

hands-on lessons that

Hot Air Balloon

Up, up, and away! Tap into students' natural curiosity about hot air balloons as you teach the scientific principles of temperature and air density.

Grade Level: 2-5

Objectives

Students will understand that heat can change air.
Students will understand that hot air rises above cooler air.
Students will understand how a hot air balloon works.

Literature Selections

Hot Air: The (Mostly) True Story of the First Hot Air Balloon Ride
by Marjorie Priceman
A Rainbow Balloon by Ann Lenssen

Skills

cutting, gluing, fine motor skills, history, compare and contrast

Set up and Prepare

Content Overview

Begin the lesson by tapping into what students already know about hot air balloons. Show the cover of *A Rainbow Balloon* by Ann Lenssen for reference. Use discussion questions to spark their interest and set the stage for learning. Have you ever seen a hot air balloon? Would you like to ride in a hot air balloon? How do you think they work? Once they are up in the air, how do they come back down? Do you know who invented the first hot air balloon? Read the book aloud to the students. And discuss the fundamental operation of how hot air balloons work.

Next, show the book *Hot Air: The (Mostly) True Story of the First Hot Air Balloon Ride* by Marjorie Ariceman to the students and draw their attention to the title. Ask them to predict what the story is about. Read the story aloud and be sure to include the timeline and historical information contained in the endpapers. Compare the two books. How are they different? How are they similar?



Materials

Elmer's® Glue-All, Elmer's Foam Board, paint, buttons (a variety of shapes, sizes, and colors), yarn, construction paper (circle template for tracing), burlap

Preparation

Cover your work surface. Provide each student with a piece of Elmer's Foam Board, paint and brushes. Instruct the students to paint the background of the scene (sky with clouds and grass). Explain that the detail of their picture will be in the hot air balloon rather than the background. Let the paint dry completely before going on to the next step.

Directions

When the paint is completely dry, instruct students to trace the paper circle lightly with a pencil. Extend the bottom of the circle with two short lines so that it resembles a hot air balloon.

Next, apply a generous amount of Elmer's Glue-All on one small segment of the balloon outline. It's most effective to start at the top and work your way down in small sections. Continue filling in the balloon until it is completely filled with buttons. It's important to keep the outside edge of the balloon inside the pencil tracing. Don't worry much about any small gaps you see. The bigger the buttons, the more gaps you'll see, so a variety of button sizes and shapes is best. Allow the glue to dry overnight.



When the glue is *completely* dry, add a thin line of Glue-All along the outside edge of the buttons. Carefully place a piece of yarn in the glue starting at one end working your way along the top of the balloon down to the other end. Let dry completely.

Finally, create a basket out of a small piece of burlap. Fold the burlap to create a pocket on one end. Apply a generous amount of Glue-All to the foam board under the balloon. Place the burlap pocket on the glue and let dry completely.



Lesson Extensions

Provide students with construction paper, crayons, and scissors to create the characters in the story to place in the hot air balloon basket.

Allow students to work in small groups to create a model of a hot air balloon using a plastic grocery bag, string, and small weights. Provide a hair dryer to demonstrate how hot air rises above cooler air.

Explore current uses of hot air balloons (i.e., weather instruments, entertainment, competitions, etc.)

Create a diagram that explains the science behind hot air balloons.

Standards

CCSS: ELA-Literacy: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

CCSS: ELA-Literacy: Ask and answer questions about key details in a text.

CCSS: ELA-Literacy: Identify basic similarities and differences between two different texts on the same topic.