

THEME: Science

Outline

This programme introduces Beaver Scouts to the world of science experiments through a number of mini bases. Through this programme there are opportunities to meet some of the requirements for the GLOBAL CHALLENGE and the Experiment Activity Badge.

Programme zone: Global		
Time (mins)	Activity	Equipment
5	Register, Opening Ceremony, Introduction	
10	<p>ACTIVITY 1 - 'C' Colour Changes! <i>Plants suck up water from the soil through their roots and stems. The water contains minerals which the plants use to make food. The water travels up through tiny channels in the stalk into the veins in the leaves and petals.</i></p> <ul style="list-style-type: none"> ○ Fill the glass jug with water and add bright coloured food colouring – red, green or blue work well. ○ Place a few white flower stems or a stick of celery into the jug. Short-stemmed flowers will change colour faster than long-stemmed flowers as the coloured liquid has a shorter distance to travel to the petals. ○ Watch the food colouring gradually being drawn up to the head and into the petals and leaves at the top! Amazing!! But it might take to the end of the meeting to see results clearly. ○ Check them again after a week to see how the colour in the petals or leaves has changed!! 	<p>Glass jug, water, food colouring White flowers – chrysanthemums, carnations or celery!!</p>
10	<p>ACTIVITY 2 - Static Electricity <i>Static electricity is not the same as the electricity we use at home. It is made by rubbing things together and they become 'charged' with static electricity. When something is charged with static electricity, it pulls or 'attracts' things that are not charged – like tissue paper!</i></p> <ul style="list-style-type: none"> ○ Beavers rub the blown up balloons on clean hair or clothing. ○ They then try to pick up the tiny pieces of tissue paper. ○ How far away does the balloon need to be? How many pieces can be picked up? ○ Get the Beavers to fold a sheet of tissue into a concertina fan shape. Then draw and cut out a string of paper people. ○ Using the static electricity, as above, can the Beavers make the row of paper people dance? 	<p>Blown up balloons Tiny pieces of tissue paper Sheets of tissue, pencils, scissors</p>
10	<p>ACTIVITY 3 - Magic Colours <i>Black ink is made from many kinds of chemicals; these chemicals display a range of colours and vary with different types of pens. Other things, such as water soluble paints, inks, food colouring and even the bright sugar coating on some sweets are made up the same way!</i></p> <ul style="list-style-type: none"> ○ Let the Beavers draw small dots with felt tip onto a piece of kitchen towel, leave plenty of space between each dot. ○ Drop a small amount of water onto the coloured dots, the water spreads out and carries the different colours in the inks different distances. ○ How many different colours around each dot can the Beavers see? ○ Try again using different types of felt tips!! 	<p>Variety of different types of water soluble felt tip pens Kitchen towel Water</p>

10	<p>ACTIVITY 4 – Magnetic Motors <i>Magnets have a strange power; they pull things towards them as though by magic! Magnets pull or ‘attract’ most (but not all) metal things. When something is attracted by a magnet it is said to be magnetic. The ends of a magnet are called poles and some magnets have a stronger pulling power than others!</i></p> <ul style="list-style-type: none"> ○ Get each Beaver to draw a road scene map with the roadways about 3 cm wide onto a sheet of card and colour it in. ○ Draw and cut out small cars, which will fit onto the roadways on their map and attach a paper clip to the underside of each car. ○ Place the car on the drawing and attach the magnet to the car on the reverse side of the card, make the car ‘drive’ along the roadway by moving the magnet gently around the underside of the card. Magic!! 	<p>Sheets of thin card Art materials Small magnets Small drawings of cars, paper clips</p>
10	<p>GAME: Electric Circuit</p> <ul style="list-style-type: none"> ○ <i>Beavers stand in a circle with Leaders, each is given a cardboard tube which they hold against the next tube, all the way round the circle.</i> ○ <i>The Leader places the ‘electricity’ into the circuit (the marble or ball into their tube) and then tilts the tube to pass the ‘ball’ onto the next Beaver Scout.</i> ○ <i>They in turn pass it on to the next one and so on, round the circle.</i> ○ <i>If anyone drops the ball from their tube, they have broken the circuit and been electrocuted. They can loose a life but still stay in the game or sit down and wait until that circuit is finished before joining in again!</i> 	<p>Card tubes of different lengths and widths Marble or Ping pong ball</p>
5	Closing, Home	

Other ideas: Select other simple experiments, such as 'the diver in a bottle', this is very effective but try it out at home first as it can be tricky to get working! You would need the top of a ballpoint pen, with the sharp point pushed through a blob of Plasticine about the size of a marble and a clear plastic bottle with a screw top. Experiment with the pen top diver in a jug of water to make sure that it floats with the point upwards and the blob of Plasticine downwards! Now, fill the bottle to the top with water, place the 'diver' gently in the bottle and screw on the lid! To make the diver rise and fall squeeze the bottle - a hard squeeze will make it sink quickly, a gentle squeeze slowly, let go and it will float up to the surface!! A bottle of fizzy lemonade and raisins works on a similar principle. The gas collecting around the raisins makes them float to the surface of the lemonade!