



Making the Mayflower Float

Suggested Grade Level

Second grade

Concept

How the shape and weight of something determines how well it will float.

Materials

- Toy boats
- Modeling clay
- Aluminum foil
- Tubs of water
- Coins or marbles
- Paper
- Pencils
- Mayflower supply sheet and outline

Measurable Objectives

- Students will count change up to a dollar with no more than 2 mistakes.
- Students will discuss the importance of shape and weight as a factor in floating with 100% participation.

Anticipatory Set

1. Ask the children if they know about the Mayflower. Let them tell you some of the things they know.
2. Talk about the long journey across the Atlantic, and discuss some of the things that could have gone wrong (run out of food, storms, the boat sinking).
3. Talk about some of the things the Pilgrims must have done to ensure they had a successful trip (brought water, built a sturdy boat, filled in holes).

Instructional Input

Prior Knowledge

- What the Mayflower is, what things are important for something to float (no holes, distribution of weight, etc.)

Procedure

- Show the children a toy boat, talk about the shape of the boat and the importance of its curved bottom.



- Ask children if they know what makes something float. Talk about the importance of shape and distribution of weight when floating.

Modeling

Put a piece of aluminum foil into a pan of water. Then put a quarter into the pan. Ask the children why the aluminum foil floated but not the quarter. Discuss similarities and differences between the two. Put the quarter on the piece of aluminum foil, and ask why they think it floated on the aluminum foil but not on its own. Talk about the importance of the distribution of weight as an important factor in floating.

Check for Understanding

Ask the children to talk with the people around them and discuss what things they would need to do if they were building a boat like the Mayflower. Call on a few students to see what they came up with. Make sure they come up with things like making sure there are no holes in the boat, they have plenty of supplies, the weight of supplies is distributed throughout the boat, etc.

Guided Practice

Have the children break up into four groups by numbering off. Let the children rotate around the room going to each of the four centers (*listed below*) and completing the activity.

Independent Practice

On their own piece of paper, have children reflect on each activity after they complete it.

Closure

Have children bring their boats up to the front of the class. Let two to four at a time count how much money their boat can hold without sinking, flipping over, or having money spill over the sides. Record the results on the board, and discuss the shape of the winner's boat.

Evaluation

Circle the room while children are in their centers and make sure they are participating in the activity and the discussion.

Lesson plan compiled by Kimberly Hall, an Earth Team Volunteer and Early Childhood Education student at Missouri State University, Springfield, MO.
February 2009



Center 1: Supplies for the Mayflower

- Objective:** Children will cut and glue pictures of supplies to an outline of the Mayflower.
- Materials:** Mayflower cutouts, picture of various supplies, glue, scissors
- Procedure:** Students will cut out appropriate supplies for the Mayflower and glue them onto a cutout of it.
- Evaluation:** Observation of cutting to see if appropriate supplies were chosen.

Center 2: Floating Coins

- Objective:** Students will place money in various places on a piece of aluminum foil to discover the importance of weight distribution.
- Materials:** Tub of water, aluminum foil, coins
- Procedure:** Students will place coins in the corners and center of a piece of aluminum foil
- Evaluation:** Observation of following the directions and whether they can predict when the aluminum foil will float the coins and when it will sink.

Center 3: Floating Shapes

- Objective:** Students will use aluminum foil to test the importance of weight distribution.
- Materials:** Tub of water, aluminum foil
- Procedure:** Students will put a curved piece of aluminum foil in the water and place coins in various places to test the importance of weight distribution.
- Evaluation:** Observation of folding to see that a curved shape was made.

Center 4: Boat Building

- Objective:** Students will build a boat with the proper characteristics to make it floatable.
- Materials:** Modeling clay, tub of water
- Procedure:** Students will make a boat out of a piece of clay, and will predict how much money their boat can hold.
- Evaluation:** Review the predications, and test them in front of the class.



Directions—Floating Coins

1. Get four pennies
2. Place all four pennies into the middle of the piece of aluminum foil. **Did it stay afloat?** _____
3. Place one of the pennies in each corner of the aluminum foil. **Did it stay afloat?** _____
4. Place all four of your pennies into one corner of the aluminum foil **Did it stay afloat?** _____
5. Figure out another way you can get the aluminum foil to sink, and another way you can get it floating.

Directions—Boat Building

1. Make a boat out of clay.
2. Test if it will float in the tub of water.
3. Make a predication of how much money your boat can hold.

Directions—Supplies for the Mayflower














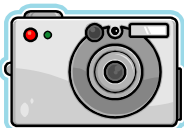


1. Read over the items on the Mayflower Supply List.
2. Check off the items that the Pilgrims would have taken on the Mayflower.
3. Draw some Pilgrims on the Mayflower.

Directions—Floating Shapes

1. Take a piece of aluminum foil.
2. Make it into a boat.
3. Put the four pennies in the middle of the boat, then put them on one side. **Did it stay afloat?** _____
4. Make other shapes out of the aluminum then see how well they float in the water.

Supplies for the Mayflower

Directions: Check off the supplies that the Pilgrims would have taken with them on the Mayflower. Leave the other supplies blank.

_____ Water 	_____ Television 
_____ CD Player 	_____ Food 
_____ Clothing 	_____ Shoes 
_____ Tools 	_____ Video Games 
_____ Blankets 	_____ Bowls 
_____ Computers 	_____ Small Toys 
_____ Books 	_____ Farm Animals 
_____ Cameras 	_____ Diaries 
_____ Flashlights 	_____ Comic Books 