SUMMARY A Gemstones Around the World describes the 12 gemstones that serve as traditional birthstones. This nonfiction reader includes pictures of each gem, descriptions of its qualities, and details about where the gem is found in the world.

LESSON VOCABULARY
- birthstone
- brilliant
- crystal
- flaws
- minerals
- mined
- quartz
- rockhounds
- transparent

INTRODUCE THE BOOK
INTRODUCE THE TITLE AND AUTHOR Discuss with students the title and the author of Gemstones Around the World. Ask students if they recognize the stone in the cover photograph. (diamond) Point out the content triangle, and talk about why a book featuring diamonds would relate to science.

BUILD BACKGROUND Put the word gem at the center of a content web. Invite students to suggest all the words that come to mind when they think of the word gem. Suggest that they think not only about the finished product, but where gems come from. Then tell students that the selection they are about to read will describe some well-known gems.

PREVIEW/USE TEXT FEATURES Have students look through the pictures, charts, and map in the book. Ask what students expect to learn from the book about gems. (information about the twelve birthstones that belong to each month, where the birthstones are found, how they are formed)

ELL Invite ELL students to talk about gems that are found in their home countries or are important to their families’ cultures. Have volunteers describe the gems and why they are considered special or valuable to their families and friends.

READ THE BOOK
SET PURPOSE Use the Prior Knowledge activity to guide students to set a purpose for reading. Remind students to think about what they would like to know about gems and birthstones. Then have them choose what they would most like to learn, and invite them to read to find out more about this topic.

STRATEGY SUPPORT: INFERRING Before reading, discuss with students what they know about gemstones. Ask them what they think they will learn from reading this selection. Remind students that it is important to combine what they know with what they read to create new information and better understand the text.

COMPREHENSION QUESTIONS
PAGE 4 What is the effect of cutting and polishing gemstones? (makes them sparkle and shine)

PAGES 6–7 Make a generalization about where gemstones are found. (Possible response: Many gemstones are found in the southern part of Africa.)

PAGE 11 What prior knowledge helped you understand the information on this page? (Possible response: I know what a diamond looks like, so I could imagine how hard it is.)

PAGE 14 Why do you think there is a picture of the British Crown Jewels on this page? (Possible response: The page is about rubies, so there are probably rubies in the Crown Jewels.)

PAGE 19 What generalization does the author make on this page? (Most of the blue topaz that we see today has been treated with light.)
REVISIT THE BOOK

READER RESPONSE
1. Response will vary but should include facts and opinions.
2. Responses will vary but should show use of background knowledge and understanding of text.
3. Possible responses: My grandmother wore her stunning birthstone ring to the opera. The rockhound searched for shiny, green emeralds in North Carolina.
4. Africa and Asia

EXTEND UNDERSTANDING
Have students analyze the structure of the sections in pages 8–19 to identify how each section is set up. Elicit that each section consists of a photograph of the gemstone, its name and related month, textual discussion of the gemstone that identifies where it is found, and another photograph that highlights an interesting fact about the gemstone.

RESPONSE OPTIONS
VIEWING Show students images of some of the precious gems at the Smithsonian Museum of Natural History, including the Hope Diamond and the British Crown jewels. Have students write brief paragraphs describing which gems are their favorites and why.

SCIENCE CONNECTION
Explain to students that geologists are people who study the physical nature of the earth and rocks. Tell students to imagine that they are geologists. Have each student choose a gem described in the text, such as their birthstone, and find out how their gem is formed.

Skill Work
TEACH/REVIEW VOCABULARY
Read through the Glossary with students. Have each student find a picture of his or her birthstone in the reader. Ask students to use the pictures and the vocabulary words to write paragraphs describing their stones.

TARGET SKILL AND STRATEGY
FACT AND OPINION Tell students that a statement of fact is a statement that can be proven true or false; a statement of opinion is someone’s viewpoint. Explain that facts can be proven true or false by checking in books; by observing, weighing, or measuring; or by consulting an expert. Invite students to think of a statement of fact or a statement of opinion to share with the class. Ask the class to decide if the statement is a fact or opinion.

INFERRING Tell students that inferring is combining background knowledge with what they have read to create new information. Ask: What do you know about gemstones? What did you read about gemstones? What new ideas did this lead to?

ADDITIONAL SKILL INSTRUCTION
CAUSE AND EFFECT Review with students that an effect is what happens and a cause is why that event happens. To figure out the cause of something, a reader may have to ask questions such as “Why did this probably happen?” Have students think about the qualities of the gems described in the book, and tell them to suggest what caused these gemstones to be assigned as birthstones.
Fact and Opinion

When you read nonfiction, you will read some sentences that contain statements of fact and others that contain statements of opinion. Facts can be proved true or false. Opinions are statements of ideas and feelings. They cannot be proved.

Directions Read the following sentences from Gemstones Around the World. Write whether each one is a fact or an opinion, and explain why.

1. A birthstone is a gem that has been assigned to a certain month.

2. Gemstones are like snowflakes because no two are the same.

3. Brilliant cut sapphire is much more appealing than a pear cut garnet.

4. Blue topaz is only found in Asia.

5. The best miners are ants because they bring anthill garnets to the surface of an anthill.


7. Colorless diamonds can split light into the colors of the rainbow.

8. Rockhounds from North Carolina have an exciting hobby!

9. Pieces of peridot have been found in meteors that have crashed into Earth!

10. The Roebling Opal is one of the world’s largest opals.
Vocabulary

Directions: Use eight words from the box to complete the puzzle below.

Check the Words You Know

____birthstone  ____brilliant  ____crystal  ____flaws
____mined  ____minerals  ____quartz  ____rockhounds
____transparent

Across:
2. very bright and shiny
4. defects or blemishes
5. the nickname given to people who hunt, dig, and collect rocks and gems
6. a gemstone associated with one of the twelve months of the year
7. a very hard mineral found in many different types of rock

Down:
1. a hard, solid piece of some substance that is naturally formed of flat surfaces and angles
3. allowing light to pass through
8. dug up from under the ground