

click®

Brr!

Mittens are mandatory! This issue of *Click* brings young readers on an adventure into frigid polar regions. They will learn how wildlife, humans, and machines must adapt to face the challenge of surviving in such harsh climates.

CONVERSATION QUESTION

How do cold temperatures affect the daily life of people, plants, and animals?

TEACHING OBJECTIVES

- Students will learn how special vehicles are needed to navigate the landscape of Antarctica.
- Students will learn how animals stay warm in icy weather.
- Students will learn what changes occur when Spring comes to the Arctic.
- Students will construct explanations based on an informational text.
- Students will obtain information from a nonfiction text.
- Students will examine cause-and-effect relationships.
- Students will explore how climate affects the dynamics of a culture.
- Students will research the opposing aspect of how animals adapt to stay cool in hot temperatures.
- Students will use vocabulary from the article to study prefixes.



In addition to supplemental materials focused on core STEM skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

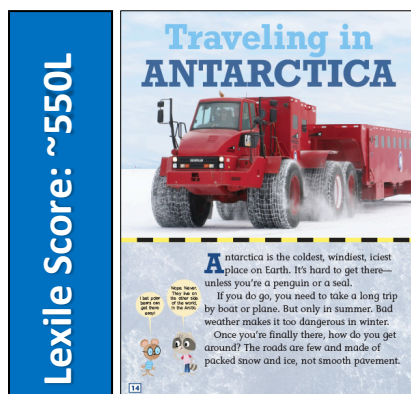
SELECTIONS

- **Traveling in Antarctica**
Expository Nonfiction, ~550L
- **Keeping Warm**
Expository Nonfiction, ~1050L
- **Spring in the Arctic**
Expository Nonfiction, ~650L

Traveling in Antarctica

pp. 14–17, Expository Nonfiction

Bundle up and go on a journey through the frozen terrain of Antarctica. Vivid photographs accompany this informational text that educates young readers about the modified vehicles that are needed to cross the icy landscape.



RESOURCES

- Chilly Traveling

OBJECTIVES

- Students will learn how special vehicles are needed to navigate the landscape of Antarctica.
- Students will construct explanations based on an informational text.
- Students will explore how climate affects the dynamics of a culture.

KEY VOCABULARY

- **grippy** (p. 15) able to take a firm hold of, or grab on to a surface
- **packed** (p. 14) pressed down tightly to form a hard surface
- **smooth** (p. 14) flat and even; free from lumps and bumps

ENGAGE

Conversation Question: How do cold temperatures affect the daily life of people, plants, and animals?

Show the class where Antarctica is located on the globe/map. Guide students to notice its distance from the equator and ask them to speculate about the climate. Brainstorm about how daily life would be different living in such a region. List responses on the board and introduce the title of the article. If travel was not listed on the board, ask the children to consider what accommodations would be necessary in this respect.

INTRODUCE VOCABULARY

Post and discuss the vocabulary terms with the class. Guide them to notice that all of the words are adjectives. Reveal the title, “Traveling in Antarctica” and ask students which key word could best describe snow (*packed*), tires (*grippy*), and a roadway (*smooth*).

READ & DISCUSS

Read aloud the questions before reading the article to activate prior knowledge. Read “Traveling in Antarctica,” facilitate conversation, and encourage students to use the vocabulary words when answering the questions.

- Why is traveling in Antarctica so difficult?
- Explain how special vehicles are necessary to cross the frozen land.
- How can tracks be more useful than tires in Antarctica?
- Why are most vehicles in Antarctica red?

CONCEPT/SKILL FOCUS: Construct Explanations

INSTRUCT: Advise students to review the article and to study the variety of trucks that are used to navigate the landscape of Antarctica.

Distribute the graphic organizer, *Chilly Traveling*, and instruct the class to locate each vehicle listed on the chart and to explain why they are helpful to people traveling across this frigid region. They will use information directly from the text to complete the organizer.

ASSESS: Collect and analyze the *Chilly Traveling* worksheet to further evaluate the students’ ability to construct explanations from the text. Consider peer remediation if clarification is necessary.

EXTEND

Social Studies This article discusses only one aspect of living in such a frigid climate (travel). Divide the students into small groups and have them use books/internet to examine other parts of the culture that are affected by the cold temperatures and harsh weather. (Food, clothing, activities, etc.) Have them create posters depicting this information and provide the opportunity for each group to share their work.

Chilly Traveling

Use information from the article to list the special features of each truck.

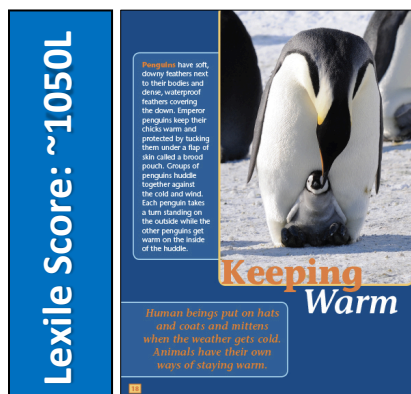
Vehicle	How does it make travel in Antarctica possible?
Snowmobile	
Ivan the Terra Bus	
Delta truck	
Kress	
Hagglund	

***Use the back of this paper to draw one of the trucks listed above. Hint: Be sure to color it **RED**!*

Keeping Warm

pp. 18–20, Keeping Warm

Huddle together and learn how animals stay warm in frigid temperatures. Explore the special features and strategies utilized by the animal kingdom to survive in the ice and snow.



RESOURCES

- Winter Warm-Up

OBJECTIVES

- Students will learn how animals stay warm in icy weather.
- Students will obtain information from a nonfiction text.
- Students will research the opposing aspect of how animals adapt to stay cool in hot temperatures.

KEY VOCABULARY

- **blubber** (p. 19) the fat of sea mammals
- **brood** (p. 18) a family of young animals (esp. birds) produced at one hatching or birth
- **dense** (p. 18) crowded closely together
- **fringed** (p. 20) having a natural border of hair or fiber

ENGAGE

Conversation Question: How do cold temperatures affect the daily life of people, plants, and animals?

Now that it is winter in our part of the world, ask children how they adapt to keep themselves warm. Guide the discussion toward clothing, strategies, activities, etc. Display the title of the article, “Keeping Warm,” and reveal to students that the article will focus on strategies and special features that wildlife rely on to stay warm in frigid climates.

INTRODUCE VOCABULARY

Have students locate the sentences in the article that contain the key vocabulary terms. Elicit meanings from the students, then post the given definitions on the board. Instruct the students to create illustrations (nonlinguistic) depicting the meanings of the words.

READ & DISCUSS

Divide the class into four groups and assign each a different question to answer. Have them reteach the information to the class in their own words using information from the article, as well as their drawings from the vocabulary activity.

- How do Emperor penguins keep their chicks warm?
- How do mother Eider ducks line their nests?
- Why don't ptarmigan feet freeze to the ice?
- What keeps the feet of caribou from sinking into the snow?

CONCEPT/SKILL FOCUS: Obtaining Information

INSTRUCT: Review how the various animals discussed in the article have different features and strategies for staying warm. Distribute the graphic organizer, *Winter Warm-Up*, and explain to the students that they will “show & tell” how each animal listed is able to brave the cold using words and pictures. Encourage the children to revisit text and graphics to obtain the required information.

ASSESS: Circulate and guide conversations toward locating relevant information in the article. Foster peer assistance. Collect and review graphic organizers to further evaluate understanding.

EXTEND

Science Introduce the class to the term “zoologist” and inform them that this type of scientist studies animals, ecosystems, evolution, and the environment in relation to the animal kingdom. Deem the students Junior Zoologists and delegate them the task of studying the opposing aspect of animal adaptations . . . how animals stay COOL in hot temperatures. Assign students different animals to investigate, or let them choose their own. Have them complete brief research and produce a written page (with graphics) that can be incorporated into a class book for the science center.

Winter Warm-Up

Reread the article, "Keeping Warm." Use words and pictures (show & tell) to explain how each animal stays warm in the cold weather.

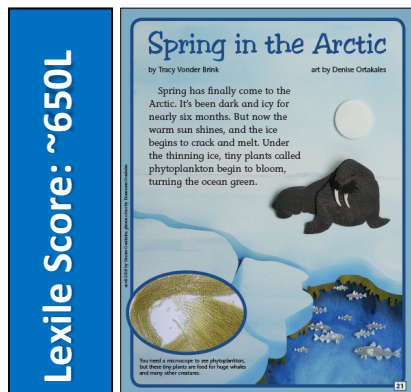
ANIMAL	SHOW (Use pictures)	TELL (Use words)
penguin		
ptarmigan		
walrus		
caribou		
polar bear		

Spring in the Arctic

pp. 21–25, Expository Nonfiction

Melting ice and plant growth signal the beginning of Springtime in the Arctic.

Young readers will discover how long, bright days breathe new life into this polar region.



RESOURCES

- Polar Awakenings

OBJECTIVES

- Students will learn what changes occur when Spring comes to the Arctic.
- Students will examine cause-and-effect relationships.
- Students will use vocabulary from the article to study prefixes.

KEY VOCABULARY

- **antifreeze (p. 22)** a liquid additive used to lower the freezing point of another liquid
- **phytoplankton (p. 21)** tiny plants that are food for huge whales and other creatures
- **plentiful (p. 23)** more than enough of something; a rich supply

ENGAGE

Conversation Question: How do cold temperatures affect the daily life of people, plants, and animals?

Have the students fold a piece of paper into four sections and ask them to label each section with a season heading. (Winter, Spring, Summer, Autumn) Instruct them to use words and/or pictures to describe each season and the changes that occur as we move through the months.

INTRODUCE VOCABULARY

Post and discuss the key terms with their definitions. Guide the students to make connections, specifically to notice the prefixes *phyto* (plant-related) and *anti* (against) and the root word *plenty*. Review with the class how knowing parts of words can help to decipher the meanings of unknown words.

READ & DISCUSS

Reinforce the facts presented in the article by using the following prompts to direct discussion.

- What plants and animals are food for hungry sea animals?
- Why does a male hooded seal have a pouch in its nose?
- How does the melting ice make it easier for polar bears to hunt?

CONCEPT/SKILL FOCUS: Cause and Effect

INSTRUCT: Review with the class that the main idea of this article is to study the changes that occur as Spring comes to the Arctic. Discuss how the change in temperature is a catalyst for a variety of shifts that occur in nature. Introduce the graphic organizer, *Polar Awakenings*, and advise the students that they will be recording the cause-and-effect relationships that are detailed throughout the text. Circulate and provide clarification if necessary.

ASSESS: Evaluate the students' work on the graphic organizer. Arrange peer groups to provide scaffolding.

EXTEND

Language Arts Revisit the key terms from the vocabulary activity. Use the prefixes from this article (*anti*, *phyto*) or any other article and prefixes in this month's issue of CLICK to launch an ELA lesson studying the parts of words. Have the students define the prefix and then list at least three other words that utilize these word beginnings. Instruct them to define the complete word and to create illustrations for the words that they have selected. Allow time for the "word wizards" to share their new words!

Polar Awakenings

Use information from the article, “Spring in the Arctic,” to record the changes that happen as the season changes.



Spring in
the Arctic