

TEACHERS ACTIVITIES

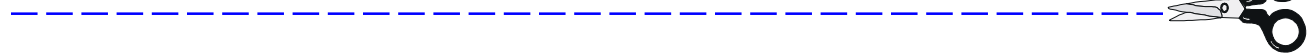


Theme:

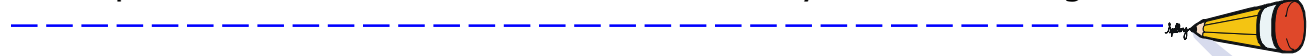
A young girl's bravery in a dangerous and trying situation shows how people can excel beyond their expectations.

Topics For Discussion:

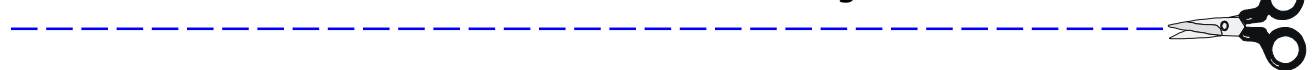
Discuss the meaning of "courage." Stress to the students that there are many levels of courage, from saving a life to trying something new...and all of them are significant.



Ask students if they have ever witnessed any acts of courage. Invite them to share personal stories of incidents in which they showed courage.



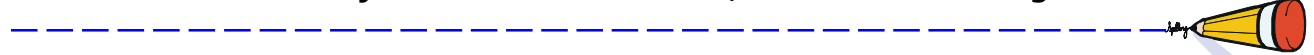
Discuss with students why Abbie continued to tend the lights even though she was tired and afraid and sometimes discouraged.



Locate Maine on a map of the United States and discuss why it is a likely place for lighthouses.

Curriculum Extension Activities:

Abbie Burgess was a real person. Introduce biography as a type of literature to students. Discuss the types of information that can be found in a biography. Explain that some biographies may tell about a person's entire life, but others may relate only a portion of someone's life. Obtain some easy-to-read or picture book biographies for students to read. Have them look for incidents in their subject's life in which she/he showed courage.



Have students look for articles in newspapers and magazines about young people who did a courageous deed. Post these articles on a bulletin board titled, "Courageous Kids," and add to it as students find more examples. Discuss ways in which these young people were brave.

Brainstorm a list of different types of boats. Enlist the aid of the library media specialist in locating books about boats and add to the list. Include boats of the past, such as clipper ships, as well as modern boats. Have students find information about boats, including size, how they are powered (e.g., human power, wind, engines), how they are used, etc., and put their information into a class-made reference book about boats. On each page, they need to draw picture of the boat they researched and write the important facts about it. Have them make a Table of Contents for their book. Bind the pages and place the book in the classroom library along with other reference books. Students might also want to investigate famous boats in history, such as the *Mayflower*, the *Nina*, *Pinta*, and *Santa Maria*; the *Titanic*, and others.



Watch the **Reading Rainbow** program "Kate Shelley and the Midnight Express." Obtain a copy of the feature book and a copy of *Keep the Lights Burning, Abbie*." Revisit the two stories. Make a Venn diagram comparing Kate and Abbie. As students discuss these two main characters, compare and contrast their stories as well.



Students who do not live near bodies of water likely have little experience with lighthouses and would benefit from seeing photographs and finding information about the history and use of lighthouses. The website for the PBS series, "Legendary Lighthouses," contains a photo gallery and excellent information about lighthouses in various locations in the United States. In particular, there is an extensive section on Maine lighthouses, including the one at Matinicus Rock, accompanied by a biographical sketch of Abbie Burgess. (Readers are often curious about what happens to main characters at the conclusion of a story—this brief biography will tell them about Abbie.) The website may be found at the following URL: <http://www.pbs.org/legendarylighthouses/>



As a class, write a diary based on the story, *Keep the Lights Burning, Abbie*, from Abbie's point of view. Have students think about what she might have written each day, from the time her father left until he returned. Take dictation of their ideas, writing each day on a different page. Use paper cut in a tall, thin shape for the pages and bind them between covers cut in the shape of a lighthouse. Title the book, "Abbie's Lighthouse Diary."

Boats and ships use flags, lights, and sounds to communicate, depending on different situations. With flashlights, have students practice flashing messages in Morse Code. They might start with SOS (3 shorts, 3 longs, 3 shorts).

SUPPLEMENTARY BOOKLIST:

LIGHTHOUSES

by Jason Cooper (Rourke Enterprises)

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by Gail Gibbons (Morrow)

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THIS IS THE BIRD

by George Shannon, illus. by David Soman (Houghton Mifflin)

BRAVE IRENE

by William Steig (Farrar, Straus & Giroux)

Distributed by:



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Fax: 800-306-2330
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Description:

This true story is of a young girl who keeps her lighthouse burning during a tremendous storm. LeVar travels to the rocky mid-coast of Maine for a tour of a modern-day lighthouse. He also takes a trip on a 100-foot Maine coastal schooner and joins an authentic sailing family for a day at sea. As a final highlight, we learn about the mystery of putting a ship in a bottle.



Social Studies Concepts:

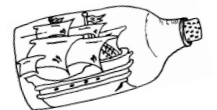
- ◆ history
- ◆ family
- ◆ monuments
- ◆ geography
- ◆ transportation



Classroom Activities:

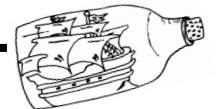
History

Before viewing the video, discuss how a lighthouse warns a ship's captain to steer clear of land or rocks that aren't easily seen at night or during storms. After viewing show the class pictures, photographs, or small models of different kinds of lighthouses [see appendix for suggested Internet sites]. As students study the pictures or models of lighthouses, have them compare and contrast sizes, shapes, and colors--and name common characteristics. Find out where these lighthouses are located and use self-stick notes to mark them on a map.



Family

Keep the Lights Burning, Abbie is a true story about a girl who keeps the light burning in the lighthouse during a tremendous storm. Have students share a time when their family worked together on a project or during a disaster. For instance picking up branches in the yard after a storm, during a family emergency, helping on a project in the community, or helping out around the house. Suggest that students create a Venn diagram to compare and contrast their experiences to Abbie's time in the lighthouse. What parts of each experience are similar and which are quite different?



Monuments/Geography

Memorials and monuments help us honor and remember those who have made sacrifices for us. Discuss what a lighthouse memorial would be honoring. Brainstorm a list of monuments and memorials in your area and mark their locations on a map. Provide students individual area maps so they can mark these locations for their families, who may be interested in visiting these historical places.

Transportation

Brainstorm the different types of boats (i.e. fishing boat, schooner, sloop, kayak, freighter, tugboat, ferry, yacht, motorboat, houseboat, cruise ship, aircraft carrier, etc). Have partners choose one type of vessel to research. The research should include what the vessel looks like and its use.

Do-At-Home Activity:

Mapping It Out

Encourage families to create a map of their own.

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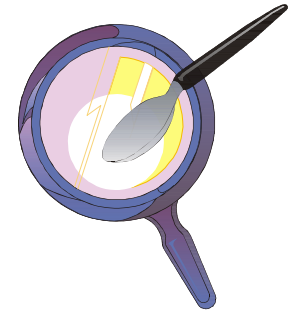
Spoon Light



Key Words: light, concave mirrors, reflection

Concept: A concave (bowl-shaped) mirror can be used to enlarge and redirect light.

In the story **Keep the Lights Burning, Abbie**, the lighthouse beacon was made by lanterns placed in a horizontal circle. Each lantern had a shiny bowl-shaped mirror behind it. These special mirrors were used to enlarge the light from each lantern and reflect it out to sea.



Materials: Large spoon that is round and shiny, new pencil, glow-in-the-dark paper such as glow-in-the-dark stars or any brightly colored paper, tape, flashlight.

1. Hold up a large, round spoon (the rounder, the better) so that the back of the spoon is facing you. Point into the middle of the spoon using your index finger. Hold your finger so that it is almost touching the spoon. Closely observe the reflection of your finger on the back of the spoon. Then turn the spoon over so that the front of the spoon is facing you. Again point into the middle of the spoon with your index finger. How is the reflection of your finger different? (*The reflection of your finger will be much larger and will almost cover the inside of the spoon.*)

The spoon is similar in shape to the shiny mirrors used behind the lanterns that Abbie had to light. Just as with the spoon and the reflection of your finger, the mirrors behind the lanterns reflected and enlarged the light coming from the lanterns.

2. Because it could hurt your eyes if you were to shine a bright light into the spoon, make a model of a light by taping a glow-in-the-dark star or a brightly colored paper dot to the eraser end of a new pencil.

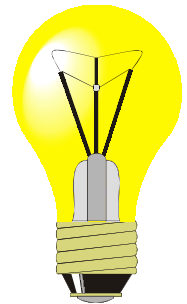
3. Hold up the spoon so that the front of the spoon is facing you. Then move the star end of the pencil toward the center of the spoon. Watch for the point where the image of the star becomes very large. You may not be able to see the star shape but the color of the star will fill the inside of the spoon. If you are using glow-in-the-dark paper, try the same thing in a dark area after exposing the star to light. The glow of the star will light up the inside of the spoon.

4. Think about the spoon and then look at a flashlight. What part of a flashlight is like the spoon? (*The shiny bowl-shaped mirror behind the bulb.*) Why is there a shiny bowl-shaped mirror behind the bulb? (*It will enlarge the light from the bulb and reflect it forward.*)

Bent Beam

Key Words: light rays

Concept: A beam of light can be bent.



The lighthouse that LeVar visited had a beacon with a 1000 watt light bulb that was surrounded on the top and bottom by glass prisms. The lighthouse keeper explained that the prisms bent the light rays from the bulb that would shine down to the floor and up to the ceiling back to the middle of the beacon and out to sea. Light rays usually travel in a straight line, but light rays will bend (i.e. change direction) as they pass from one substance into a different substance. Light rays passing from air into glass will bend as they did in the lighthouse beacon. Light rays will also bend as they pass from air into water.

Materials: Round, clear glass or plastic jar with a lid, water, pencil, flashlight, foil, knife or scissors.

1. Fill a round, clear-glass or plastic jar with water. Place a pencil in the jar and look at it from the side of the jar. The pencil will appear to be bent at the point where the pencil enters the water. This is because the light reflecting from the part of the pencil in the water is bent slightly by water. Slowly move the pencil up and down. Notice that the bend in the pencil also moves. Whatever part of the pencil is just below the waterline is where the bend will appear.

2. Remove the pencil and place a lid securely on the jar. Tilt the jar to be sure that it doesn't leak, then hold the jar up horizontally in front of your eyes. As you look through the jar you will notice that objects look different. They look stretched out, just as they did when LeVar looked through the glass in the lighthouse beacon. The light rays being reflected off the objects are bent as they pass from the air, into and out of the water, before finally reaching your eye. You know that the objects have not changed. Only the light rays have been changed.

3. Cover the front of a flashlight with foil. Then use a knife to cut a thin slit in the foil from the center down, so that only a narrow beam of light shines through. Place the flashlight on a table or other flat surface so that the slit in the foil is at the bottom. Place the round jar filled with water in front of the light so that the beam of light shines through the jar. Move the jar back and forth in front of the light. What happens to the beam of light? (*It is bent.*) Why is the light bent? (*The beam of light is bent as it passes from the air into the water and back into the air. Light is bent whenever it passes through different substances.*)

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