

Oceans and Seas

Week 7 - Boats & Ships

Day 1: What Boat Shape is Best?

Day 2/3: Boat Building

Day 4: Home/Class Regatta!

Day 1

LF: We are learning how to create regular and irregular 2D shapes to make the basis of a boat's shape, then exploring how shape affects the way a boat moves through water

What Boat Shape is Best?

Secret parent job! You will need to make two boats out of tin foil - one that is pointed and symmetrical and one that is just an oblong. Then keep some tin foil spare to use later.

Can you remember what power sources were used to make boats move last week?
Is there anything in addition to power that you think could help a boat to move well through water?

What different shapes can you see in these pictures of boats?



Let's look at the two tin foil boats you have made (as described above). Which do you think will move best? Why?

Let's put your boats to the test, and record the results in a table like we usually do. Place boat 1 in a tray of water (or the bath) and blow it across either with a small handheld fan or a straw. Time the journey if you can.

Boat Shape	Time Taken	Straight Path?
Pointed and Symmetrical		
Oblong		

Discuss your results, which boat shape do you think is better? Why?

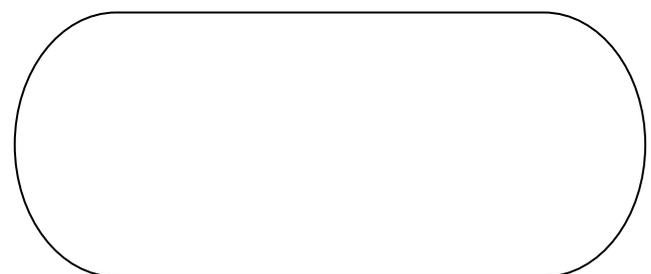
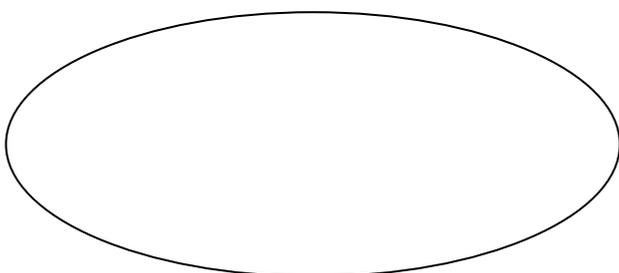
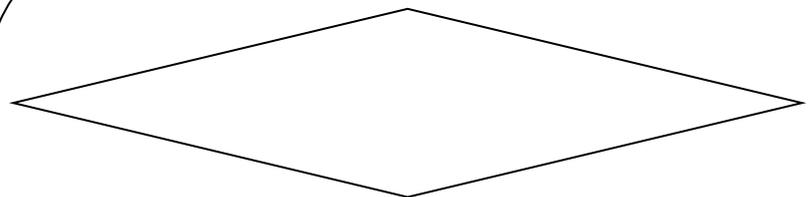
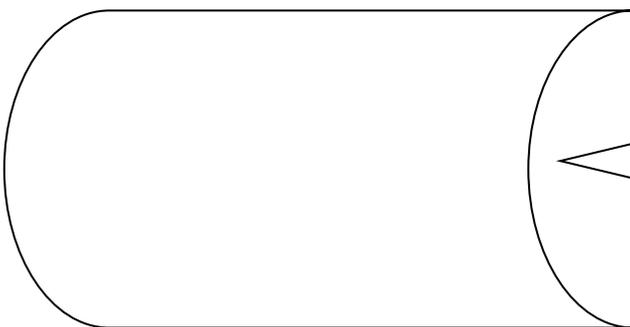
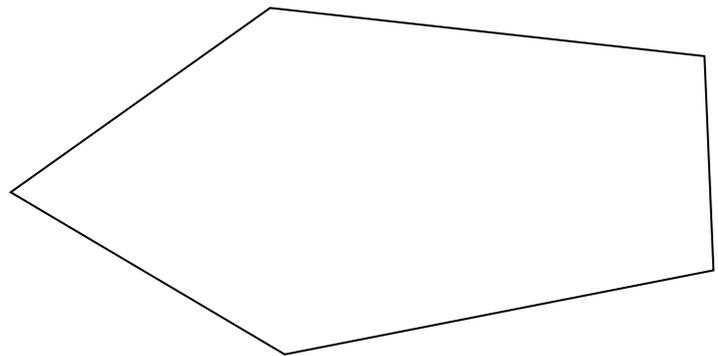
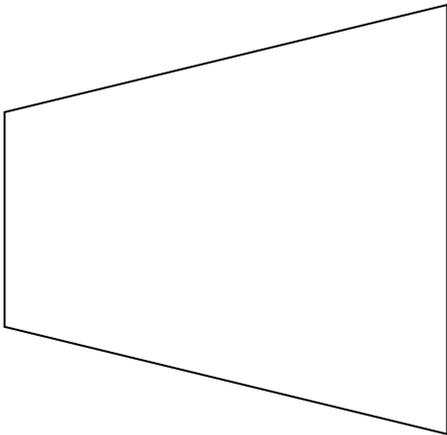
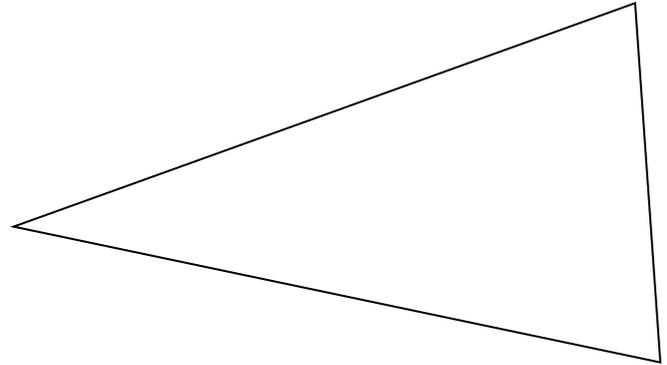
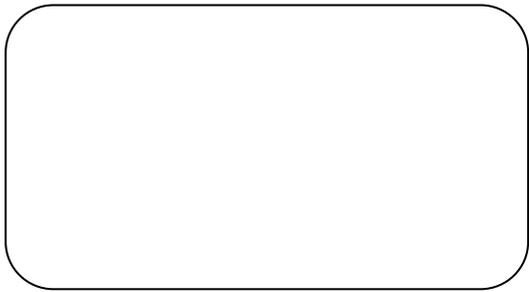
Time for you to make your own tin foil boats to test. These pictures will give you an idea of what to make.



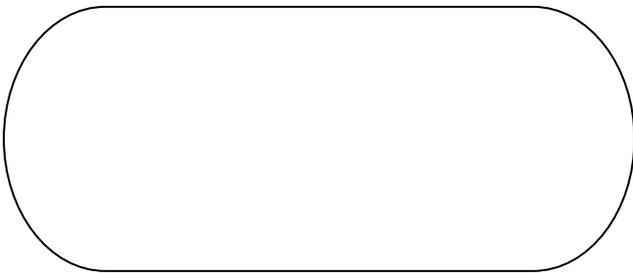
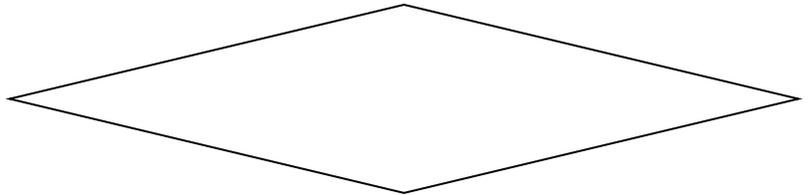
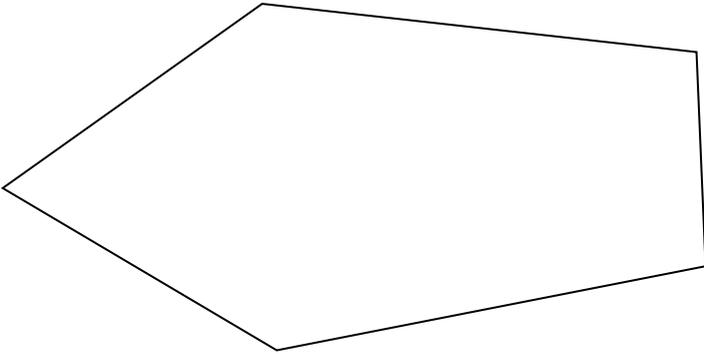
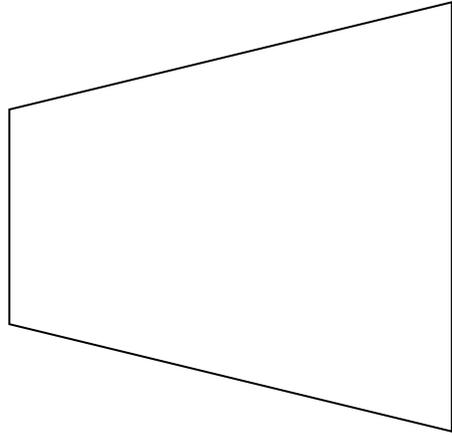
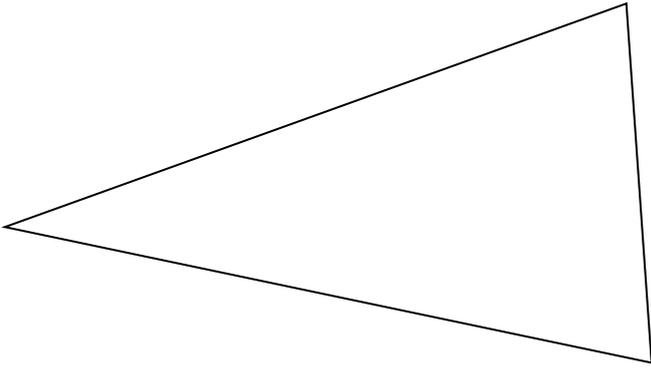
You can use either Shape Sheet 1 (easy) or Shape Sheet 2 (more difficult). First count the sides and corners of each shape, can you identify what shapes they are? On shape sheet 2, can you see what shapes are within the irregular shape?

Next choose a shape from your shape sheet and make it into a boat using tin foil. Do you think it will move well? Why? Now try another shape? You can experiment with making boats for as long as you like and try all the different shapes if you are enjoying it. You could even have a tin foil boat raft race. Can you predict which boat shape will win your race?

Shape Sheet 1



Shape Sheet 2



We are learning how to design and make a boat that will travel quickly, in a straight line and carrying a load.

Boat Building

Today you will be designing and then building your own boats using everything you have learnt about hull shapes and power sources. You may choose to take a couple of days over this so you have time to gather the materials and resources you may need to build your boat.

Your Design Brief

The boat you make must float successfully; it must move across a body of water, AND (this is the tricky bit), it must be able to carry a small object. For example, a tiny Lego character or similar.

The boat will be tested in a Grand Regatta in the next session.

Use the design template on the next page to design your boat and list the materials you will need.

Questions to think about...

1. What shape is good for moving through water?
2. What materials do you think will work best? (Beware the dangers of too much tape!)
3. Do you want your boat to move with a propeller or with wind?
4. Test your boat on water as you build to check it is floating and moving well. Then you can make any changes to your model as you work.

Design Template

My Design

My Materials List

LF: We are learning how to host an event and testing our boats against a design brief

The Regatta!

What is a regatta? Watch this clip to find out a bit more

<https://www.youtube.com/watch?v=irmfc3uDGTs>

Do you notice the similarities in the shapes of the boats? Why do these boats need to go fast? You're right, it's because it is a race!

Let's introduce our boats

You will need to name your boat and come up with a couple of sentences to introduce your boat at the Regatta. You can either write these down or practice them orally so you remember!

For example, *I have made a wind-powered boat. It is a triangular shape. It's called **The Ninja!***

People also eat and drink at regattas so you might like to make a special drink or some yummy sandwiches too.

LET'S RACE!

Now it's time to film your boat speeding across the water at your own regatta. Don't forget to introduce the boat first, then let's see just how fast they can go! 😊

LET THE RACE BEGIN...