

Teacher's Guide

Ladybug™

the magazine for young children

MAGAZINE ARTICLES

Max and Kate	3
Contemporary Realistic Fiction	820L
Anna Goes on Vacation	9
Contemporary Realistic Fiction	420L
Winter Quilt	16
Narrative Nonfiction	680L
My Winter Hat	22
Humorous Poem	N/A
Mortimer the Miserable	24
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From Cricket Media



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November/December 2016**

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OVERVIEW

In this magazine, readers encounter characters who experience all kinds of surprises.

Ladybug: November/December 2016

includes stories

about unexpected animal visitors, a girl who takes a trip all by herself, and two extraordinary hats.

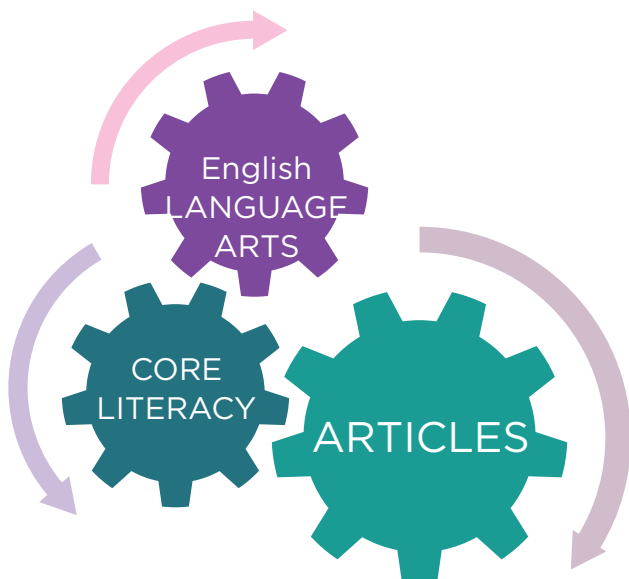
ESSENTIAL QUESTION:

How do authors and illustrators create surprises for readers?

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 and illustrators create surprises for readers?

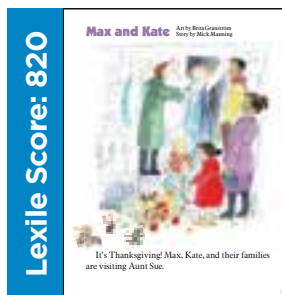
MAGAZINE ARTICLES	ENGLISH LANGUAGE ARTS CONCEPTS	LITERACY SKILLS	CORRESPONDING CCSS ANCHOR STANDARDS
Max and Kate Contemporary Realistic Fiction	Illustrations can help readers notice and understand story details.	<ul style="list-style-type: none"> Close Reading Interpret Visual Information Analyze Word Choice Retell a story 	<i>Reading 1, 3, 4 & 7</i> <i>Speaking & Listening 1</i>
Anna Goes on Vacation Contemporary Realistic Fiction	Sensory details are words that describe what you hear, smell, see, taste and touch.	<ul style="list-style-type: none"> Close Reading Interpret Visual Information Identify Sensory Details Write a Postcard 	<i>Reading 1, 3, 4 & 7</i> <i>Writing 3</i>
Winter Quilt Narrative Nonfiction	Illustrations in a nonfiction article help readers understand the information an author presents.	<ul style="list-style-type: none"> Close Reading Analyze Nonfiction Analyze Word Choice Write Dialogue 	<i>Reading 1, 3, 4 & 5</i> <i>Writing 3</i>
My Winter Hat Humorous Poem	Illustrations can help readers understand the words and ideas in a poem.	<ul style="list-style-type: none"> Close Reading Identify Sound Devices Interpret Visual Information Read a Poem Aloud 	<i>Reading 1, 2, 4 & 7</i> <i>Speaking & Listening 1</i>
Mortimer the Miserable Fantasy	Authors can turn objects into story characters.	<ul style="list-style-type: none"> Close Reading Analyze Fiction Analyze Word Choice Write a Story 	<i>Reading 1, 3, 4 & 5</i> <i>Writing 3</i>
Abradacabra! Procedure	Authors can use text and pictures to explain how to do something.	<ul style="list-style-type: none"> Close Reading Analyze Text Structure Interpret Visual Information Perform a Magic Trick 	<i>Reading 1, 5 & 7</i> <i>Speaking & Listening 1, 4</i>

Comparing Texts: *CCSS Reading 2, 3, 7 & 9; CCSS Writing 2, 4 & 9*

Mini-Unit: *CCSS Reading 1 & 3; CCSS Writing 3, 4 & 5; CCSS Speaking & Listening 1 & 4*

ARTICLE: Max and Kate

Magazine pages 3 - 7, Contemporary Realistic Fiction



Max, Kate, and their families go to Aunt Sue's for Thanksgiving. They are surprised to see something unusual in Aunt Sue's backyard.

ESSENTIAL QUESTION

How do authors and illustrators create surprises for readers?

CORE CONTENT CONCEPT

English Language Arts Illustrations can help readers notice and understand story details.

CROSS-CURRICULAR EXTENSION

Physical Education Put on some fun music and dance the Thanksgiving Turkey Trot with classmates. Turn this into a game of statue. One person can start and stop the music. When the music stops, everybody has to freeze and stand as still as a statue.

KEY VOCABULARY

flock (p. 5) a group of animals or birds

pecking (p. 5) striking quickly at something with a beak

trot (p. 7) a dance with fast and slow steps

PREPARE TO READ

Ask students if they have ever seen a real turkey or if they have ever observed a turkey eating. Invite students to share their experiences. Then tell them that the next story is about friends who get a big turkey surprise on Thanksgiving.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Why are Max, Kate, and their families visiting Aunt Sue? How does Aunt Sue feel when she sees her guests? Find words and pictures that support your answers. *CCSS.Reading 3*
- What does Max see outside outside the patio doors? Find details in the pictures to support your answer. *CCSS.Reading 1*
- What happens after Charlie starts dancing? Use details in the words and picture to support your answer. *CCSS.Reading 3*

Craft and Structure

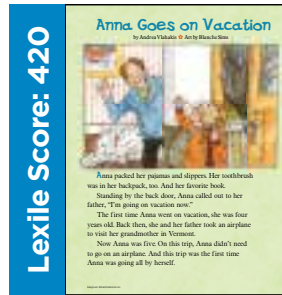
- **Interpret Visual Information** What do the turkeys look like they are doing when they flap and peck? How does the picture show this? *CCSS.Reading 7*
- **Analyze Word Choice** How does Max feel when he sees the turkeys? Which words on page 4 help you understand how he feels? *CCSS.Reading 4*

SPEAKING AND LISTENING

Retell a Story Work with a partner to and take turns retelling the story. When it's your turn to retell, point to each picture and tell your partner what is happening in it. When it's your partner's turn to retell, listen quietly and pay attention.

ARTICLE: Anna Goes on Vacation

Magazine pages 9 - 12, Contemporary Realistic Fiction



Five-year-old Anna packs her backpack and leaves home to go on a vacation all by herself--and her dad lets her go!

ESSENTIAL QUESTION

How do authors and illustrators create surprises for readers?

CORE CONTENT CONCEPT

English Language Arts Sensory details are words that describe what you hear, smell, see, taste and touch.

CROSS-CURRICULAR EXTENSION

Social Studies Locate the state of Vermont on a map of the United States. How far is Vermont from where you live? Ask your teacher to help you use the map scale to figure this out.

KEY VOCABULARY

gaped (p. 10) breathed in suddenly with an open mouth

tucked (p. 10) put something in a particular place to hold it

spare (p. 12) kept as something extra that can be used if it is needed

PREPARE TO READ

Read the title aloud and preview the illustrations with students. Ask students to predict where Anna is going on vacation. Record predictions on the board and then read the story together. Pause as you read to revisit and revise predictions.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Where did Anna go on her first vacation? How is this vacation different from the first one? Use information from the story in your answer. *CCSS.Reading 3*
- Why is Anna's father letting her go on vacation by herself? Is this a safe idea? Support your answer with details from the story. *CCSS.Reading 1*
- Why did Anna's father rebuild the barn? Find details in the story that support your answer. *CCSS.Reading 1*

Craft and Structure

- **Interpret Visual Information** What does Anna pack for her trip? What does she unpack at Grandma's house? Use this information and the picture on page 12 to figure out what Anna forgot to pack. Write your answers. *CCSS.Reading 7*
- **Identify Sensory Details** On pages 10-11, find words that help you imagine what Anna sees and smells. Make two lists of these words. *CCSS.Reading 4*

WRITING

Write a Postcard People who go on vacation sometimes send postcards to friends and family back home. Write a postcard from Anna to her father. Tell about something Anna does with her grandmother. Begin your postcard with the words "Dear Dad." End your postcard with the words "Love, Anna."

Lexile Score: 680

Winter Quilt by Beth Stevenson
Illustrated by Todd Ziserman

After the snow falls, a gray squirrel peeks out of a hole in an oak tree. He climbs up the tree's trunk. Some slices of acorns hang across a high branch.

A brown leaf hangs from a twig above him. The squirrel stretches on his hind legs, grabs the leaf, and crumples it into his mouth.



Reaching up, he pulls off one leaf after another. Some the squirrel's mouth can hold no more leaves. He dashes across the branch and dives down into his hole.

Two squirrels are getting ready for winter. They work all day long gathering leaves to make a cozy nest.

ESSENTIAL QUESTION

How do authors and illustrators create surprises for readers?

CORE CONTENT CONCEPT

English Language Arts Illustrations in a nonfiction article help readers understand the information an author presents.

CROSS-CURRICULAR EXTENSION

Science Choose another animal to learn about. Use a book or a website to find 1-2 interesting facts about how this animal gets ready for winter. Write the facts on a piece of paper and draw a picture to go with them.

KEY VOCABULARY

hind (p. 16) at the back of something

crumples (p. 16) squeezes something so its no longer flat and smooth

dashes (p. 16) moves quickly or suddenly

swirls (p. 17) moves in circles

PREPARE TO READ

Ask students what they do to get ready for winter. Then discuss how different animals get ready for winter. Point out that some birds fly south and some animals sleep for all or part of the winter. Explain that this article tells about squirrels. Invite students to guess how squirrels get ready for winter.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Why do you think this story is called “Winter Quilt”? What is the winter quilt made of? Use text and pictures to support your answer. *CCSS.Reading 1*
- Where is the squirrels’ nest located? Find details in the text and illustrations that support your answer. *CCSS.Reading 3*
- Why do the squirrels need a warm nest? Support your answer with details from the text. *CCSS.Reading 1*

Craft and Structure

- **Analyze Nonfiction** What did you learn about squirrels in this article? Write sentences that describe what you learned. Look at the text and the pictures to help you. *CCSS.Reading 5*
- **Analyze Word Choice** Find the word *snuggle* in the last two lines on page 17. What does *snuggle* mean? Use information from the lines and from the picture below them to help you figure this out. Write a definition. *CCSS.Reading 4*

WRITING

Write Dialogue Work with a partner to turn this article into a story. First, make up names for the squirrels. Then think about what the squirrels might say to each other as they gather leaves, make their nest, and snuggle. Write down what the squirrels say. Put quotation marks before and after each squirrel’s words.



A little fox is about to go outside to play in the snow when his mom reminds him to wear a hat. The little fox explains the many reasons why he doesn't like his hat.

ESSENTIAL QUESTION

How do authors and illustrators create surprises for readers?

CORE CONTENT CONCEPT

English Language Arts Illustrations can help readers understand the words and ideas in a poem.

CROSS-CURRICULAR EXTENSION

Art Create a collage of things that keep you warm in winter. Cut out pictures of winter clothing, warm foods, and fireplaces from magazines. Write the title "Things that Keep Me Warm" on a piece of paper. Glue pictures onto the paper.

KEY VOCABULARY

swelter (p. 22) feel hot and uncomfortable

helter-skelter (p. 22) messy

sitting duck (p. 23) a person that is easy to attack

blaze (p. 23) a very bright area of color or light

PREPARE TO READ

Brainstorms a list of clothing kids should wear when playing outside in the snow. Discuss how it feels to be all bundled up in winter clothes--comfortable or uncomfortable? Invite volunteers to share their experiences. Then explain that in this poem, a little fox doesn't want to wear his winter hat.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Why doesn't the little fox like to wear his hat? What problems does the hat cause him? Use details from the text to support your answer. *CCSS.Reading 2*
- Why does the little fox always lose snowball fights when he wears his hat? Use information from the pictures and text to support your answer. *CCSS.Reading 1*
- What surprise does Mom have for the little fox? Support your answer with details from the picture and the poem. *CCSS.Reading 1*

Craft and Structure

- **Identify Sound Devices** Write the two words that rhyme in each stanza. Then get together with a classmate and see if you found the same rhymes. Take turns reading the rhyming words aloud. *CCSS.Reading 4*
- **Interpret Visual Information** Compare the two hats. Do they seem very different or mostly the same? Do you think the little fox will like wearing the new hat? Discuss why or why not with a partner. *CCSS.Reading 7*

SPEAKING AND LISTENING

Read a Poem Aloud This poem has two voices in it--the voice of the little fox and the voice of his mother. Practice reading this poem aloud with a partner. One partner can read the mother's part while the other reads the little fox's part. Make the voice of each character sound different. Then perform the poem for the class.



Mortimer the Magic Hat can make dragons, mice, and unicorns appear. In fact, he can make almost anything appear--except for a simple white rabbit. Mortimer has a problem.

ESSENTIAL QUESTION

How do authors and illustrators create surprises for readers?

CORE CONTENT CONCEPT

English Language Arts Authors can turn objects into story characters.

CROSS-CURRICULAR EXTENSION

Language Arts Look in the library for these and other books about magicians and magic hats:

The Magic Hat by Mem Fox

Milo's Hat Trick by Jon Agee

The Magic Rabbit by Annette L. Cate

KEY VOCABULARY

conjured (p. 24) made something appear by using magic

glee (p. 26) a strong feeling of happiness

brim (p. 28) the part of a hat that sticks out around the lower edge

PREPARE TO READ

Show students a picture of a magician's hat and ask if they have ever seen a magician wearing one. Explain that in a magic show, the magician usually pulls objects out of his hat. Read this story aloud and have students listen to find out about the objects that are pulled out of Mortimer the Magic Hat.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

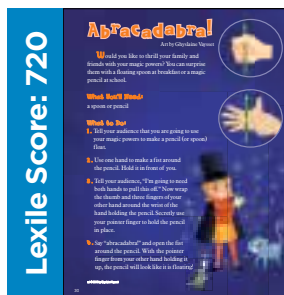
- In what ways is Mortimer like a person? Use details from the text and the pictures to support your answer. *CCSS.Reading 3*
- Why do the magicians refuse to buy Mortimer? Support your answer with details from the story. *CCSS.Reading 1*
- Why is Mortimer the perfect hat for Barry the Boy Wonder? Use details from the text to support your answer. *CCSS.Reading 3*

Craft and Structure

- **Analyze Fiction** How do you know this story is made up? Which parts of this story could never happen in real life? Make a list of them. *CCSS.Reading 5*
- **Analyze Word Choice** Mortimer sits on a shelf getting dusty for many months. How does this make him feel? Find information in the text and pictures that help you understand Mortimer's feelings. *CCSS.Reading 4*

WRITING

Write a Story Imagine that Wanda the Wonderful and the other magicians from the Magic Hat Shop watch Barry and Mortimer perform on stage. What will they say to Mortimer now that he is famous? How will they feel about the way they treated him in the shop? Write a story about these characters.



This article teaches readers how to perform a fun magic trick.

ESSENTIAL QUESTION

How do authors and illustrators create surprises for readers?

CORE CONTENT CONCEPT

English Language Arts Authors can use text and pictures to explain how to do something.

CROSS-CURRICULAR EXTENSION

Performing Arts Ask your librarian to help you find a book of magic tricks. Teach yourself one of the tricks. Then perform the trick for your friends and classmates.

KEY VOCABULARY

thrill (p. 30) to cause someone to feel very excited

floating (p. 30) not connected or attached to anything

PREPARE TO READ

Ask students if they know any magic tricks or if they have ever seen a magic show. Invite volunteers to share their experiences. Then tell student the next article explains how to perform a magic trick. Read the article aloud to students, pointing out the different sections of the article as you get to them.

CLOSE READING AND TEXT ANALYSIS

Key Ideas

- Which steps include information about what you should say as you perform? Write the numbers of these steps. *CCSS.Reading 1*
- What items do you need to perform this magic trick? Use details from the text to help you answer. *CCSS.Reading 1*
- Is the pencil really floating? How do you know? Support your answer with details from the text and pictures. *CCSS.Reading 1*

Craft and Structure

- **Analyze Text Structure** This article has two sections: “What You’ll Need” and “What to Do.” With a partner, talk about how these sections are different. Why do you think the author numbered the directions? *CCSS.Reading 5*
- **Interpret Visual Information** Look at the two circled pictures. Which numbered step does each picture show? *CCSS.Reading 7*

SPEAKING AND LISTENING

Perform a Magic Trick Teach yourself the floating pencil trick. Practice speaking to the audience and moving your hands at the same time. When you feel ready, perform for a classmate and ask for suggestions to make your performance stronger. When you think you’re ready, perform the trick in front of your class.

CROSS-TEXT CONNECTIONS

SYNTHESIZE: Guide students to compare articles they read. Help students find the connections between pieces of information activities such as the ones shown below, and to have students work together to **Integrate Ideas and Information** (*CCSS.Reading.9*).

- Compare the topic of visiting a family member in “Max and Kate” and “Anna Goes on Vacation.” Why do characters visit a family member in each story? What happens on each visit? Use the Compare Visits chart on page 15 to record your answers.
- Think about “Winter Quilt” and “My Winter Hat.” Both texts tell about animals keeping warm in winter. Compare the stories by answering these questions:
 - How are the animals similar and different?
 - How do the animals keep warm?
 - Which text gives facts about animals? What does the other text do?
- Compare “Mortimer the Miserable” and “Abracadabra!” How are the texts the same? How are they different? Use the Venn diagram on page 16 to record your ideas.
- Think about “My Winter Hat” and “Mortimer the Miserable.” Both texts are about hats. Compare the stories by answering these questions:
 - What’s the problem with each hat?
 - Are both hats story characters?
 - How do other characters feel about the hats at the end of each text?
- Describe the surprises in “Max and Kate,” “Anna Goes on Vacation,” and “My Winter Hat.” For each story, write a sentence that tells about the surprise.

EXPLORATORY LEARNING - FLEXIBLE MINI-UNIT DESIGN

ENGAGE

READ FOR A PURPOSE

APPLY

This mini-unit offers students the opportunity for an in-depth look at how authors incorporate an element of surprise in their writing. After looking closely at the magazine texts, students will write about a time they were surprised and create an illustration to go with their story.

ENGAGE: Engage students in the topic of surprise by first reviewing the Essential Question: How do authors and illustrators use words and pictures to develop an element of surprise in their stories and poems? Continue by reviewing the texts from the magazine. Use a chart like the one below to help students recall the different surprises in the magazine texts. Students may have a variety of ideas about what was surprising in each text.

Title	Surprises
“Max and Kate”	Wild turkeys appear outside.
“Anna Goes on Vacation”	Grandma’s house is on the other side of the driveway.
“My Winter Hat”	The new hat is a lot like the old hat.
“Mortimer the Miserable”	
“Abracadabra!”	

READ FOR A PURPOSE

INTRODUCE THE ACTIVITY: A Surprise Story Remind students that the texts from the magazine were full of surprises. Explain that students will now write a story about a time they were surprised. Continue by explaining that they will make a picture to go with their story.

RETURN TO THE TEXT: Explain to students that before they can write their own surprise stories, they need to think about the order of events in a surprise story. Display a chart like the one below and tell students you are going to look at the order of events in “Max and Kate.” Ask students who was surprised in this story and what surprised this character. Fill in the story frame above the chart with this information. Next, discuss what happens before, during, and after the surprise and record this information in the chart. Tell students that they will be using a chart like this one to help them write their surprise stories.

Charlie was surprised when he saw six wild turkeys outside.

Before the surprise	During the surprise	After the surprise
<p>Max and Kate and their families go to Aunt Sue’s house for Thanksgiving.</p>	<p>Charlie looks out the patio doors and sees the turkeys.</p>	<p>Charlie starts dancing like a turkey. Then everyone else starts dancing too.</p>

APPLY: A SURPRISE STORY

Now that students have reviewed the parts of a surprise story, they are ready to begin writing their own. Students should work independently to draft their stories. If any students need help, invite them to meet with you for a brief writer's conference.

Materials

- Writing paper
- Pencils, markers, colored pencils, crayons
- Story Planner (p. 14)

Step 2: Plan

Tell students to use their Story Planners to begin drafting their stories. Have them fill in the planner by answering the question in each box.

Step 4: Revise and Edit

Tell students to read their first drafts to see if they need to add any details or information. Then have them write their final drafts on a sheet of writing paper. Display the checklist below and have students use it to edit their final drafts.

1. My story has a title.
2. My handwriting is clear.
3. My sentences begin with a capital letter.
4. My sentences end with a punctuation mark.

Step 1: Build Background

Remind students that they will be writing a story about a time when they were surprised. If possible, offer an example of a time you were surprised. Then invite volunteers to share the surprise they will be writing about. Next, distribute a copy of the Story Planner to each student. Explain that students can use the planner to help them plan and write a first draft. Have students complete the sentence at the top of their Story Planners.

Step 3: Draft

Tell students to begin writing their first draft on the back of their Story Planner pages. Remind them to use the information in their planners to help them draft. Explain that students can add details to their stories by

- including information about their feelings and thoughts.
- describing people and places.
- writing dialogue—the words people say.

Step 5: Draw

Distribute markers, crayons, and colored pencils and have students add a drawing to the bottom of their story pages.

Step 6: Share

Have students sit in a circle to share their surprise stories and drawings. Then collect the stories and display them or staple them into a class book: *Our Surprise Stories*.



APPLY:

STORY PLANNER

What happened before the surprise?	What happened during the surprise?	What happened after the surprise?





NAME: _____

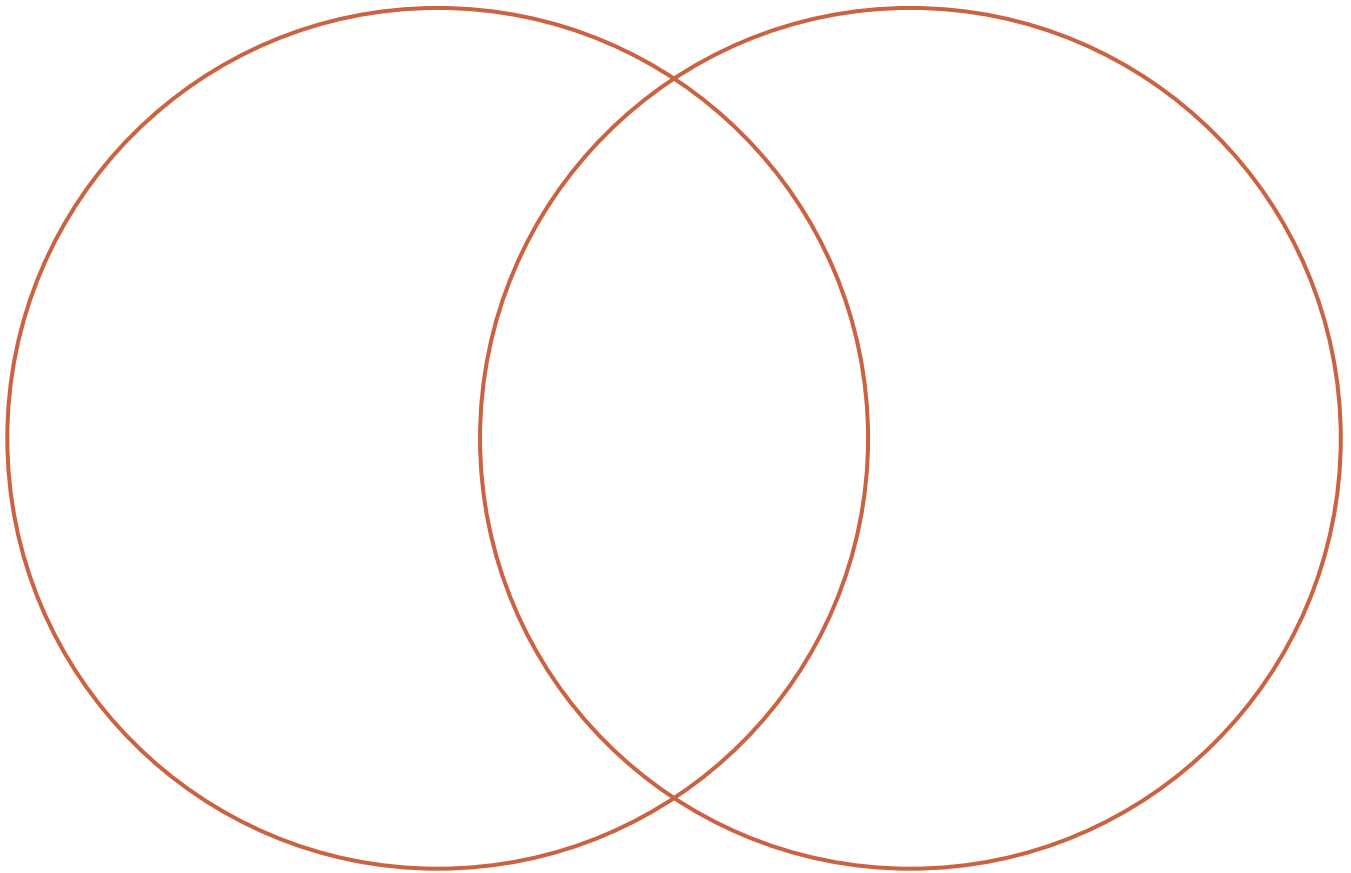
COMPARE VISITS

	“Max and Kate”	“Anna Goes on Vacation”
Who goes on a visit?		
Who do the characters visit?		
Why do they visit this family member?		
What happens on the visit?		



NAME: _____

VENN DIAGRAM



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	CORRESPONDING 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

