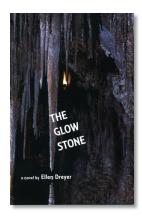
TEACHER'S GUIDE



The Glow Stone

Written by Ellen Dreyer

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Ages 12–16 | Realistic Fiction AR • F&P • GRL Z; Gr 7+

ABOUT THE BOOK

Fifteen-year-old Phoebe Bernstein (aka Spider) has been collecting rocks since she was a child. She keeps her prized specimens in a musty underground garage, stored in the drawers of an old desk that was a gift from her beloved uncle, Bradford.

But Bradford's sudden death triggers a chain of events that threaten to overwhelm Spider and her family. As her grieving mother descends into depression, her older sister remains remote and her father strangely silent. The pressure grows even worse when Spider unwittingly discovers a disturbing family secret. On the weekend of Bradford's tombstone unveiling, Spider tries to briefly escape—and becomes hopelessly lost while exploring a labyrinth of caves. In the utter blackness, she hears a strangely familiar voice beckoning her deeper into the mysterious but oddly welcoming underground world. Soon she will learn the truth about what happened to Uncle Bradford…but will she ever find her way out of the darkness?

Ellen Dreyer has written a dramatic, page-turning adventure that explores the unbreakable bonds that hold families together, even after death.

THEMES

Caving | Rocks / Geology | Family bonds | Depression Jewish traditions | Secrets | Death and suicide Self-acceptance | Hobbies / collecting

BACKGROUND FOR THE TEACHER*

In geology and related fields, we study Earth's history through the record of past events that is preserved in rocks. The layers of rocks are like the pages in a history book. Stratigraphy deals with all the characteristics of layered rocks and includes the study of how these rocks relate to time.

A **stratum** (plural is strata) is a layer of rock or soil with internally consistent characteristics that distinguish it from contiguous layers. Each layer is generally one of a number of parallel layers that lie one upon another, laid down by natural forces. They may extend over hundreds of thousands of square kilometers of the Earth's surface. Strata are typically seen as bands of different colored or differently structured material exposed in cliffs, road cuts, quarries, and river banks. Individual bands may vary in thickness from a few millimeters to a kilometer or more. Each band represents a specific mode of deposition—river silt, beach sand, coal swamp, sand dune, lava bed, etc.

Most of the rocks exposed at the surface of Earth are **sedimentary**—formed from particles of older rocks that have been broken apart by water or wind. The gravel, sand, and mud settle to the bottom of rivers, lakes, and oceans. These sedimentary particles may bury living and dead animals and plants on the lake or sea bottom. With the passage of time and the accumulation of more particles, and often with chemical changes, the sediments at the bottom of the pile become rock. Gravel becomes a rock called conglomerate, sand becomes sandstone, mud becomes mudstone or shale, and the animal skeletons and plant pieces can become fossils.

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As early as the mid-1600s, the Danish scientist Nicholas Steno studied the relative positions of sedimentary rocks. He found that solid particles settle from a fluid according to their relative weight or size. The largest, or heaviest, settle first, and the smallest, or lightest, settle last. Slight changes in particle size or composition result in the formation of layers, also called beds, in the rock. Layering, or bedding, is the most obvious feature of sedimentary rocks.

Classes of rocks:

Unlike minerals, rocks don't have crystals or chemical formulas, but instead have textures and mineral compositions. On this basis, rocks are divided into three classes that correspond to three environments: **igneous** rocks come from a hot melt, **sedimentary** rocks from slow accumulation and burial of sediment, and **metamorphic** rocks from altering other rocks by heat and pressure. This classification points to an active Earth that circulates minerals through the three rock classes, on the surface and underground, in what is called the **rock cycle**.

Rocks are important as ores and economic sources of useful minerals. Coal is a rock that is a source of energy. Other rock types are useful as building stone, crushed stone, and raw material for concrete. Still others serve for tool making, from the stone knives of our pre-human ancestors to the chalk used by artists today. All of these, too, are considered mineral resources.

Rock Names by Class:

Igneous	Sedimentary	Metamorphic
granite	limestone	marble
basalt	sandstone	gneiss
diabase	shale (clay)	quartzite
diorite	breccia	schist
gabbro	conglomerate	hornfels
obsidian	mudstone	slate
pumice	graywacke (sand)	anthracite (coal)
rhyolite	lignite (coal)	phyllite

*The following websites were used in the preparation of "Background for the Teacher."

http://pubs.usgs.gov/gip/fossils/rocks-layers.html http://en.wikipedia.org/wiki/Stratum http://geology.about.com/od/nutshells/a/whatisgeology.htm http://www.backyardnature.net/g/rocks.htm

BEFORE YOU READ

Have students look at the title and jacket cover. Ask them to share their ideas of what the story might be about. Have students read the section called "Formation." Have their initial ideas and projections about the story changed, and if so, how? Ask them to discuss places they might go to be away from everyone else. Ask students if they have ever collected any specific items. Have them share their collection with their peers, explaining what they collected, why they chose those items to collect, and where they stored their collection.

AS YOU READ

The following questions can be used to foster discussions about the book. Always discuss the previous chapter before moving on.

- Conglomerate. Why was Phoebe drawn to the old garage? What did Phoebe discover in the garage, and how did this discovery impact her as a teenager? What conclusions can you draw about Phoebe's relationship with her uncle, Bradford, and her relationship with her mother?
- First Stratum (Chapters 1–5). What was one of Phoebe's home responsibilities? What might be wrong with Phoebe's mother? How would you describe Phoebe's relationship with her sister, Annelise? What did Phoebe find that caused her to question her uncle's death? Why did she hide it? What discovery did Phoebe make about her mother, and how did she make it? Describe Phoebe's feelings toward her rock and mineral specimens. How is this reflected in the way she studies and cares for them?
- Second Stratum (Chapters 6–8). How would you describe Phoebe's relationship with her Aunt Erica? How is her behavior with her aunt different from her behavior with her parents or her sister? What did Erica reveal to Phoebe about her adventures with Phoebe's mom, Pam, when they were younger? How has Phoebe's demeanor changed when they arrive at her grandparent's home? What was the significance of the "gremlin closet" at this point in the story? What did Phoebe place on top of Bradford's headstone, and why was this significant? Describe Pam's behavior and demeanor.
- Third Stratum (Chapters 9–13). What did Phoebe accuse her aunt of doing while they headed off to go caving? Describe Phoebe's experiences on this journey. What light source was used once they were in the cave? Describe the clothing Phoebe and her aunt wore. Why were they dressed this way? How would you describe the initial caving experience?

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What landmark was used as their exit/entrance location? What happened to Phoebe while waiting for her aunt to return? What are most caves in the Northeast made of? What is a pictograph?

- Fourth Stratum (Chapters 14–17). How did Phoebe use the biotite gneiss when she became lost in the cave? Why do you think it was important for Phoebe to connect with Uncle Bradford in the cave? Bradford told Phoebe to use a compass to find her way out of the cave. What was he referring to? While in the cave, what did Phoebe learn about Bradford and about the connection to Uncle Eli?
- Fifth Stratum (Chapters 18–22). What significant physical milestone did Phoebe discover while in the hospital after her rescue? How did she respond to this? Describe how the family's lies affected everyone in the family. Who caused these problems? Compare and contrast Phoebe and her mom.

AFTER YOU READ

Describe the Bernstein family and their relationships to one another. Discuss each family member individually: Phoebe, Annelise, Mom, Dad, Erica, Grandma, Grandpa, Bradford, and Eli. Discuss what the "glow stone" in the title might mean on several levels. Did the story meet your initial expectations? Why or why not?

CURRICULUM CONNECTIONS

LANGUAGE ARTS

- A diary was one important component of this story.
 Maintain a diary of your own life for a month. Next, write a diary entry as one of the characters in the book during a specific event you enjoyed. Share your entry with your peers.
- Keeping secrets, even when protecting loved ones, may result in more pain. Do you agree or disagree with this statement? Why or why not?
- Dreams and unexplainable happenings are woven throughout the story. Write a brief description of a dream that you have had that seemed real upon waking up. Use this description as a jumping-off point for writing a poem or story.
- Phoebe is an avid rock collector. Identify a hobby that you currently have or one that you'd like to have.
 Research this topic on the web and in books. Prepare a class presentation about it.
- Write a fictional adventure story.
- Write a research paper on a theme from the book.

Topics can include:

- o Rock Collecting
- Geology
- Secrets
- o Suicide (causes and impact)
- Caving/Speleology (information to include: experiences, dangers, use of technology, caving words and terminology)
- Depression (causes and cures, both medical and holistic)
- o Jewish traditions
- Write a creative writing paper. Topics can include:
 - o Self-acceptance
 - Favorite relative
 - o Favorite gift received by a relative
 - o Family ties / bonds

SCIENCE

- Rock collecting is an integral theme in this novel.
 Research all the different types of rocks and minerals referenced in the novel by Phoebe, Bradford, and Erica. Create a rock pamphlet with a picture of each specimen and a description of its characteristics.
- What causes caves to form in nature? Where are they typically found? Research a famous cave from anywhere in the world and write a story about it. Include the location and description (size and depth) of the cave and why it's famous. Include pictures (at least two) in your final project. One picture needs to be hand drawn. Descriptions should be very detailed and clear. A map and interesting information about the area should be included. (This project can be in conjunction with a mathematics project of making a map to scale.)
- Phoebe is interested in how rocks are formed. Make a chart showing the different categories of rocks, based on how they are formed (igneous, sedimentary, metamorphic). Use the information from the "Background for the Teacher" section in this guide.
- The deaths in the Bernstein family are not the result of natural causes, as initially portrayed. Have a guided class discussion on the topic of suicide. Have students discuss why they think suicide is so widespread, what pressures are unique to today's kids, and what can be done to prevent suicide. Emphasize that suicidal thinking is not a normal response to stress or crisis but that help is available and relief from the pain that causes such thoughts can be helped with treatment. Posting national and local helpline numbers in a prominent place for

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several days can be done after the discussion.

 When she is in the cave, Phoebe becomes hypothermic. Research information about hypothermia on the Internet. Write a report in your own words about what causes hypothermia, how it is treated, and how it can be prevented.

ART

While caving, both Erica and Phoebe looked for pictographs. Design and create your own pictograph based on an imaginary cave exploration or create a map layout from a video game. Create some artwork using materials of your own choosing that represent a scene or image from the book. Use three-dimensional material, such as clay or papier-mâché, to create a formation found in caves. You may base your creation on one of Phoebe's descriptions in the novel, or on a cave formation you have researched.

CULTURE & PHILOSOPHY

- Phoebe's family doesn't frequently observe Jewish religious traditions. Nonetheless, Jewish funeral rites are one example of how Phoebe's cultural heritage intertwines with her narrative. Describe the funeral Phoebe attends and research information about burial practices and other traditions native to Judaism. Pick one tradition and present it to the class.
- Discuss Plato's allegory of the cave in conjunction with the cave Phoebe explores. What similarities exist between the two cave motifs? Present your findings as either a Broadway musical or a shoebox diorama.

RELATED READING

- My Life and Death by Alexandra Canarsie by Susan Heyboer O'Keefe
- Reducing Suicide: A National Imperative by Institute of Medicine
- Smithsonian Handbooks: Rocks and Minerals by Chris Pellant
- Rocks, Gems, and Minerals by Trudi Strain Trueit
- Experiments with Rocks and Minerals by Salvatore Tocci
- Cave Passages: Roaming the Underground Wilderness by Michael Ray Taylor

REVIEWS

"A short novel, filled with thoughtful details and surprising depths." — *Kliatt*

"This realistic portrait of a family's grief makes it clear that keeping secrets—even to protect your loved ones often results in more pain. Readers get a strong sense of the characters' personalities, motivations, and emotions.

Dreyer incorporates rock-related imagery into the narrative, neatly reflecting Phoebe's interests.

Introspective teens should appreciate
Phoebe's hard-won journey to self-acceptance."

-School Library Journal

AWARDS

Best Children's Books of the Year
 Bank Street College of Education

ABOUT THE AUTHOR

Ellen Dreyer is the author of several picture and chapter books. She also teaches creative writing to elementary and junior high school classes. She lives in New Jersey.

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Peachtree Teacher's Guide for **THE GLOW STONE**

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