo-Choo back.



Doodlebug's cat Choo-Choo finds his way into Doodlebug's backpack. He escapes, and Doodlebug can't catch him. Doodlebug needs help! The Cat People Club comes to the rescue. Before they can catch him, Choo-Choo helps the school.

ESSENTIAL QUESTION

How do authors use illustrations to support a main idea?

CORE CONTENT CONCEPT

English Language Arts Plot events are affected by characters' actions.

CROSS-CURRICULAR EXTENSION

Science Discuss food webs and how some animals are predators and some are prey.

KEY VOCABULARY

careened (p. 7) to move quickly without control

pursed (p. 7) to form your lips into a tight line

tsunami (p. 8) a large wave caused by an earthquake under the ocean

horde p. (8) large group

PREPARE TO READ

Tell students they will be reading about Doodlebug's cat Choo-Choo, who is loose in the school. Ask students if they have any pets. Then ask students what they think it would be like if their pets got loose in the school. What would happen?

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- What does Choo-Choo do when he jumps out of the backpack? Underline key details that show Choo-Choo's actions. *CCSS Reading 1*
- Why do you think Doodlebug asks the Cat People Club for help? *CCSS Reading 1*
- How does the Cat People Club catch Choo-Choo? Identify key details to support your response. *CCSS Reading 1*

Craft and Structure

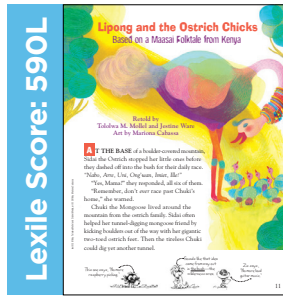
- Interpret Visual Information** Why does the author use illustrations? How do they help you understand the story? Use key details to support your response. *CCSS Reading 7*
- Analyze Relationships** How does Principal Hogswobble react to Choo-Choo being in the school? Highlight his reaction and explain why he reacts this way. *CCSS Reading 3*

WRITING

Write Explanatory Texts Choose your favorite character and describe him or her. Be sure to describe the character's actions and how they affect the events in the story.

ARTICLE: Lipong and the Ostrich Chicks

Magazine pages 11-16, Folktale



Sidai tells her six chicks not to go past Chuki's home, but the chicks don't listen. When they run past Chuki's home, Lipong the Lioness tricks the chicks into entering her cave. Suddenly the chicks are trapped. How does Sidai find and rescue them?

ESSENTIAL QUESTION

How do authors use illustrations to support a main idea?

CORE CONTENT CONCEPT

English Language Arts Folktales are passed from generation to generation and often teach a lesson.

CROSS-CURRICULAR EXTENSION

Social Studies Have students research the origin of folktales and why they are told.

KEY VOCABULARY

bush (p. 11) a large area in Australia or Africa that is not used for farming

reluctantly (p. 12) showing doubt

baobab (p. 13) a type of tree in Africa

scavenge (p. 15) to search for food

PREPARE TO READ

Ask students what a folktale is. Guide them to understand that folktales are stories passed from generation to generation and typically contain an important cultural lesson. Tell students they are going to read a retelling of a folktale. Then work with students to make a list of familiar folktales and discuss the lesson each folktale shares.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- How does Lipong get the chicks into her cave? Highlight details that support your response. *CCSS Reading 1*
- Why does Uni follow her brothers and sisters into Lipong's cave? Use details to support your response. *CCSS Reading 1*
- What is the problem? How is it solved? Use details to support your response. *CCSS Reading 3*

Craft and Structure

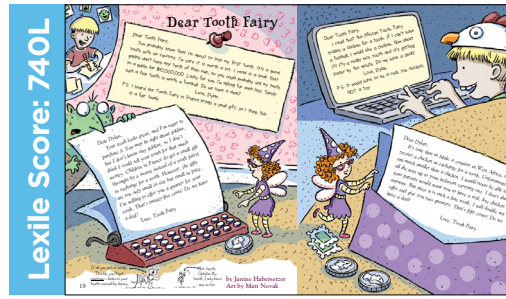
- Draw Conclusions** What does Uni notice in the cave? Why is he the only one to notice this? Use details to support your response. *CCSS Reading 1*
- Interpret Visual Information** Study the illustration on page 15. How does the illustration help you understand the characters and their actions? Circle details in the illustration to support your response. *CCSS Reading 7*

WRITING / SPEAKING AND LISTENING

Write Opinions What lesson or lessons does this folktale teach? Think about the characters and their actions and the problem and solution to help you figure out the lesson. Do you think this lesson is important? Why or why not?

ARTICLE: Dear Tooth Fairy

Magazine pages 18-22, Narrative Fiction



Dylan has a loose tooth. It's a good tooth, so he writes to the Tooth Fairy to ask for something special. The Tooth Fairy responds, explaining why she can't bring the gifts Dylan asks for, and offers him something else. What do Dylan and the Tooth Fairy decide?

ESSENTIAL QUESTION

How do authors use illustrations to support a main idea?

CORE CONTENT CONCEPT

English Language Arts Persuasive writing presents an argument and evaluates any counterarguments.

CROSS-CURRICULAR EXTENSION

Social Studies Have students choose a country and research what children get when they lose a tooth.

KEY VOCABULARY

exchange (p. 18) trade

tempting (p. 21) causing someone to want something

PREPARE TO READ

Ask students how many teeth they have lost and what the Tooth Fairy left for each tooth. Then point out that in some countries, children are given presents, not money. Ask students why they think these traditions exist.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- What is the first thing Dylan asks for? Why does he think his tooth is worth this? Highlight details that support your response. *CCSS Reading 1*
- What does Dylan finally decide he will do? Why does he decide this? Use details to support your response. *CCSS Reading 3*
- What does the Tooth Fairy leave Dylan? Why does she leave this? Underline details that support your response. *CCSS Reading 3*

Craft and Structure

- Analyze Purpose** What is the purpose of this article? What details support this purpose? Think about the format and illustrations. *CCSS Reading 5*
- Explain Reasons** Dylan asks for several things. Why does the Tooth Fairy say she can't bring some of these things? Use details to support your response. *CCSS Reading 8*

WRITING

Write Narrative Texts Write a fictional story about the Tooth Fairy. Include the setting, interesting characters, dialogue, and illustrations of characters and events. Be sure to include a problem and solution.



Mom is away, so a boy gets to pack his own lunch. He packs all the best stuff so he can make great trades.

ESSENTIAL QUESTION

How do authors use illustrations to support a main idea?

CORE CONTENT CONCEPT

English Language Arts Poems may follow a set structure, using rhyme and rhythm.

CROSS-CURRICULAR EXTENSION

Math Count the items that are packed. How large would the lunchbox need to be to fit all these items?

KEY VOCABULARY

wristwatch (p. 23) a watch worn on someone's wrist

PREPARE TO READ

Tell students they are going to read a funny poem about a boy packing his own lunch. Ask students what they normally eat for lunch and what they would pack if they could pack their own lunch. Ask students why they would pack these things. Encourage them to pack healthy foods.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Why does the boy pack his own lunch? Underline the reason. *CCSS Reading 3*
- Study the poem and illustration. What food does he pack? What items does he pack? Why do you think he chooses these things? *CCSS Reading 1*
- What is he hoping to do with his lunch? Use details to support your response. *CCSS Reading 1*

Craft and Structure

- **Analyze Text Structure** Look at the first two stanzas, or sets of lines. Underline the rhyming words. How does the use of rhyme affect the rhythm of the poem? *CCSS Reading 4*
- **Analyze Purpose** Why do you think the poet wrote this poem? What details from the poem support your answer? *CCSS Reading 6*

WRITING

Write Narrative Texts Write a funny poem about what you would pack for a short trip and why you would pack those things. Include at least three stanzas and a rhyming pattern or set rhythm.



How can you make your shoes stand out? This article shows how to lace shoes in some cool new ways.

ESSENTIAL QUESTION

How do authors use illustrations to support a main idea?

CORE CONTENT CONCEPT

English Language Arts Procedures list steps to teach or demonstrate a skill or concept.

CROSS-CURRICULAR EXTENSION

Social Studies Research shoes and when laces were first used. How did people originally lace their shoes?

KEY VOCABULARY

eyelets (p. 24) holes in a shoe that laces go through

checkerboard (p. 25) a pattern or arrangement of different colored squares

PREPARE TO READ

Take a poll of the class to see how many students are wearing shoes with laces. Ask students how they laced their shoes. Then ask if they know of any other ways to lace their shoes. Today they will learn some fancy tips for lacing their shoes.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Explain how to lace shoes in a loop back lacing. Underline key terms that help you explain the method. *CCSS Reading 1*
- Explain how to lace shoes in a checkerboard pattern. Highlight key terms that help you explain the method. *CCSS Reading 1*
- What other ways can shoes be laced or decorated? *CCSS Reading 1*

Craft and Structure

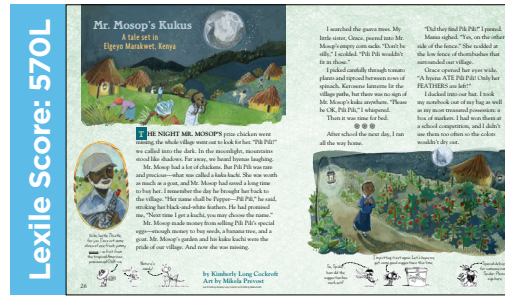
- Interpret Visual Information** Why does the author include illustrations? How do the illustrations help you understand each step in the procedure? Which part of the text does each illustration relate to? *CCSS Reading 7*
- Analyze Text Structure** Locate each "TIP." Why do you think the author included these? Which part(s) of the text does each tip relate to? *CCSS Reading 5*

SPEAKING AND LISTENING

Present Information Think of another way you can lace or decorate your shoes and present your idea to the class. Show the class how they can lace or decorate their shoes like this. Follow the format of the article.

ARTICLE: Mr. Mosop's Kukus

Magazine pages 26-31, Folktale



When Mr. Mosop's kuku goes missing, everyone in the village looks for her. They discover that she has been killed by a hyena. Everyone is upset because Mr. Mosop's farm and his kuku are the pride of the village. Mr. Mosop buys a kuku chick, and the narrator and her sister get the honor of naming it.

ESSENTIAL QUESTION

How do authors use illustrations to support a main idea?

CORE CONTENT CONCEPT

English Language Arts Folktales are passed from generation to generation and often teach a lesson.

CROSS-CURRICULAR EXTENSION

Writing Choose a folktale you have heard or read and rewrite it using modern characters and a modern setting and plot.

KEY VOCABULARY

guava (p. 27) sweet yellow fruit of a tropical tree

possession (p. 27) something that is owned

elegant (p. 28) graceful or attractive

PREPARE TO READ

Show pictures of a kuchi bird. Tell students they are going to read about a kuchi bird, which is a type of chicken. These birds are resistant to diseases and weigh twice as much as a regular chicken.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Why does everyone in the village look for Mr. Mosop's kuku? Highlight details that support your answer. *CCSS Reading 1 & 3*
- What does the narrator do when she learns that Pili Pili has been killed? Why do you think she does this? *CCSS Reading 3*
- What do the narrator and Grace decide to name the kuku chick? Why does Mr. Mosop think this name is perfect? Use details from the text to support your response. *CCSS Reading 1 & 3*

Craft and Structure

- Identify Main Ideas** What is the main idea, or lesson, of this folktale? What details from the text support your answer? *CCSS Reading 2*
- Analyze Characters** How would you describe Mr. Mosop? How do his actions affect the plot? Use details to support your response. *CCSS Reading 3*

WRITING

Write Narrative Texts Imagine that you are the narrator of this story. Write a letter to a friend describing what happened and how you feel about the events. Share your letter with a partner.

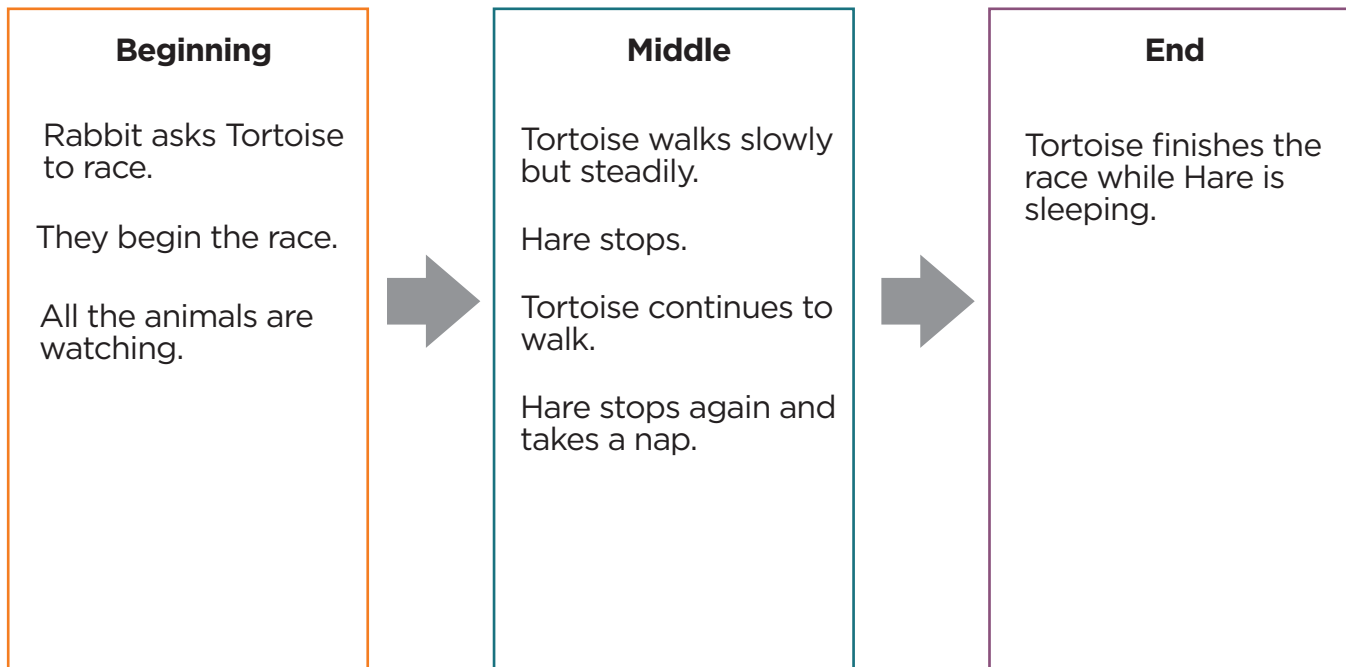
CROSS-TEXT CONNECTIONS

SYNTHESIZE: Guide students to compare articles they read. Help students find the connections between pieces of information in multiple articles. Use prompts, such as the following examples, to have students work together to **Integrate Ideas and Information** (*CCSS.Reading.9*).

- Compare the roles the animals in the stories “Doodlebug & Dandelion” and “Mr. Mosop’s Kukus” play in the characters’ lives. Think about why animals are important to people and how they can affect people.
- Think about the illustrations in “Fancy Feet,” “Trading,” and “Dear Tooth Fairy.” How do the authors use illustrations in these articles and the poem to help readers understand the central idea and key details? Are the illustrations important to each text? Why or why not?
- “Lipong and the Ostrich Chicks” and “Mr. Mosop’s Kukus” are tales that have been retold. Why do you think people retell them? Think about the lesson each tale teaches and how they are similar and different.
- The stories “Doodlebug & Dandelion” and “Lipong and the Ostrich Chicks” feature animals that solve problems. Which animal do you think is most deserving of the award “Smartest Animal”? Explain your response using details from the text.
- Compare the formats of the articles “Dear Tooth Fairy” and “Fancy Feet.” Which format did you like the best and why? Why do you think the authors used these formats for their articles? Do you think a different format for the articles would be better? Why or why not?

**EXPLORATORY LEARNING - FLEXIBLE MINI-UNIT DESIGN****ENGAGE****READ FOR A
PURPOSE****APPLY**

ENGAGE: Engage students in the topic of folktales by having them write and illustrate their own tales to help them answer the Essential Question: How do authors use illustrations to support a main idea? Begin by filling in the chart below for another folktale that students may be familiar with, “The Tortoise and the Hare.” Guide students in completing the chart and help them understand the lesson of the story. Brainstorm with them how this story could be illustrated to help communicate the main idea and supporting details.



**READ FOR A PURPOSE**

INTRODUCE THE ACTIVITY: WRITE A TALE Folktales are fun and teach lessons. Tell students that they will be writing their own version of one of the folktales they read. Explain that students will use a different setting and different characters but teach the same lesson. They will also illustrate their stories to support the main idea.

RETURN TO THE TEXT: Explain to students that before they can begin writing their tales they must gather information about the characters, setting, plot events, and lesson. Divide students into two groups and assign each group a different folktale. Distribute the Character and Setting Chart (p. 14) and Beginning/Middle/End Chart (p. 15) graphic organizers. Direct students to reread the folktale and study the illustrations and what they tell them about the characters, setting, and plot. Instruct students to record this information on the left side of the Character and Setting Chart and on the Beginning/Middle/End Chart. Before students begin reading and filling in their graphic organizers, provide the following guidance for each group:

Group 1: “Lipong and the Ostrich Chicks”

Reread the story. As you read, write down each character in the chart and identify the setting. Then, identify the main events of the story.

Group 2: “Mr. Mosop’s Kukus”

Reread the story. As you read, write down each character in the chart and identify the setting. Don’t forget that the kuku is important to the central idea and should be considered a character even though in the story it doesn’t speak.



**APPLY: WRITE A FOLKTALE**

Now that students have identified their folktale's characters, setting, and plot, they are ready to identify the lesson the folktale teaches and create their own folktale to teach the same lesson.

STEP 1: IDENTIFY LESSON

Direct students to think about the lesson the tale teaches. To help them determine the lesson, have them think about what the characters do and learn.

STEP 2: COMPLETE THE CHARACTER AND SETTING CHART GRAPHIC ORGANIZER

Ask students how they can teach the same lesson with different characters and a different setting. Direct them to fill in their Character and Setting Chart graphic organizer with their new characters and setting.

STEP 3: DETERMINE PLOT

Instruct students to look at the Beginning/Middle/End Chart graphic organizer for the original folktale. Tell them to think about what their new characters – in the new setting – will do and say (i.e. the major events of their folktale). Remind them that the events of their new folktale should teach the same lesson as the original folktale they read.

STEP 4: WRITE

With your guidance, have students write a new folktale using the characters, setting, and plot they created in Steps 2 and 3. Check student work to ensure that the lesson in their folktale is clear. If not, have them include additional events that will make the lesson more apparent.

STEP 5: ILLUSTRATE

After students finish writing their folktales, instruct them to add pictures that illustrate the most important events. Tell them that the illustrations should help readers understand the characters and events and support the main idea of the story.

STEP 6: SHARE & DISCUSS

When students have completed their illustrations, invite them to present their folktales to the rest of the class. Encourage them to discuss similarities and differences between their characters, setting, and plot and the original folktale's characters, setting, and plot.



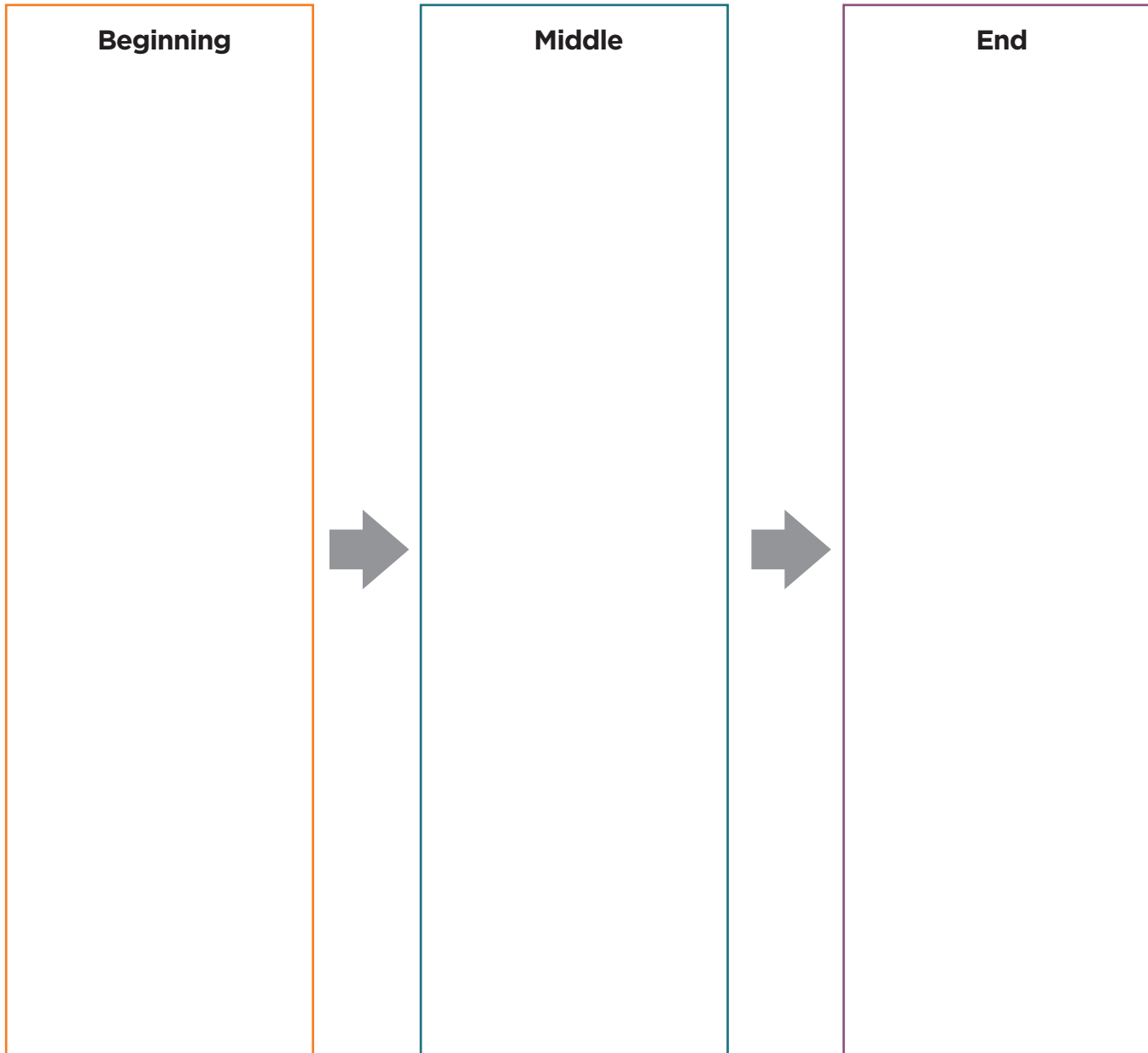
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CHARACTER AND SETTING CHART

SETTING IN CURRENT TALE:		SETTING IN NEW TALE:	
Lesson:		Lesson:	
CHARACTER IN CURRENT TALE	WHAT THE CHARACTER IS LIKE	CHARACTER IN NEW TALE	WHAT THE CHARACTER IS LIKE

NAME: _____

BEGINNING, MIDDLE, AND END CHART





Meeting State and National Standards: Core Instructional Concepts

The articles in this magazine provide a wealth of opportunities for meeting state and national instructional standards. The following pages contain charts listing Core Instructional Concepts for each of three curricular areas: English Language Arts, Science, and Social Studies.

USING THE STANDARDS CHARTS

ELA

Corresponding CCSS anchor standards have been listed next to each item on the Core Instructional Concepts chart. To customize the chart, add your own grade, state, or district standards in the last column. Match the concepts and standards from the chart to the activities on each page of the Teacher's Guide to complete your lesson plans.

SOCIAL STUDIES

Content Concepts in each Article Guide are based on Dimension 2 of the CS Framework for Social Studies: Applying Disciplinary Concepts and Tools. Use the last column in the accompanying chart to correlate these concepts to your state or district standards.

SCIENCE

Content Concepts in each Article Guide are drawn from the Three Dimensions of the Next Generation Science Standards. You will also find connections to these concepts within individual close-reading questions.

MATH

Content Opportunities for math activities are provided in the Cross-Curricular extensions on each Article Guide page.

CORE INSTRUCTIONAL CONCEPTS: READING, LITERATURE, AND LANGUAGE ARTS

SKILLS AND CONCEPTS	CCSS ANCHOR STANDARD	
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KEY IDEAS AND DETAILS

Read closely to determine what a text says explicitly.	Reading 1	
Make logical inferences to determine what the text communicates implicitly.	Reading 1	
Cite specific textual evidence to support conclusions drawn from the text.	Reading 1	
Determine central ideas or themes of a text and analyze their development.	Reading 2	
Summarize key supporting details and ideas.	Reading 2	
Analyze how individuals, events, and ideas develop and interact over the course of a text.	Reading 3	

CRAFT AND STRUCTURE

Interpret words and phrases as they are used in a text.	Reading 4	
Determine technical, connotative, and figurative meanings.	Reading 4	
Analyze how specific word choices shape meaning or tone.	Reading 4	
Analyze the structure of texts (sequence, cause/effect, compare/contrast, problem/solution)	Reading 5	
Recognize the genre, key elements, and characteristics of literary texts.	Reading 5	
Assess how point of view or purpose shapes the content and style of a text.	Reading 6	
Analyze how an author's style and tone affects meaning.	Reading 6	

INTEGRATION OF KNOWLEDGE AND IDEAS

Integrate and evaluate content presented in diverse media and formats.	Reading 7	
Identify and evaluate the argument and claims in a text.	Reading 8	
Analyze how two or more texts address similar themes or topics.	Reading 9	

WRITING

Write arguments to support claims, using valid reasoning and relevant and sufficient evidence.	Writing 1	
Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately.	Writing 2	
Write narratives to develop real or imagined experiences or events.	Writing 3	
Draw evidence from literary or informational texts to support analysis, reflection, and research.	Writing 9	
Conduct short as well as more sustained research projects .	Writing 10	



CORE INSTRUCTIONAL CONCEPTS: SOCIAL STUDIES

C3 INQUIRY ARC DIMENSION 2: APPLYING DISCIPLINARY CONCEPTS AND TOOLS

STATE OR DISTRICT STANDARD

CIVICS

Analyze the origins, functions, and structure of different governments and the origins and purposes of laws and key constitutional provisions.	
Summarize core civic virtues and democratic principles .	
Evaluate policies intended to address social issues.	

ECONOMICS

Evaluate the benefits and costs of individual economic choices .	
Analyze economic incentives , including those that cause people and businesses to specialize and trade.	
Explain the importance of resources (i.e. labor, human capital, physical capital, natural resources) in methods of economic production .	
Explain the functions of money in a market economy.	
Explain the importance of competition in a market economy.	
Apply economic concepts (i.e. interest rate, inflation, supply and demand) and theories of how individual and government actions affect the production of goods and services .	
Analyze economic patterns , including activity and interactions between and within nations.	

GEOGRAPHY

Construct and use maps and other graphic representations (i.e. images, photographs, etc.) of different places.	
Explain cultural influences on the way people live and modify and adapt to their environments.	
Analyze places, including their physical, cultural and environmental characteristics and how they change over time.	
Analyze movement of people, goods, and ideas .	
Analyze regions, including how they relate to one another and the world as a whole from a political, economic, historical, and geographic perspective.	

HISTORY

Interpret historical context to understand relationships among historical events or developments .	
Evaluate historical events and developments to identify them as examples of historical change and/or continuity .	
Analyze perspectives , including factors that influence why and how individuals and groups develop different ones.	
Evaluate historical sources , including their reliability, relevancy, utility, and limitations.	
Analyze causes and effects , both intended and unintended, of historical developments.	



CORE INSTRUCTIONAL CONCEPTS: SCIENCE

DIMENSION 1: SCIENTIFIC AND ENGINEERING PRACTICES

Dimension 1 focuses on the practice of science, and how knowledge is continually adapted based on new findings. The eight practices of the K-12 Science and Engineering Curriculum are as follows:

- Asking questions (for science) and defining problems (for engineering)
- Developing and using models
- Planning and carrying out investigations
- Analyzing and interpreting data
- Using mathematics and computational thinking
- Constructing explanations (for science) and designing solutions (for engineering)
- Engaging in argument from evidence
- Obtaining, evaluating, and communicating information

DIMENSION 2: CROSSCUTTING CONCEPTS

Dimension 2 provides an organizational schema for integrating and interrelating knowledge from different science domains. The eight NGSS Crosscutting Concepts are as follows:

- Patterns
- Similarity and Diversity
- Cause and Effect
- Scale, Proportion, and Quantity
- Systems and System Models
- Energy and Matter
- Structure and Function
- Stability and Change

DIMENSION 3: DIMENSIONS AND DISCIPLINARY CORE IDEAS

Dimension 3 presents a contained set of Disciplinary Core Ideas to support deeper understanding and application of content. The following chart details Core Ideas for curriculum, instructional content, and assessments within four domains.

LIFE SCIENCE

- Structure and Function of Living Things
- Life Cycles and Stages
- Reproduction & Inherited Traits
- Animals
- Plants

PHYSICAL SCIENCE

- Forces and Interactions
- Energy
- Light
- Sound
- Electricity/Magnetism
- Matter
- Waves
- Heat
- Chemistry
- Information Processing

EARTH SCIENCE

- Weather
- Climate
- Rocks & Soil
- Erosion and Weathering
- Landforms
- Water
- Oceans
- History of Earth
- Plate Tectonics
- Volcanoes, Earthquakes, and Tsunamis

SPACE SYSTEMS

- Solar System
- Planets
- Moon
- Sun

