

# Teacher's Supplement

\$4.95

January 2016

# Spider

THE MAGAZINE FOR CHILDREN



## MAGAZINE TEXTS

|   |                                     |
|---|-------------------------------------|
| Doodlebug & Dandelion: A Winter Miracle . . . 4 | Contemporary Realistic Fiction 490L |
| Winter Writes . . . . . 9                       | Humorous Poem                       |
| Maillardet's Mysterious Machine . . . . . 11    | Expository Nonfiction 860L          |
| Howling Up at the Moon . . . . . 15             | Folktale 640L                       |
| Space Dreams . . . . . 20                       | Fantasy Poem                        |
| Flying on Ice . . . . . 22                      | Contemporary Realistic Fiction 610L |
| How to Snurf and Ski-Doo . . . . . 27           | Expository Nonfiction 870L          |

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cricketmedia.com

**Teachers' Guide for *Spider*  
January 2016**

Using This Guide. . . . . **2**

Common Core: Reading, Speaking  
& Listening, and Writing . . . . . **3**

Text Pages . . . . . **4**

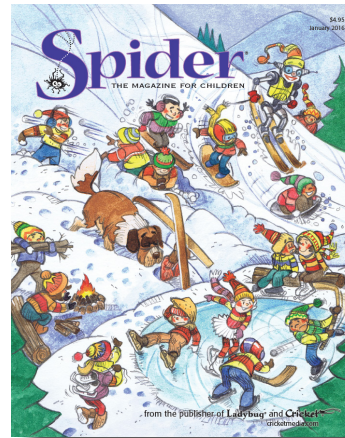
Cross Text Connections  
with Multiple Articles . . . . . **11**

Mini-Unit . . . . . **12**

Printables. . . . . **15**

Glossary . . . . . **18**

Online Resources . . . . . **20**



**OVERVIEW**

*In this magazine, readers will learn about different winter activities. **Spider January 2016** includes stories, poems, and articles about*

*snow making, automatons, a museum, imagination, ice skating, snowboarding, and snowmobiles.*

**ESSENTIAL QUESTION:**

***How can authors and illustrators show readers a variety of winter experiences?***



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

## READ MULTIPLE TEXTS PAGES 4 - 10

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

Essential Question

Content Concepts  
Common Core Anchor Standards

Key Vocabulary  
CCSS.Reading.4

Prepare to Read  
CCSS.SpeakListen.1, 2, 4

Close Reading Questions  
CCSS.Reading.1-10

Common Core Connections to teach  
reading and writing standards.  
CCSS.Reading.1, 2, 3 & 6

## TEACH A MINI-UNIT PAGES 12 - 14

Magazine texts can be easily grouped to make cross text connections and comparisons. Our Common Core mini-unit guides students to read and discuss multiple texts and integrate ideas and information (CCSS.Reading.9). Discussing multiple articles (CCSS.SpeakListen.1, 2, 4) prepares students to write texts to share and publish in a variety of ways (CCSS.Writing.2).

## READING

**Core literacy concepts**, such as the ones found in the Common Core State Standards, help students access social studies and science content. Integration of both literacy thinking and content study offers students a great way to become experts in reading informational text and literature for content knowledge. This guide provides questions to cover many core literacy concepts.

**Draw Inferences** (*CCSS.Reading.1*)

**Describe Relationships** (*CCSS.Reading.3*)

**Analyze Text Structure** (*CCSS.Reading.5*)

**Interpret Visual Information** (*CCSS.Reading.7*)

**Summarize** (*CCSS.Reading.2*)

**Determine Word Meaning** (*CCSS.Reading.4*)

**Understand Author’s Point of View** (*CCSS.Reading.6*)

**Explain Reasons and Evidence** (*CCSS.Reading.8*)

### **FOCUS STANDARD: CCSS.Reading.9: Integrate Ideas and Information:**

Have students read multiple texts from this magazine on the same topic, build knowledge, and make cross-text comparisons.

## SPEAKING AND LISTENING

Use the texts in this magazine to spark meaningful discussions in person and online. Encourage deeper discussions where students can become topic experts. (*CCSS.SpeakListen.1, 2, 4*)

### **DISCUSSION OPTIONS—IN CLASS OR ONLINE**

**Text Clubs:** Form small reading groups of students reading the same text. Have students discuss the content, share ideas, and critically evaluate the text.

**Jigsaw Clubs:** Form small reading groups of students reading *different* texts. Invite students to share information and resources with each other

**Whole Class:** Launch with an essential question. Encourage students to find and share evidence from different texts building a greater understanding of the question.

## WRITING

Use the texts in this magazine to prompt **informative/explanatory writing** (*CCSS.Writing.2*). Have students use evidence from the texts to share information about social studies, language arts, or science content in the articles. See the **Mini-Unit** section of this guide (pages 12 - 14) as well as the **text pages** (pages 4 - 10) for ways to incorporate writing into your instruction.

# ARTICLE: Doodlebug & Dandelion

Magazine page 4, Contemporary Realistic Fiction

Lexile Score: 490



Dandelion, Doodlebug, their parents, Bog, and Rudyard look at an album of winter photos. Meanwhile, their friend Tomiko prepares a snowy surprise.

## ESSENTIAL QUESTION

**How can authors and illustrators show readers a variety of winter experiences?**

## ELA CONCEPT

Authors can use flashbacks to enhance a story line.

## CROSS-CURRICULAR EXTENSION

### Science

Based on clues in the story, where in the US might Doodlebug and Dandelion live? Where might they have lived when they were younger?

## KEY VOCABULARY

**endure (p. 5)** to bear patiently

**obedient (p. 5)** willing to obey

**camouflage (p. 6)** the hiding or disguising of something by covering it up or changing the way it looks

**commotion (p. 7)** noisy excitement and confusion

**contraption (p. 8)** a strange or complicated device or machine

## PREPARE TO READ

Ask students if they ever wish to live where the climate is very different. Discuss whether this wish could ever come true. Explain that this story shows some kids who live in a place of palm trees who wish to live where there is snow.

## CLOSE READING QUESTIONS

- Sometimes things happen with great timing. What happens with great timing in this story?
- How can you tell the photo album covers lots of years?
- How can you tell Doodlebug and Dandelion's family has probably moved sometime before this story takes place?
- What plot points make the title appropriate?

## COMMON CORE CONNECTIONS

### Using Context Clues *CCSS Literature 4*

Search the text for hyphenated words (ex: teeny-tiny, weather-beaten). Use context clues to figure out what they mean.

### Summarize Text *CCSS Literature 2*

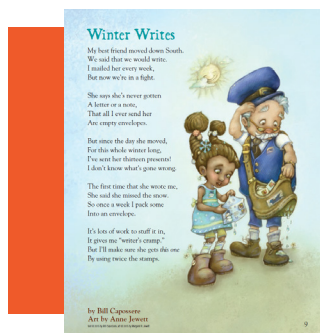
Working in pairs or small groups, summarize the story. Include the beginning, middle, and end of the story.

### Narrative Writing *CCSS Writing 3*

Write a story that places you in an environment that is very different from the one you live in. Include activities that are based in this new environment.

# ARTICLE: Winter Writes

Magazine page 9, Humorous poem



A girl mails her friend letters every week, but the friend complains she only gets empty envelopes.

## ESSENTIAL QUESTION

**How can authors and illustrators show readers a variety of winter experiences?**

## ELA CONCEPT

Authors can use rhyming words and phrases to give rhythm and meaning to a poem.

## CROSS CURRICULAR EXTENSION

### Research

Research the rules for sending mail via the U.S. Postal System. Could this girl have sent her letters in real life?

## KEY VOCABULARY

**writer's cramp (p. 9)** a cramp in the hand, esp. in the muscles of the thumb and forefinger, that results from a long time of writing

## PREPARE TO READ

Ask students if they ever write letters to friends. Do they get letters in return? Ask them what they'd think if all the the letters from their friends were just empty envelopes.

## CLOSE READING QUESTIONS

- Based on clues in the poem, where might the girl live? Where might her friend live?
- What good advice could you give this girl?
- How is this poem organized? How many stanzas? What is the rhyming pattern? Are there any unusual rhymes?

## COMMON CORE CONNECTIONS

### Reading Fluency *CCSS Foundational Skills 4*

Working in pairs, students choral read the poem two or more times. When comfortable, students take turns reading the poem, as the other student acts out the girl's actions.

### Letter Writing *CCSS Writing 3*

Write a letter to the girl in the poem. Tell her why her gift never made it to her friend. Give her ideas for her next letter.

# ARTICLE: Maillardet's Mysterious Machine

Magazine page 11, Expository Nonfiction



In 1928, a mysterious machine arrived at The Franklin Institute Science Museum, with no instructions. It's now put back together, and it mechanically creates pictures and poems. This article describes the machine and its history.

## ESSENTIAL QUESTION

**How can authors and illustrators show readers a variety of winter experiences?**

## ELA CONCEPT

Authors and illustrators work together to use text, pictures, and captions to provide a reader with different types of information about a nonfiction subject.

## CROSS-CURRICULAR EXTENSION

### Science

Work in teams to design a schematic for a toy or object that could be automated. Explain what each part is, its function, and how it would work.

## KEY VOCABULARY

**curator** (p. 11) a person in charge of a museum or zoo

**patient** (p. 11) putting up with pains or problems calmly or without complaint

**intricate** (p. 11) having many complex parts, angles, or aspects

**ordinary** (p. 12) without special qualities; common

**mechanism** (p. 14) a piece of machinery

## PREPARE TO READ

Share the pictures in the article. Ask students to predict what the pictures and the article are about. Record the predictions and tell students they'll review their predictions after they read the article.

## CLOSE READING QUESTIONS

- On page 11, it says, "Curators at the museum patiently pieced old parts together and set motors in motion." Why did the author use the word *patiently*?
- The last paragraph of the story has the phrase "helped pave the way." What does this mean?
- Compare the information students learned from the article with their predictions.

## COMMON CORE CONNECTIONS

### Research *CCSS Writing 7*

Research what machinists and clockmakers do. Write a paragraph explaining why the skills for these jobs would help someone create an automaton.

### List Reasons *CCSS Writing 1*

Make a list of reasons why crowds visiting the Franklin Museum were captivated by Maillardet's automaton.

### Vocabulary *CCSS informational Text 4*

Search the text for challenging/interesting words. Create an illustrated glossary of the words.

Lexile Score: 640



Nurauq is a girl who lives in Alaska. As she walks to visit her grandmother, an old wolf tries to trick her into giving him some food.

## ESSENTIAL QUESTION

**How can authors and illustrators show readers a variety of winter experiences?**

## ELA CONCEPT

The style of illustrations can support a story's not-of-this-time setting.

## CROSS-CURRICULAR EXTENSION

### Science

What are the characteristics of life in the tundra? What details in this story suggest it takes place in the tundra?

## KEY VOCABULARY

**tundra (p. 15)** a treeless plain that has a permanently frozen layer below the top soil

**mukluk (p. 16)** a soft boot of reindeer skin or sealskin, worn by some Alaskans

**horizon (p. 17)** the line where the earth or sea seems to meet the sky

**muzzle (p. 19)** the nose and jaws of an animal

## PREPARE TO READ

Read the summary to students. Ask them if this makes them think of a story they may know from their childhood (Little Red Riding Hood). Tell them they will compare the two stories later.

## CLOSE READING QUESTIONS

- Using context clues, decide on the meaning of the Native Alaskan words (in italics). Use each word in a new sentence.
- How had Old Wolf's diet changed over the last few months?
- When Nurauq speaks with her grandmother, how does she show that she is a kind girl?
- Compare and contrast Howling Up at the Moon with Little Red Riding Hood.

## COMMON CORE CONNECTIONS

### Understanding Vocabulary *CCSS Literature 4*

List all the tricks Old Wolf uses in the story. Follow each trick with its consequence. Decide if the tricks were effective.

### Character Description *CCSS Literature 3*

The author describes Old Wolf's physical appearance throughout the story. Search the text for these descriptions. Draw a picture of the wolf and label it with the descriptions

### Point of View *CCSS Literature 6*

In pairs or small groups, retell this story from the point of view of either Nurauq or Old Wolf. Share your version with other groups. How do your versions differ?





A boy imagines a trip to Mars.

## ESSENTIAL QUESTION

**How can authors and illustrators show readers a variety of winter experiences?**

## ELA CONCEPT

A poet can use strong verbs to make a poem more interesting.

## CROSS-CURRICULAR EXTENSION

### Art

Reread the poet's description of his experience on Mars. Make a drawing showing details of their experience.

## KEY VOCABULARY

**examine** (p. 20) to look at or check carefully

**palm** (p. 20) the inside of the hand between the fingers and the wrist

**catalogue** (p. 20) to make a list of names, titles, or articles arranged according to a system

**vein** (p. 20) a long narrow opening in rock filled with mineral matter

**parachute** (p. 20) to come down by means of a large device made of strong, thin cloth that opens up like an umbrella

## PREPARE TO READ

Ask students about places they pretend to travel to. Where do they go? Are their trips based on fact, imagination, or both? Tell them they will read a poem about a boy's pretend trip to Mars.

## CLOSE READING QUESTIONS

- Find verbs in the poem that can also be nouns.
- Based on the illustration, what's probably the boy's name?
- Find the poem's rhyming pattern. Do the rhyming pairs follow the same spelling rules?

## COMMON CORE CONNECTIONS

### Writing Narratives *CCSS Writing 3*

Pretend you are the boy in this poem. Write a letter to a friend about your Mars adventures.

### Research *CCSS Writing 7*

Research information about Mars. Compare your findings with the Mars of the poem. What details are accurate? What details come from the poet's imagination?

Lexile Score: 610

**FLYING ON ICE**

By Valerie Hansen  
Art by Elizabeth Stone

**CRAIG WATCHED HIS** sister skate. Riley, and her friend Liz rose up and down the lake on their skates, dipping the other hockey pucks. Their arms looked like other skaters.

When the game was over, the girls skated up to the bench where Craig was sitting. Craig asked Riley what skating felt like.

"It's hard to explain. It feels like I'm flying," she said.

That's all, thought Craig. Flying is something kids do in the air, not something people do on skates. Then he watched Riley go back out on the ice. She skated around and around the edge of the lake with her arms pumping and her feet trailing behind her. Soon she was

going so fast that her arms looked like wings and her feet looked like a tailfeet out. Maybe skating really was like flying.

When Riley set down to take her skates off, Craig said, "I wish I could fly."

Riley asked her skate blades and stretched out to Craig. "Come on my back," she said, and Craig did. Riley started skating, but Craig didn't feel like he was flying. It just felt like a wobbly piggy-back ride.

"You're too heavy," Riley said. "I can't go that slow. You're slowing me." She skated slowly back to the bench. Craig got off her back.

"Even if you could go fast, I wouldn't be flying," he said and took a long shiver off.



12  
13

When Craig sees his big sister Riley ice skate, he wants to skate, too. But when he tries, he doesn't fly on the ice like she does. With her friend helping, Riley helps him feel like he's flying.

**ESSENTIAL QUESTION**

How can authors and illustrators show readers a variety of winter experiences?

**ELA CONCEPT**

Authors can use both dialog and actions to show the relationships between characters.

**CROSS-CURRICULAR EXTENSION**

**Science**

Hypothesize reasons why ice is slippery. Then, watch the video link given in Online Resources and re-create the experiment with pressure to reduce ice's melting point.

**KEY VOCABULARY**

**dodge (p. 22)** to avoid something by moving quickly aside or changing direction

**blade (p. 22)** the runner of an ice skate; the skate part that glides across the ice

**crouch (p. 23)** to stoop or bend low with the arms and legs close to the body

**puck (p. 24)** a rubber disk used in ice hockey

**PREPARE TO READ**

Show students pictures of skates, a chair, a hockey stick, a puck, and two orange cones. Ask students how these things are all related. Tell them the story uses all of them.

**CLOSE READING QUESTIONS**

- On page 22, Craig thinks his sister's skate blades, arms, and scarf each look like something else. What does he think they look like?
- Why do Riley and Liz need the cones?
- What are the reasons Craig is dissatisfied with his skating?
- How would you describe Riley's relationship with Craig?

**COMMON CORE CONNECTIONS**

**Understanding Verbs** *CCSS Language 1*

Search the text for verbs. Use context clues and a dictionary (if needed) to understand their meanings. Act out the words for classmates. Can they guess the verbs?

**Character Experiences** *CCSS Literature 3*

List all Craig's experiences with skating. Predict what his next experience will be. On what do you base your prediction?

**Summarizing** *CCSS Literature 2*

Work with a partner to summarize the story. When and where does the story take place? Who are the characters? What is the main problem? How do they solve the problem?

# ARTICLE: How to Snurf and Ski-Doo

Magazine page 27, Expository Nonfiction



Snowmobiles have been around since the early 1900s, while snowboards were developed in the 1960s. This article covers the interesting history of these popular winter activities.

## ESSENTIAL QUESTION

**How can authors and illustrators show readers a variety of winter experiences?**

## ELA CONCEPT

Authors and illustrators work together to use text, pictures, and captions to provide a reader with different types of information about a nonfiction subject.

## CROSS CURRICULAR EXTENSION

### Math

Research ski-mountains where people snowboard. Create a bar graph comparing the height of those mountains.

## KEY VOCABULARY

**organize** (p. 27) to set in order; arrange in a particular way

**laminated** (p. 28) made up of layers pressed together

**infection** (p. 29) an illness caused by germs

**professional** (p. 30) doing a job as a way of earning money

**mechanic** (p. 30) a person whose job is to make and repair tools, machines, and motors

## PREPARE TO READ

Ask students what they know about inventions that allow people to move easily on the snow. Show them pictures of a snowboard and a snowmobile. Tell them they will learn more with this article.

## CLOSE READING QUESTIONS

- What are names for snowboards used in the article? Why are most of these names no longer used?
- What skills did Bombardier have as an adult that helped him succeed in making his Ski-Doo®?
- What is the main purpose of the picture captions in this article?

## COMMON CORE CONNECTIONS

### Key Ideas and Details *CCSS Info Text 2*

Create a table showing the people mentioned in this article and their contributions.

### Research *CCSS Writing 7*

Research one or more famous snowboarders. Gather information such as: When did they start? How did they develop their skills? What makes them famous?

### Opinion Writing *CCSS Writing 1*

Form an opinion on whether skateboarding or snowmobiling is more fun. Support your opinion with convincing reasons.

## CROSS-TEXT CONNECTIONS WITH MULTIPLE TEXTS

### COMPARE TEXTS

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

- Form a response to the essential question: Winter can be enjoyed both outside and inside. How can authors and illustrators show readers a variety of winter experiences? Use information from multiple articles.
- Find texts in which the characters are family and/or friends. Compare and contrast: How do the characters interact? How do they help each other? How do they talk to each other? Do you use the text, the illustrations, or both to answer the questions?
- Find texts that feature winter cold and/or snow. Compare and contrast: How important is cold and snow to the story, poem, or article? How do the text and illustrations show that cold and snow can be fun?
- Reread “Doodlebug & Dandelion,” “Maillardet’s Mysterious Machine,” and “Space Dreams.” Each is at least partly set inside, away from winter’s cold and snow. What inside activities do they show that could make winter fun?
- Compare and contrast the two nonfiction articles. What is the main idea of each? How does the author support the main idea? How does the illustrator support the main idea? Why are each appropriate for a winter issue of Spider?



## EXPLORATORY LEARNING - FLEXIBLE MINI-UNIT DESIGN

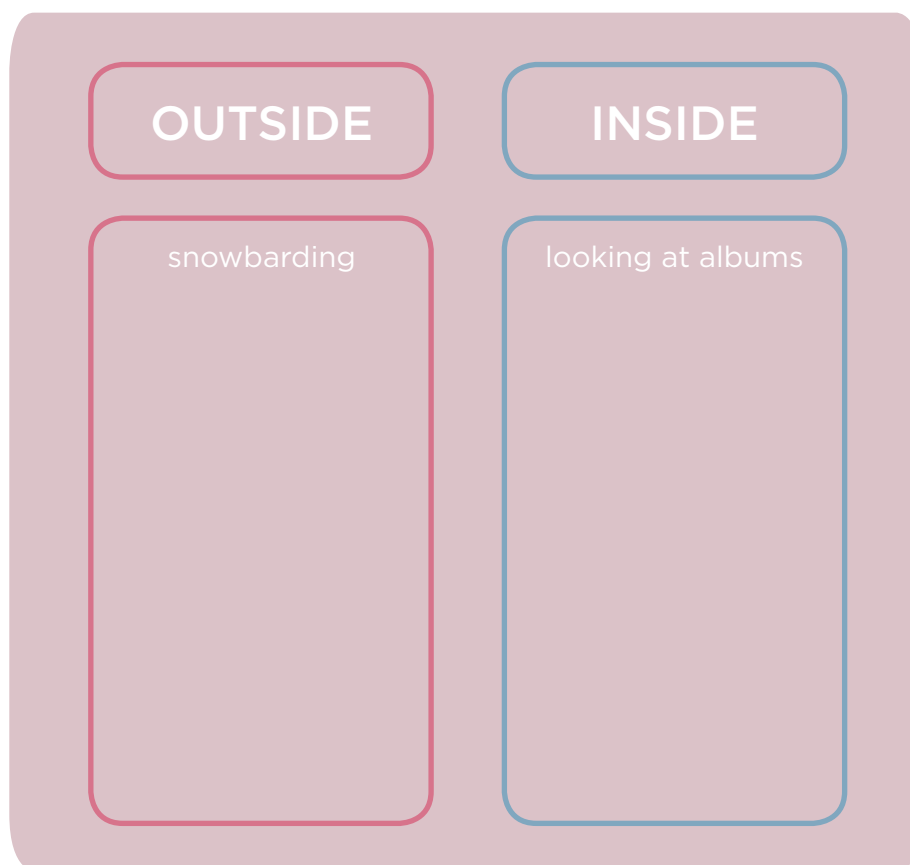
Winter offers opportunities for fun, both outside and inside. Authors and illustrators work together to show the benefits of both types of activities.

ENGAGE

READ AND COMPARE

APPLY

**ENGAGE:** This issue of Spider Magazine shows both outside and inside winter activities. It's likely many of your students have strong opinions as to which type is best. As students read the magazine, have them be alert for fun activities. Create an idea or concept map to tap into their background knowledge. Begin with a chart like the one below. Add student observations and personal knowledge. Add new observations/knowledge as the class explores this unit.



Share the essential question:

**How can authors and illustrators show readers a variety of winter experiences?**

**READ AND COMPARE ARTICLES:** Begin with a focus text as a base for building content knowledge and model how to work through the text.

**1) READ ALOUD:** Use Doodlebug & Dandelion: A Winter Miracle on pages 4-8 as a focus article, or choose a different article that works well for your teaching goals. Share the article summary on page 4 of this guide. Students can read using their own copies of the article and sticky notes to mark places they find interesting or have questions about.

**2) DISCUSS THE TEXT:** After reading, guide students to turn and talk about the article. See the Article Pages for Close Reading Questions.

**3) READ NEW TEXTS:** Help students choose additional articles to read based on their inquiry questions or what they wonder. Refer to the Article Pages for summaries of each article within *Spider January 2016*.

**4) COMPARE TEXTS:** After students have read multiple articles, guide them to make cross-text connections. Refer to page 20 for Cross-Text Comparisons using prompts that help students integrate ideas and information.”

### CHOOSE A PURPOSE FOR READING

**CLOSE READ:** *CCSS Literature and Informational Text 1, 2, and 3* Read carefully to find ways authors and illustrators show readers a variety of winter experiences.

**COMPARE AND CONTRAST:** *CCSS Reading 9* As students read sets of texts and examine the text and illustrations, they discover how authors and illustrators use various tools to build interest and understanding.

## APPLY: TIME TO DEBATE

Winter offers a range of activities for both inside and outside. Students often have a preference for one or the other. Have students make a choice, work in a team to support their opinion, and defend their choice in lively debates.

### SUPPLIES

Copies of *Spider January 2016*

### STEP 1

Students choose one of the following opinions:

- The best winter fun happens outside
- The best winter fun happens inside.

Create 2, 4, 6, or 8 groups, (grouped by preference), depending on class size and your preference as to group size.

Instruct groups to choose articles from the *Spider* issue that will help them support their group's opinion.

Groups can refer to the class *Outside/Inside Mind Map* and copy any information that will help them fill out their *Debate Team Graphic Organizer*.

### STEP 2

Students discuss and record their arguments (based on information from *Spider* and their own experiences) on their *Debate Team Graphic Organizer*.

Students practice arguing their points, deciding who will make which points in the debate.

### STEP 3

Time to debate!

As a class, decide on debate rules, such as:

- No insults
- Only one student speaks at a time
- Teams take turns when making points
- Students watching the debates maintain silence

Gather student groups into larger groups with both opinions represented. Since some teams will be defending the same opinion, one more rule may be helpful: teams can only argue the points listed on their *Debate Team Graphic Organizer*. They may not use arguments given by other teams.

### STEP 4

Conduct a class discussion. How did teams think they did? Did any students decide to change their opinions, based on the arguments they heard? Was this a fun activity?

Option: Plan a Winter Activity Day!

# TEAM MEMBERS

## Mini-Unit Graphic Organizer

### Debate Team Graphic Organizer

**TEAM OPINION** (circle one)

- The best winter fun happens outside.
- The best winter fun happens inside.

**SUPPORTING REASONS FROM SPIDER**

| Text | Supporting Reason |
|------|-------------------|
|      |                   |
|      |                   |
|      |                   |
|      |                   |
|      |                   |
|      |                   |
|      |                   |
|      |                   |
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**SUPPORTING REASONS FROM STUDENTS**

| Text | Supporting Reason |
|------|-------------------|
|      |                   |
|      |                   |
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|      |                   |
|      |                   |
|      |                   |
|      |                   |
|      |                   |
|      |                   |
|      |                   |



NAME: \_\_\_\_\_

### ANALYZE GRAPHIC FEATURES

| GRAPHIC FEATURE | PAGE LOCATION | HOW THIS FEATURE HELPED YOUR UNDERSTANDING |
|-----------------|---------------|--|
|                 |               |  |
|                 |               |  |
|                 |               |  |
|                 |               |  |
|                 |               |  |

NAME: \_\_\_\_\_

### CONCEPT CHART

Show how reading multiple articles developed your understanding of the essential question or or your own inquiry question.

ESSENTIAL QUESTION OR INQUIRY QUESTION:

| ARTICLE 1: | ARTICLE 2: | ARTICLE 3: |
|------------|------------|------------|
|            |            |            |

**blade** the runner of an ice skate; the skate part that glides across the ice

*Their skate **blades** looked like silver smoke. (p. 22)*

**camouflage** the hiding or disguising of something by covering it up or changing the way it looks

*Everyone oohed and ahed when they found the **camouflaged** foxes hidden in the picture. (p. 6)*

**catalogue** to make a list of names, titles, or articles arranged according to a system

*I **catalogue** craters, volcanoes, and plains, I sketch dried up valleys with dark, grainy veins. (p. 20)*

**commotion** noisy excitement and confusion

*Mrs. Pinkley threw more logs on the fire, and they were all feeling drowsy—until a sudden backyard **commotion** roused them. (p. 7)*

**contraption** a strange or complicated device or machine

*The **contraption** was blowing out unbelievably real snow by the bucketload. (p. 8)*

**crouch** to stoop or bend low with the arms and legs close to the body

*Riley retied her skate laces and **crouched** next to Craig. (p. 23)*

**curator** a person in charge of a museum or zoo

***Curators** at the museum patiently pieced old parts together and set motors in motion. (p. 11)*

**dodge** to avoid something by moving quickly aside or changing direction

*Craig watched his older sister, Riley, and her friend Liz race up and down the lake on their skates, **dodging** the other hockey players. (p. 22)*

**endure** to bear patiently

*“What a storm we **endured!**...” (p. 5)*

**examine** to look at or check carefully

*I land in red dust and I sift through the sand, **examine** strange rocks in the palm of my hand. (p. 20)*

**horizon** the line where the earth or sea seems to meet the sky

*On the **horizon**, the moon began to show like the edge of a white clam shell. (p. 17)*

**infection** an illness caused by germs

*His son had an **infection** and needed a doctor. (p. 29)*

**intricate** having many complex parts, angles, or aspects

*With amazing life-like movements, he drew **intricate** pictures. (p. 11)*

**laminated** made up of layers pressed together

*He settled on **laminated** hardwood, similar to what skateboards are made of. (p. 28)*

**mechanic** a person whose job is to make and repair tools, machines, and motors

*Now that Joseph-Armand was a professional **mechanic**, he went on to invent several large snow vehicles. (p. 30)*

**mechanism** the whole or parts of a machine, mechanical system, or device

*That way visitors can see the inner **mechanisms** that make him come to life. (p. 14)*

**mukluk** a soft boot of reindeer skin or sealskin, worn by some Alaskans

*“Well then, at least let me carry you across the river on my back so your **mukluks** don’t get wet.” (p. 16)*

**muzzle** the nose and jaws of an animal

*She noticed the shiny eel oil around Old Wolf’s **muzzle**. (p. 19)*

**obedient** willing to obey

*“...And that darned dog team was less **obedient** than Don’t!” (p. 5)*

**ordinary** without special qualities; common

*This was no **ordinary** machine. (p. 12)*



**organize** to set in order; arrange in a particular way

*Then people started **organizing** snurfing competitions, and fans came from all over to watch. (p. 27)*

**palm** the inside of the hand between the fingers and the wrist

*I land in red dust and I sift through the sand, examine strange rocks in the **palm** of my hand. (p. 20)*

**parachute** to come down by means of a large device made of strong, thin cloth that opens up like an umbrella

*I photograph deserts and Mars's two moons, then **parachute** perfectly back to my room. (p. 20)*

**patient** putting up with pains or problems calmly or without complaint

*Curators at the museum **patiently** pieced old parts together and set motors in motion. (p. 11)*

**professional** doing a job as a way of earning money

*Now that Joseph-Armand was a **professional** mechanic, he went on to invent several large snow vehicles. (p. 30)*

**puck** a rubber disk used in ice hockey

*Then they set up the cones and practiced passing the **puck** to each other and shooting goals. (p. 24)*

**tundra** a treeless plain that has a permanently frozen layer below the top soil

*He no longer moved fast enough to catch juicy mice and tender young geese on the **tundra**. (p. 15)*

**vein** a long narrow opening in rock filled with mineral matter

*I catalogue craters, volcanoes, and plains, I sketch dried up valleys with dark, grainy **veins**. (p. 20)*

**writer's cramp** a cramp in the hand, esp. in the muscles of the thumb and forefinger, that results from a long time of writing

*It's lots of work to stuff it in, It gives me "**writer's cramp**." (p. 9)*



### **“Doodlebug & Dandelion”**

- <http://web.archive.org/web/20001216182500/http://teelfamily.com/activities/snow/science.html>

Explore six science activities featuring snow.

### **Winter Writes**

- <http://writeshop.com/writing-prompts-letter-writing-fun/>

Inspire students with four fun writing prompts for writing letters!

### **Maillardet’s Mysterious Machine**

- <http://thekidshouldseethis.com/post/66776365139>

Watch a video about a 240-year-old automaton created in the late 1700’s

### **Howling Up at the Moon**

- <http://www.timeforkids.com/destination/alaska>

Explore Alaska on this website from Time for Kids.

### **Space Dreams**

- <http://mars.nasa.gov/participate/funzone/>

This website provides links to many games and virtual explorations of NASA missions to Mars.

### **Flying on Ice**

- <http://video.nationalgeographic.com/video/i-didnt-know-that/idkt-ice-skating-science>

Watch a video about why ice is slippery!

- <http://everydaylife.globalpost.com/fun-kids-ice-skating-11556.html>

This article provides fun facts about skates and skating.

### **How to Snurf and Ski-Doo**

- [http://kidshealth.org/parent/firstaid\\_safe/outdoor/safety\\_snowboarding.html](http://kidshealth.org/parent/firstaid_safe/outdoor/safety_snowboarding.html)

This article describes why safety is important and lists several safety tips.

