MOTORBOAT MUSEUM

What floats?	KS1	S

Some materials float in water other denser or heavier objects sink in water. We can make some materials float or sink by changing their shape.

Plasticine experiment

– Make your plasticine into a ball

You are going to test what happens when you put the ball into a bowl of water.

Use the table below to record what happens during the experiment.

	Sinks	Floats
Plasticine ball		
Plasticine boat		

– Now dry your ball of plasticine and make it into a boat shape and then put it back in the water.

What happens now? Record the results in the chart above.

Foil Experiment

– Now drop your foil container into the bowl of water. Record what happens on the table below.

	Sinks	Floats
Foil boat		
Foil ball		

– Now screw your foil boat into a **really tight** ball. Drop it into the water and record what happens in the table above.

MOTORBOAT MUSEUM

Waterproof tests	KS1	S

When you are out on the boat it is important to take the right equipment with you. Especially clothing that can keep you dry. You are going to do an experiment to test which material is best to make raincoats and hats from.

What you need

Jam jar, elastic band, circles of material and measuring cup.

1. Place the piece of towelling over the top of the jam jar and stretch it tightly. Hold it tightly in place with the elastic band.

2. Now slowly pour 10ml of water onto the material.

3. Record what happens on the table below.

Now repeat with each piece of material.

	Soaks in	Drips through	Sits on top
Towelling			
Fleece			
Cotton			
Plastic			

From your results answer the questions below.

The most waterproof material is ……

The least waterproof material is ……

Science Activity

– Use the information gathered in the materials section to lead on to a discussion of natural and man made materials. Use the worksheets to discuss how we mutate or change materials so we can use them e.g. rocks – metal, animal skin – leather.

– Lead on to the experiment on waterproof ness – how different materials are better for different jobs.

National Curriculum Links
SC3 – materials and their properties

Maths Activity

– Using the information gathered measuring Antelope I. Children could make a bar chart of their different measurements of Antelope I. A huge wall chart could be made using the outline of children's feet as each block measurement.

– Use the information to discuss the difference between exact and estimated measurements. Do further activities measuring hand spans.

– Get the children to measure their feet and make outlines. The outlines could be arranged around the walls of the classroom from smallest to biggest.

– Using the information gathered investigating similarities and differences. Look at the differences between animals. Look at the differences and similarities between different pupils make a bar chart of the results.

National Curriculum Links
MA3 – shape, space and measure

English Activity

– Use the book template to write a story based on the museum visit itself.

– Use the words collected to tell a story to reinforce the new vocabulary learnt.

– Use a different picture of a steam boat and have a quiz to see if the children can remember the correct parts of the boat.

National Curriculum Links
EN2 Reading – language structure and variation
EN3 Writing – composition, planning and drafting

History Activity

– Use the information the children have gathered on the different boats to work out which is the oldest and which is the newest boat.

National Curriculum Links for KS1 Activity Sheets
History – chronological understanding

Art & Design

– Children could create their boat for the future. They could build their boat using recycled materials, collage or printmaking techniques.

National Curriculum Links
Exploring and developing ideas
Investigating and making art, craft and design

Whole Class work KS1 & 2

Get the children to think about which materials will float and which will sink. Do a group experiment with a big jar of water at the front of the class. Using a piece of wood and a piece of rock ask the class to say which will sink and which will float.

KS2 Extension

Then introduce a piece of pumice stone and ask if the class think this will sink or float. When it floats explain that materials of the same type don't always act in the same way as they may have different properties eg pumice is a lava stone and is full of tiny air pockets and so floats.

Introduce new vocabulary

Again with the whole class test the **buoyancy** of a ping pong ball and a squash ball. The ping pong ball is lighter and so is more buoyant. The squash ball is heavier and has to displace more water to support its weight and so floats lower.

Experiments - KS1

Activity Sheet – **What Floats?**

Provide each small group with a washing up bowl of water and each child with a ball of plasticine and a silver foil cake container. Use the activity sheets for them to carry out their experiment.

Activity Sheet – **Waterproof Tests**

Provide each child or small group with a jam jar, elastic band, circles of material, measuring cup and water.

National Curriculum Links

SC3 – materials and their properties
SC1 – scientific enquiry

Experiments – KS2

Activity Sheet – **How Absorbent Am I?**

Provide each group with weighing scales, bowl of water, measuring jug and squares of material.

Interactive Game – **Trimming a boat**

Interactive Game – **Boat Race**

National Curriculum Links

SC1 – scientific enquiry
SC3 **– materials and their properties**
SC4 – physical processes – forces and motions