

Sink or Float, Build a Boat!

Recycled Materials Boat Making Lesson Plan

Supplies:

- Collection of various recycled/discarded materials
 - Some examples: yogurt cups, egg carton, plastic cups & bowls, boxes, wire, small cans, etc.
- Scissors
- Glue: white & hot glue
- Decoration materials
 - Markers, colored pencils, tissue paper, popsicle sticks, stickers

Introductory discussion on climate change:

Use this website built by NASA specifically for educating children about climate change to lead your discussion. (<https://climatekids.nasa.gov/menu/big-questions/>)

1. What do we know about climate change?
2. What is climate change?
 - a. *“Global climate is the average climate over the entire planet. And the reason scientists and folks like you are concerned is that Earth's global climate is changing. The planet is warming up fast—faster than at any time scientists know about from their studies of Earth's entire history.”*
(<https://climatekids.nasa.gov/climate-change-meaning/>)
3. What is affected most with climate change?
 - a. *Icebergs, water level, overall earth temperature*
4. How does climate change affect us?
 - a. *Increased sea levels, increased overall temperature of the earth, more storms due to increased temperature,*
5. How does climate change affect animals?
 - a. *Melts the icebergs in the Arctic that animals like polar bears & wolves live and hunt on. Increases sea level displacing animals at the shorelines and in shallow waters. Higher water temperatures, causing coral reefs to bleach and die. Higher temperatures mean an increased chance for droughts.*
6. What is causing the fast rate of climate change?
 - a. *Scientists have discovered that humans are causing this warming by using fossil fuels. As the temperature goes up, the amount of carbon dioxide, or CO₂, in the air goes up. And as the carbon dioxide goes up, the temperature goes up even more. (visit: <https://climatekids.nasa.gov/climate-change-evidence/> for visual evidence)*
7. What are some ways we can combat the effects of climate change?
 - a. *Recycle, carpool, turn off lights and unplug electronics when you're not using them, using clean energy (a type of energy that does not release greenhouse gases or other pollutants, like solar & wind), grow your own fruits & veggies, plant trees, use reusable products (shopping bags, water bottles, buy in bulk, conserve water, work towards a “green career” and support companies that use clean energy.*

Lesson Plan

Objective: To broaden children's awareness of climate change through learning about recycling and have them discover creative new ways to use recycled products.

Activity Intro: Have you ever wondered what you can do with recycled materials? Can you name a few recycled materials you might have at home?

Process:

1. Children will create a hypothesis based on what materials they think will sink or float.
2. Children will discover and test various recycled materials to see what sinks and what floats in water.
3. Children will chart their discoveries by writing or drawing on a T chart what material sinks verses what floats.
4. Children will build a boat out of the recycled materials that float. If time allows students can decorate their boat.
5. Children will be given the opportunity to test their boats in the water.

Guided Questions Throughout Activity:

- What materials have you noticed that float?
- What materials have you noticed that have sunk?
- What recycled materials did you pick?
- Why did you choose those recycled materials?
- Why do you think your boat is sinking?
- Why do you think your boat is floating?

Closing Discussion: What did you discover today? What can you tell me about climate change? What else can we create with recycled materials? How is what we're doing helping the earth?