

6th Grade Intro to Gateway  
Lesson: April 6 - Part 1 of 2

**Learning Target:**

Modeling, testing, evaluating, and modifying are used to transform ideas into practical solutions.

**Warm-Ups:**

View Link: [Aluminum Foil Boats](#) (stop at 2:43)

View Link: [Review of the Design Process](#)

## Lesson Introduction/Background Information:

We learned that design is a process, that involves lots of trying and re-trying different steps as a part of that process. This week, you are going to be designing some solutions to problems using materials you find around your house.

*Materials for today:*

Aluminum foil

A sink or a container filled with water

Note - if you don't have aluminum foil, try the packaging of food boxes or parchment paper - anything that you might be able to get to float that you can also move and change.

## Practice:

You are going to use aluminum foil (or an alternate material) to design a boat.

Start by using a piece of paper to sketch out some ideas of how you could fold or arrange your material to create a boat capable of floating in water. Don't worry about exact measurements (unless that is part of your strategy) - we are focused more on design here.

## Practice:

Now that you've completed step 3 of the Design Process, Designing a Solution with your technical drawing, it's time for step 4 - Construct and Test a Prototype. You may need to go back to step 3 at various times to meet different goals, though today you are only trying to meet Goal 1.

Goal 1 - Make a boat that can float in the water.

## Self-Assessment:

Record your findings while you Construct and Test a Prototype on a piece of paper or a phone. What worked? What didn't work? Go back to those notes as you work to make sure you don't try the same idea twice.

Show your met goal to your family members. Ask if they have suggestions or questions about improving your design even more.

## Extend Your Learning:

Research using this video about buoyancy (why something can float or can't float) to help you be better prepared to meet more goals tomorrow.

By the way, going to this video is just like going back to steps 1 and 2 of the Design Process!

[How Do Ships Float? | Things Explained: Buoyancy](#)