Classroom Curriculum

Culture Kids provides qualifying children and their families free, year-round admission to some of the area’s top cultural facilities. Each of has created an activity to help introduce their organization to young children in a classroom setting.

Institution: Foss Waterway Seaport

Title: How are boats powered?

Length: 45 minutes

Objective:
- Learn about the parts of a sailboat
- Discover how different boats move
- Learn about power
- Create your own boat that is powered by baking soda and vinegar

Vocabulary:
- **Main sail**: usually a triangle shaped piece of material that is located behind the mast and it is the lowest and largest sail on the main mast.
- **Deck**: the wooden or metal planks or plates extending across a boat; like the floor in our house.
- **Bow**: the “front end” of the boat. On many boats it is the “pointy end”.
- **Hull**: the main body of the boat, including the bottom, sides, and deck.
- **Stern**: the “back end” of the boat. On many boats it is the “flat end”.
- **Rudder**: a piece of wood or metal near the stern of a boat for steering.

Purpose: Children connect their knowledge of boats and power to create their own boat.

Preparation: Prepare materials to ensure sufficient supplies for each child or groups of children. Before the activity, discuss boat vocabulary above.

Materials:
- Tape (water resistant works better)
- Tin foil squares (about 6 inches) which will be formed into the shape of a boat
- A water bottle cap
- Two 3-inch tall staws
- Small body of water (such as a shallow bucket or container)
- Baking soda
- Vinegar
Build a baking soda powered boat
1. Invite children to fold the tin foil into the shape of a boat.

2. Ask children to identify parts of the boat such as hull, stern and bow. A guide with pictures and labels is provided in this pdf.

3. Tape the bottle cap to the foil boat.

4. Tape the straws to the bottle cap (see picture) so that the straws are parallel to the water

5. Test your boat to see if it stays afloat in the small body of water.

6. Pour a little bit of baking soda into the cap and then add a little bit of vinegar. If the water is still, the boat will propel itself!

Extension
Provide students with copies of the following worksheets: How do boats move?

Suggested Books
Scruffy the Tugboat and His Adventures Down the River
Boats by Richard Scarry
Toy Boat by R. de Seve
Boats Go by S. Light
How do boats move?

If boats want to move, they must use power! Anything that moves needs power or energy to move!

Power (verb): means Supply (a device) with mechanical or electrical energy.

What uses power? Circle all the things that move and use power!
Boats use different types of power! Some boats use wind power to push the boat. Some boats have motors/engines that need gas to make the boat move, just like your mom or dad’s car. Some boats use people to move the boat. At the Foss Waterway Seaport, you will see many boats and they all use a type of power to move.

Can you guess the type of power these boats need to move? Connect the boat to the correct power source by drawing a line.