



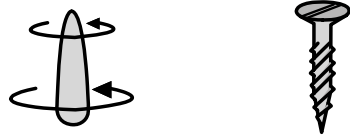
Super Science

Symbol supported
science activities

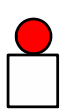
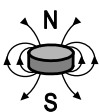
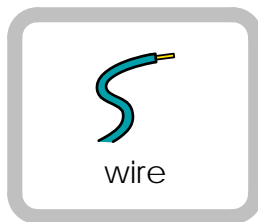
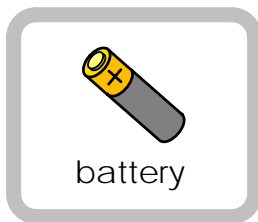
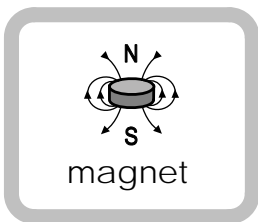
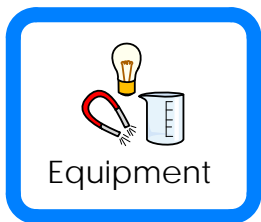
Pupils hand-out



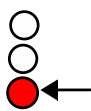
Part of the British Science Association's British Science Week activity pack series.
www.britishsienceweek.org



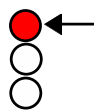
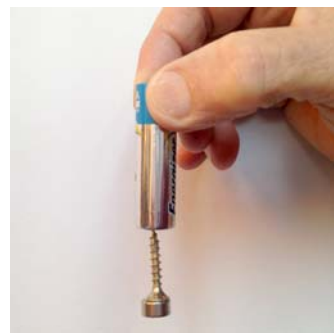
Spinning screws



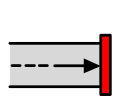
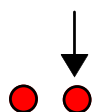
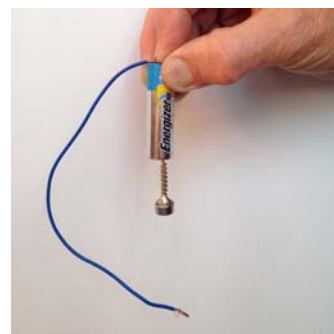
Put the magnet on top of the screw.



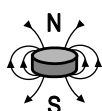
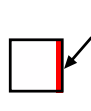
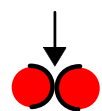
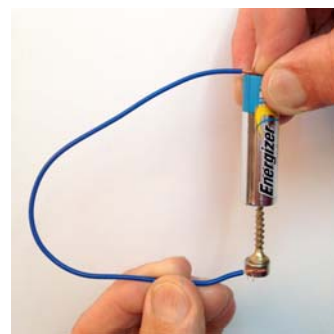
Put screw tip on the bottom of the battery.



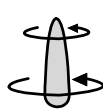
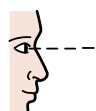
Put the wire on top of the battery.



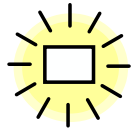
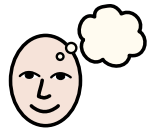
Find the other end of the wire.



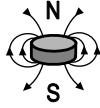
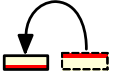
Touch the wire on the edge of the magnet.



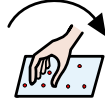
Watch the screw spin.



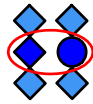
Think of new experiments



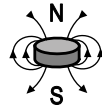
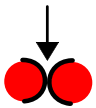
+



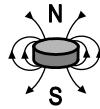
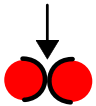
Turn over the magnet and try the experiment again



What is the difference?



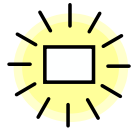
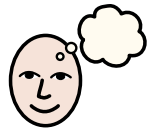
Touch the wire on the bottom of the magnet.



Touch the wire in the middle of the magnet.



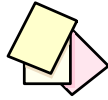
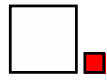
Does it work as easily?



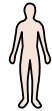
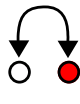
Think of new experiments



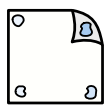
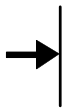
Decorate the screw.



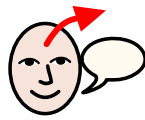
Get some small bits of paper.



Make some wings or a body.



Stick it to the screw with blu-tac.



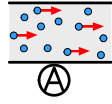
Explanation



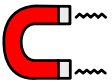
The battery



makes



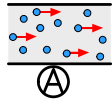
a current.



Magnetism

+

and



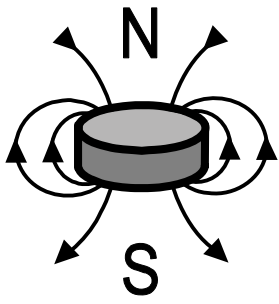
a current

=

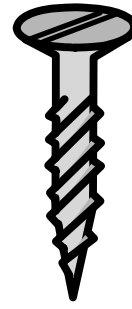
creates



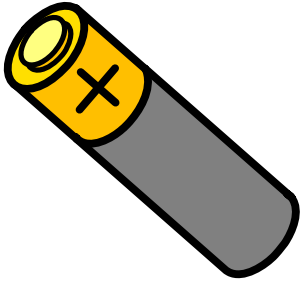
movement.



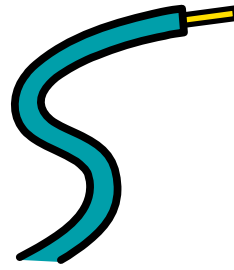
magnet



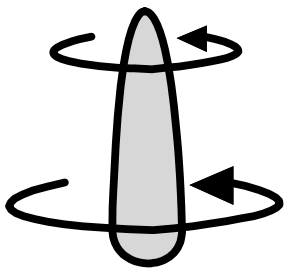
screw



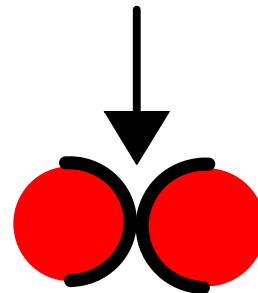
battery



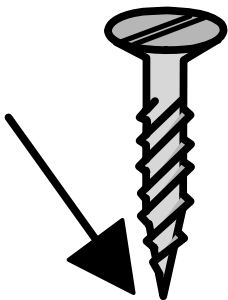
wire



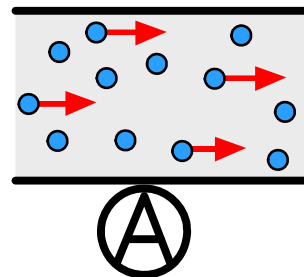
spin



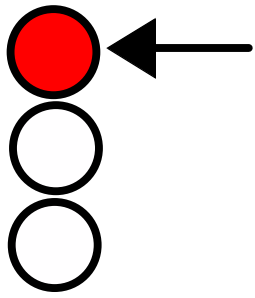
touch



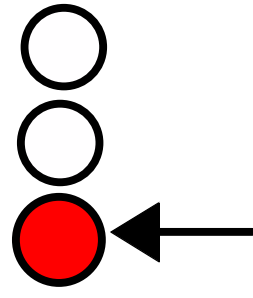
tip



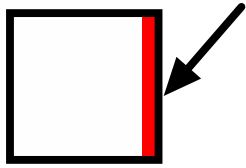
current



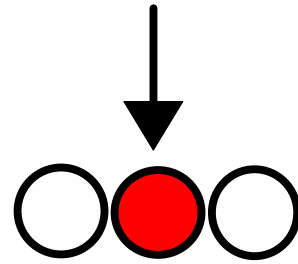
top



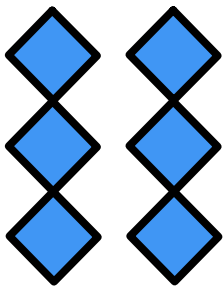
bottom



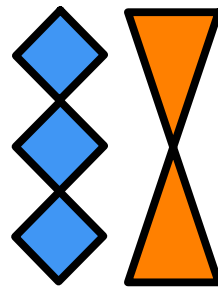
side



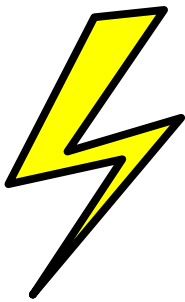
middle



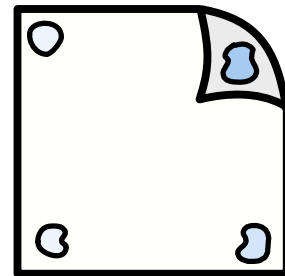
same



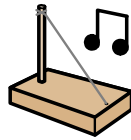
different



electricity



blu-tac



Skiffle bass data sheet



Listen to the note



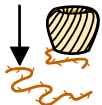
high



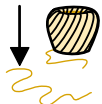
medium



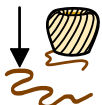
low



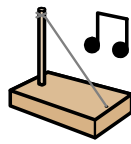
thin string



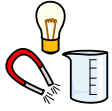
medium string



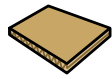
heavy string



skiffle bass



Equipment



a cardboard



or



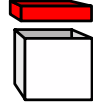
wooden



box



without



a lid



a washer



or



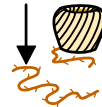
bead



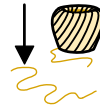
different



threads:



twine,



light string,



heavy string



60cm



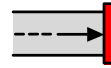
strip of wood



with



a hole



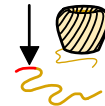
at the end



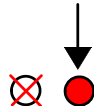
Tie the washer or bead to the end of the string.



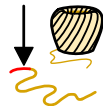
or



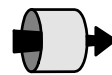
Put the other end of the string through the hole in the box.



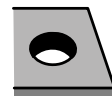
the



end of the string



through



the hole



in



the box.



The washer



or



bead



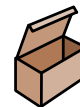
must

be

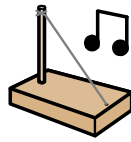


inside

the



box.

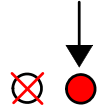


skiffle bass

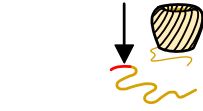


Thread

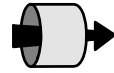
the



other



end of the string



through



the hole



in



the stick.

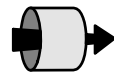


Pull

the



string



through

=

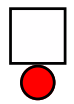


so it is the same as

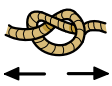
the



picture

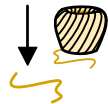


below.

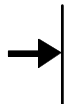


Tightly tie

the



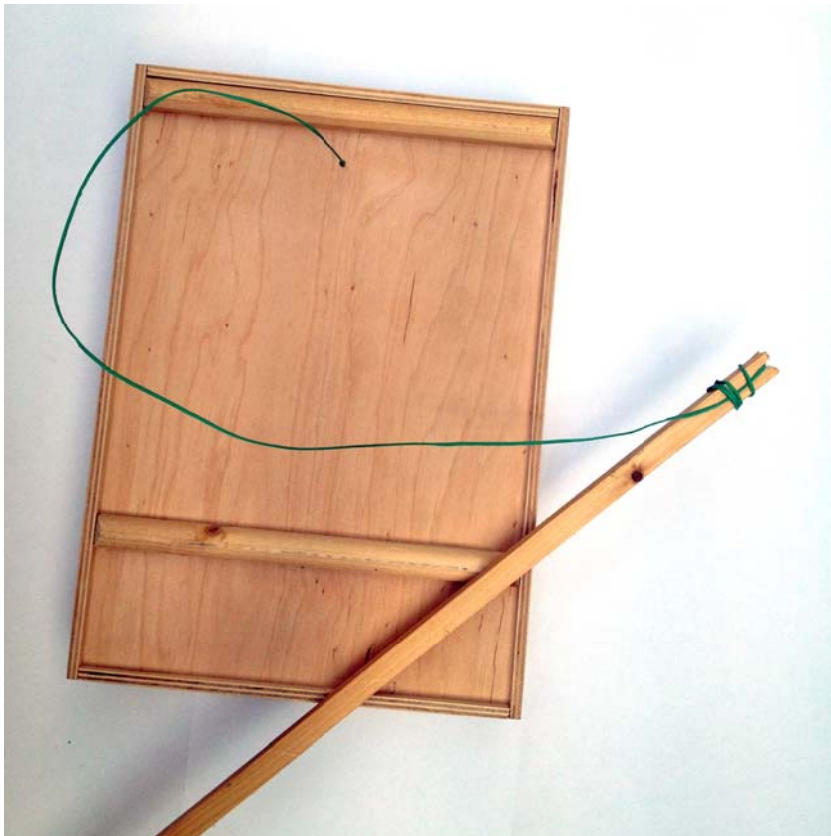
string

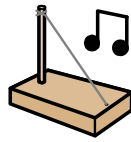


to the

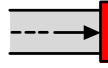
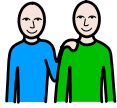


stick.

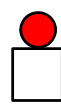
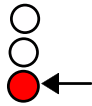




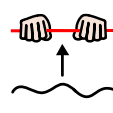
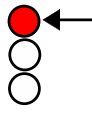
skiffle bass



Ask a friend to hold down the end of the box.

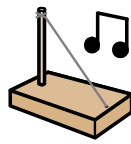


Press the bottom of the stick down on the box



Pull the top of the stick so the string tight.

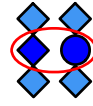
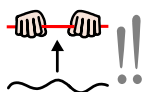




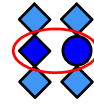
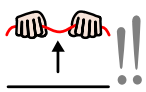
skiffle bass



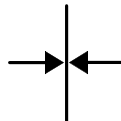
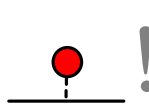
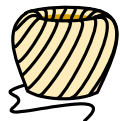
Pluck the string and listen to the note.



Tighten the string, What is the difference?



loosen the string, What is the difference?



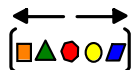
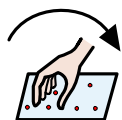
Press the string lower against the stick.



The string is shorter.

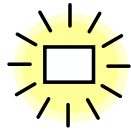
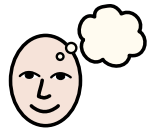


Is the note different?



Try a range of notes.

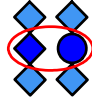




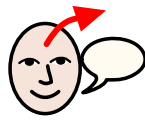
Think of new experiments



Change the thickness of the string.



What is the difference?



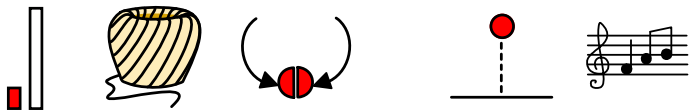
Explanation



A tight string vibrates faster.



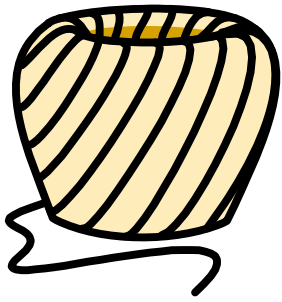
A faster vibration makes a higher note.



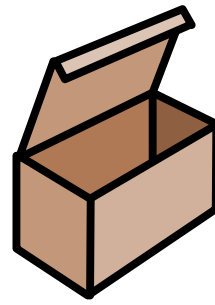
A short string makes a high note.



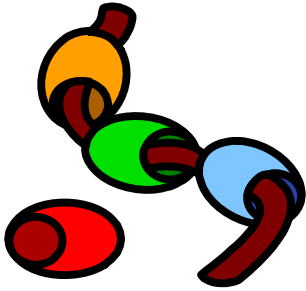
A thick string makes a low note.



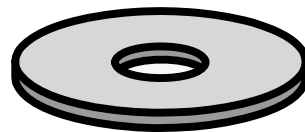
string



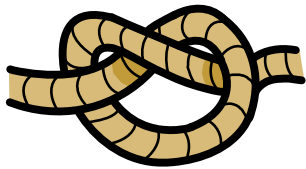
box



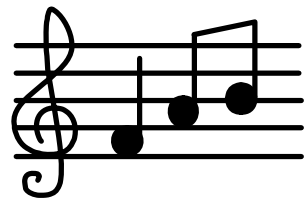
bead



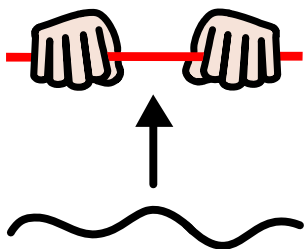
washer



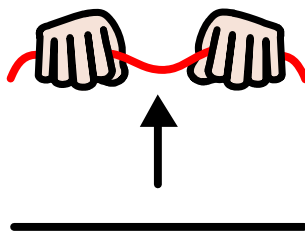
tie



note



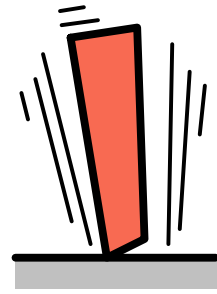
tight



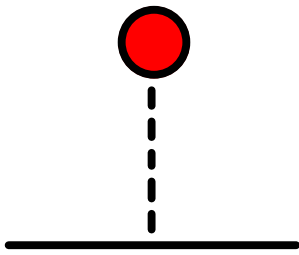
loose



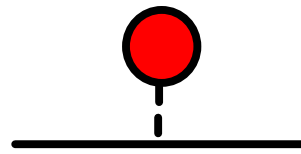
listen



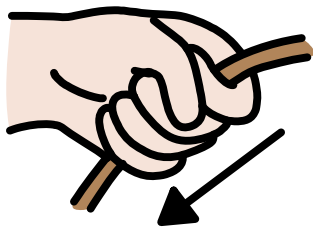
vibrate



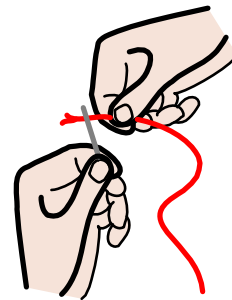
high



low



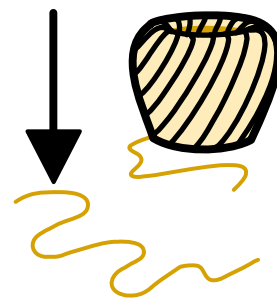
pull



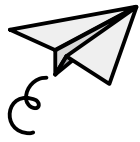
thread



pluck



thin string



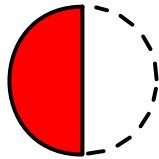
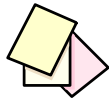
Aeroplane engineers



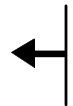
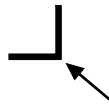
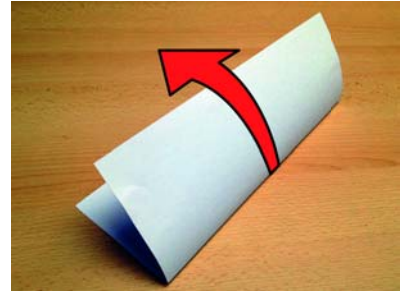
Equipment



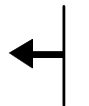
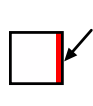
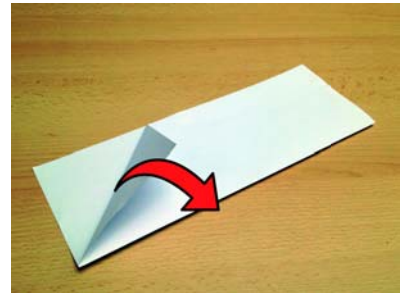
sheets of paper



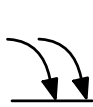
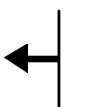
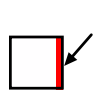
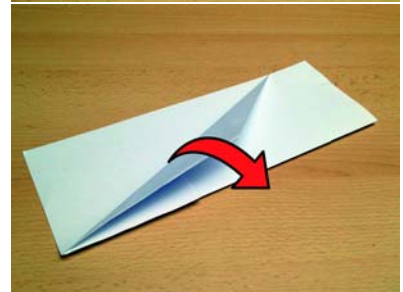
Fold the paper in half.



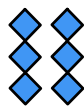
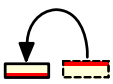
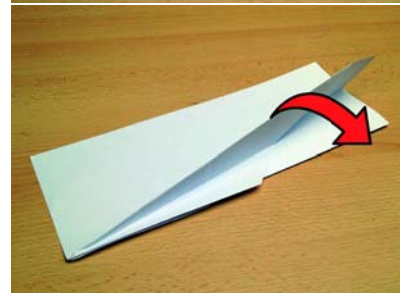
Fold the corner back.



Fold the edge back.



Fold the edge back again.

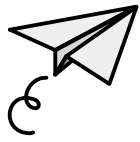


Turn over and fold the same.

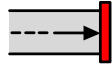


Unfold the plane.

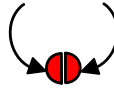
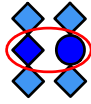




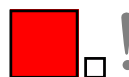
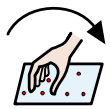
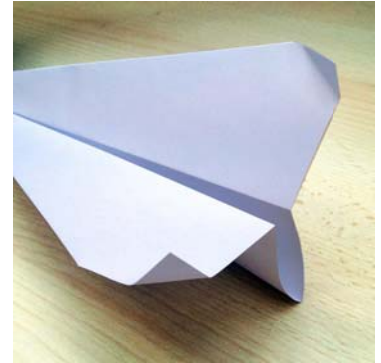
Aeroplane engineers



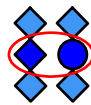
Fold up the end of the wings a little.



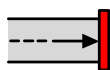
What difference does the fold make?



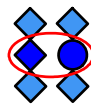
Try folding the wings up more.



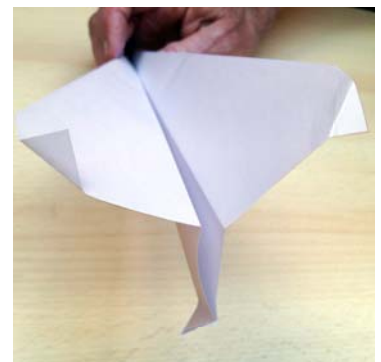
What is the difference?

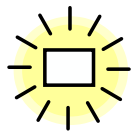
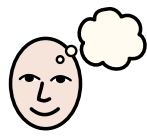


Fold the ends of the wings and the body clockwise.

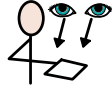


What is the difference?





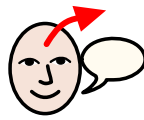
Think of new experiments



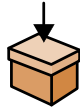
Find a book that shows you how to make paper planes.



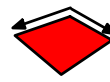
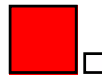
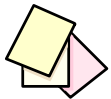
How much better are these?



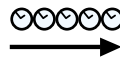
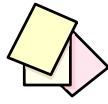
Explanation



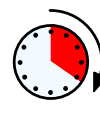
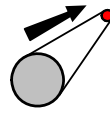
Air resistance slow objects when they fall.



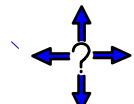
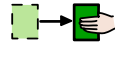
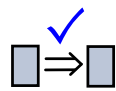
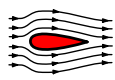
Paper is light and has a large area.



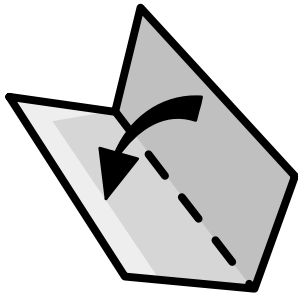
Air resistance means paper takes time to fall.



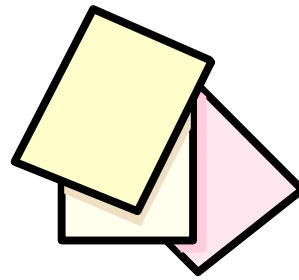
A good paper plane can fly a long way while it is falling.



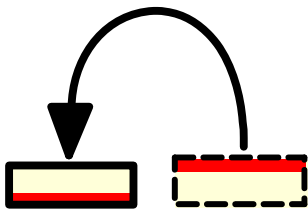
Wing shape causes the air to move the plane in different directions.



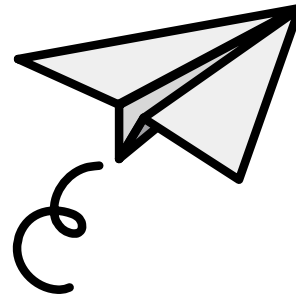
fold



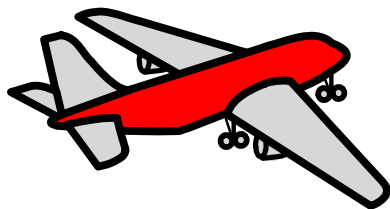
paper



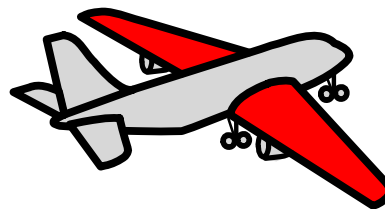
turn over



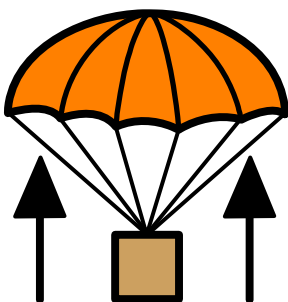
plane



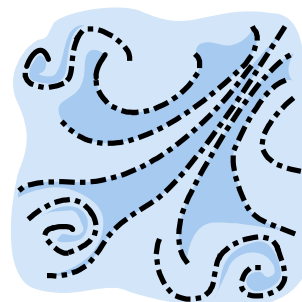
body



wings



air resistance



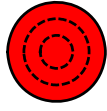
air



Fizzics experiment



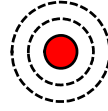
Equipment



large



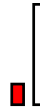
balloon



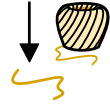
small



funnel



short



string



Bottle



of

very



fizzy drink

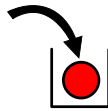


Put

the



funnel



into

the

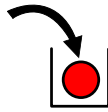
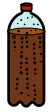


balloon.



Pour

fizzy drink



into

the



balloon.



Quickly



tie

the



balloon.



Shake

the



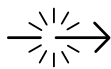
balloon

to make

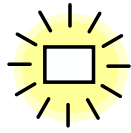
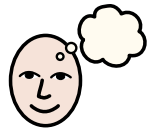
the



drink fizz.



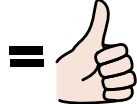
What happens?



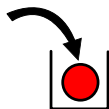
Think of new experiments



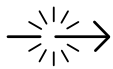
Try fizzy water.



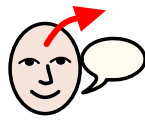
Does fizzy water work as well.



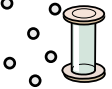

Try putting the balloon in a sink of warm water.

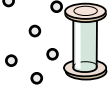






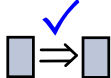
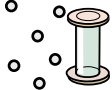

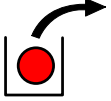
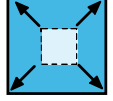

What happens.



Explanation

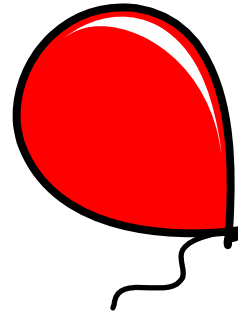
   = 
the gas in fizzy drinks is carbon dioxide.

   
The gas dissolves in the liquid.

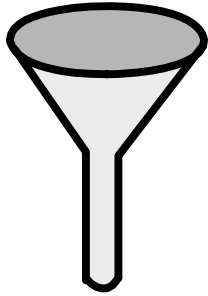
     +  
Shaking causes the gas to fizz out and expand the balloon.



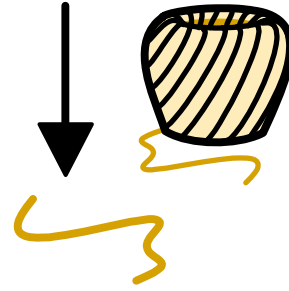
fizzy



balloon



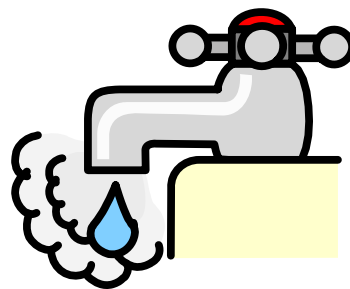
funnel



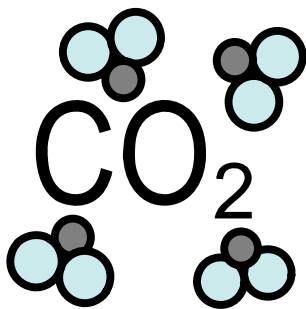
string



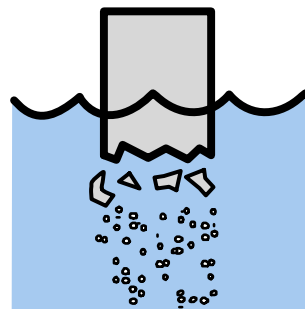
shake



warm water



carbon dioxide



dissolve



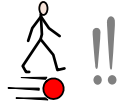
Invisible

treacle

data sheet



Which is



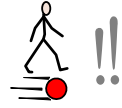
the slowest?



fastest



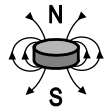
medium



slowest

1

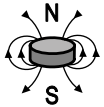
One



magnet

2

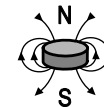
Two



magnets

3


Three




magnets



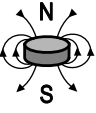
Invisible treacle



Equipment



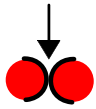
copper tube



4 magnets

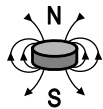


small object

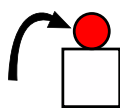


Touch

the



the magnet



onto



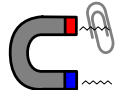
the copper tube.




Is




copper



magnetic?



yes

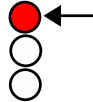


no

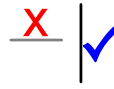




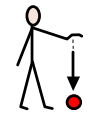
Invisible treacle



=



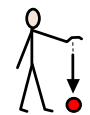
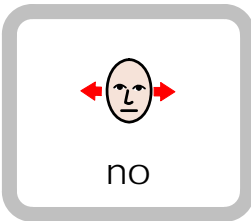
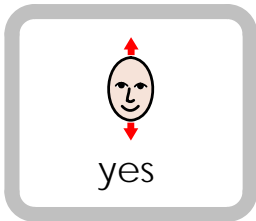
Hold the tube at the top so it is vertical.



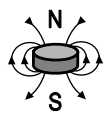
Drop the small object down the tube.



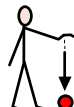
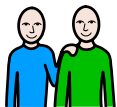
Does it fall quickly?



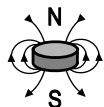
2



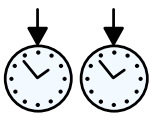
Drop 2 magnets down the tube.



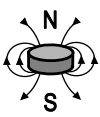
2



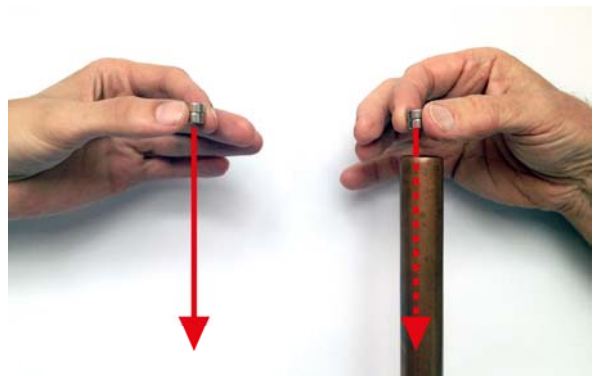
Ask a friend to drop 2 magnets next to the tube



at the same time.

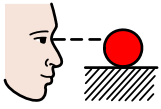


Which magnets fall quickest?





Invisible treacle



Look



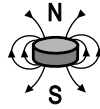
down



the tube



while



the magnets



are falling.



Make sure



the tube



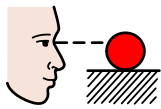
is



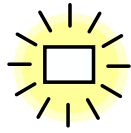
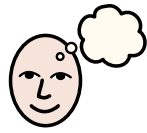
vertical.



What do



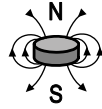
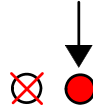
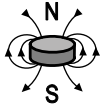
you see?



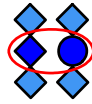
Think of new experiments



4



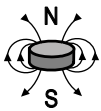
Try 4 magnets instead of 2 magnets.



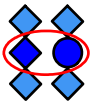
What is the difference?



3



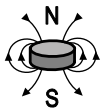
Try 3 magnets.



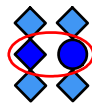
What is the difference?



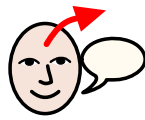
1



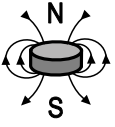
Try 1 magnet.



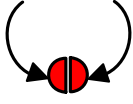
What is the difference?



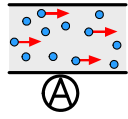
Explanation



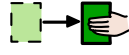
Magnets



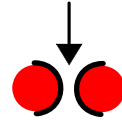
create



current



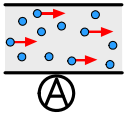
when moving



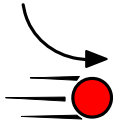
near to



a metal.



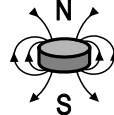
The current



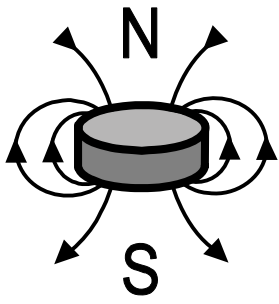
slows down



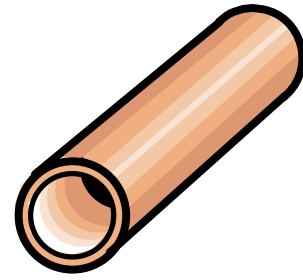
the falling



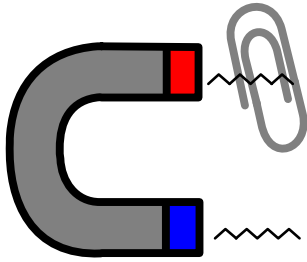
magnet.



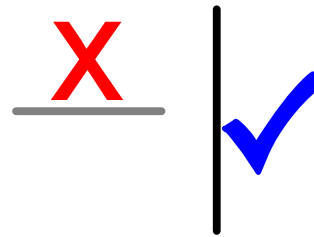
magnet



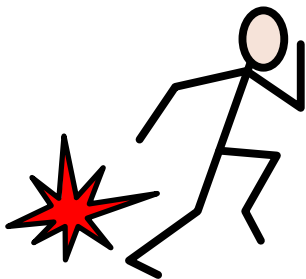
copper tube



magnetic



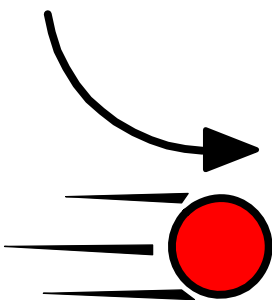
vertical



fast



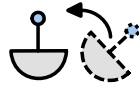
slow



slow down



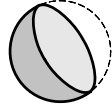
metal



Kelly wobbles



Equipment



half a table tennis ball



plasticine

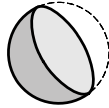


cocktail sticks

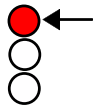
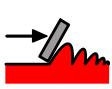
3



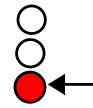
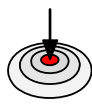
3 balls of plasticine



Fill the half a table tennis ball with plasticine.

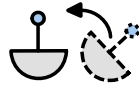


smooth over the top.



Poke a cocktail stick in the centre down to the bottom.

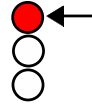




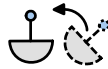
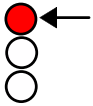
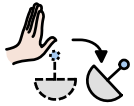
Kelly wobbles



1



Put one small piece of plasticine on the top of the cocktail stick.



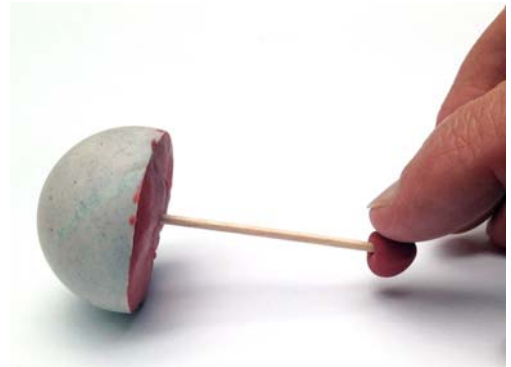
Push the top, does it bounce back?



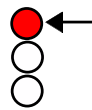
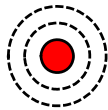
yes



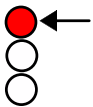
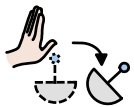
no



2



Put 2 small pieces of plasticine to the top of the cocktail stick.



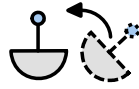
Push the top, does it bounce back?



yes



no



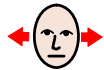
Kelly wobbles



Does it wobble differently?



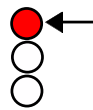
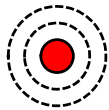
yes



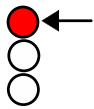
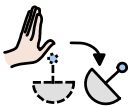
no



3



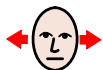
Put 3 small pieces of plasticine to the top of the cocktail stick.



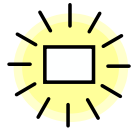
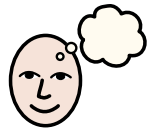
Push the top, does it bounce back?



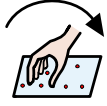
yes



no



Think of new experiments



Try



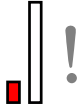
the experiment



again.



Use



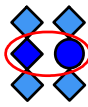
a shorter



cocktail stick.



What is



the difference?



Use



paper



decorate

your



Kelly.



You could



decorate

your



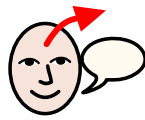
Kelly



like a



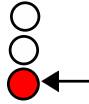
clown.



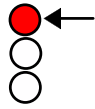
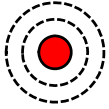
Explanation



=



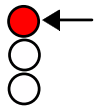
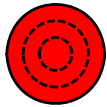
Most of the weight is at the bottom.



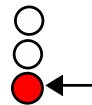
=



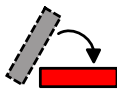
A small weight at the top means it bounces back.



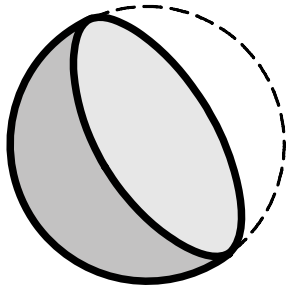
A big weight at the top stops it bouncing back.



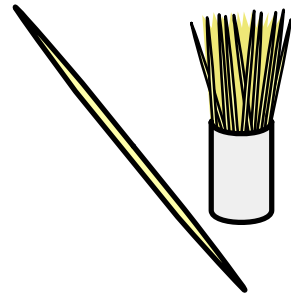
Double decker buses have a lot of weight low down.



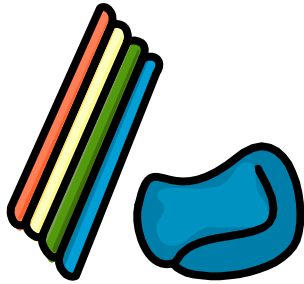
Buses don't fall over easily!



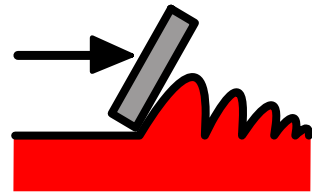
half a table tennis ball



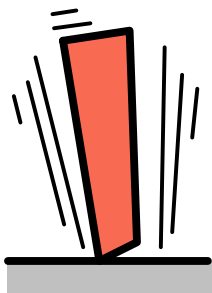
cocktail stick



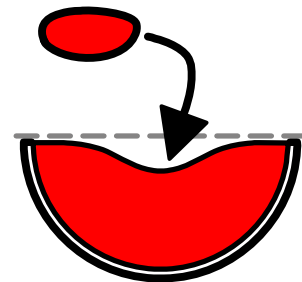
plasticine



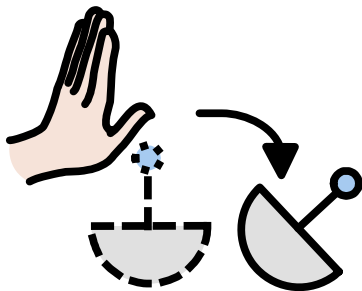
smooth



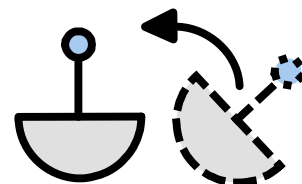
wobble



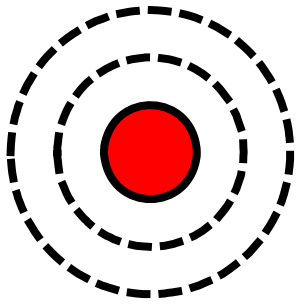
fill



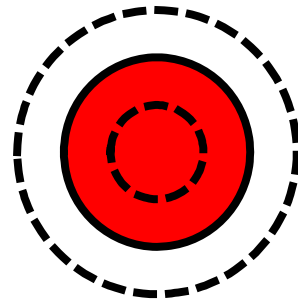
push



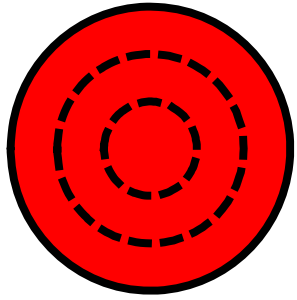
bounce back



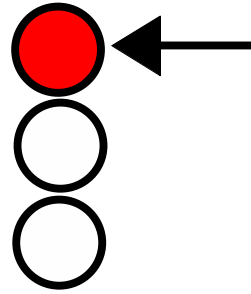
small



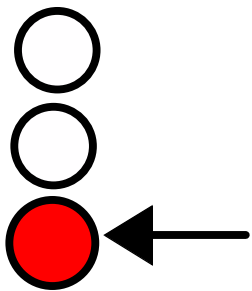
medium



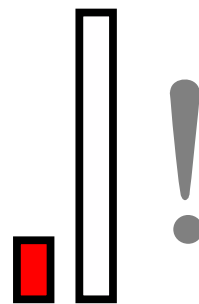
large



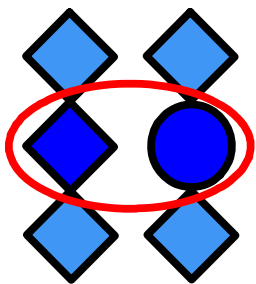
top



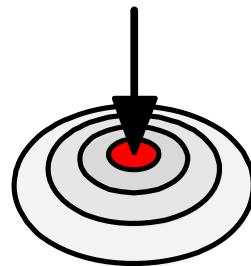
bottom



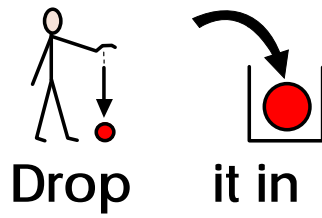
shorter



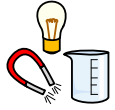
difference



centre



Drop it in



Equipment



plastic beaker



piece of card



Objects



All



objects



must

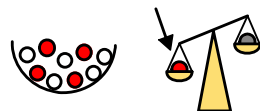


fit in

the



beaker.



some

heavy



some

light



some

rough



some

smooth

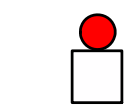


Put

the



card



on top of

the



beaker.

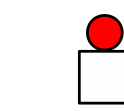


Put

an



object



on top of

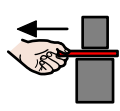
the



card.



Slowly



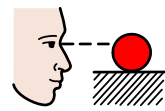
Pull out

the



card

and



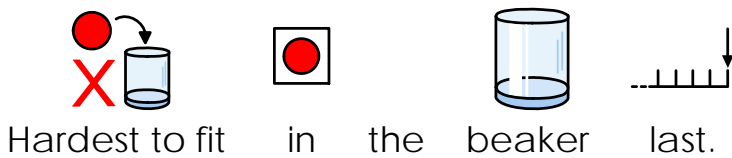
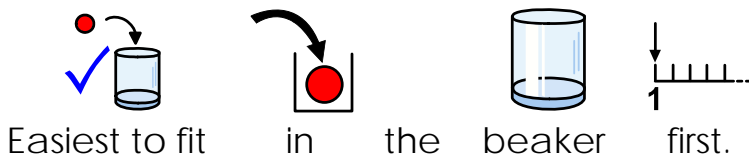
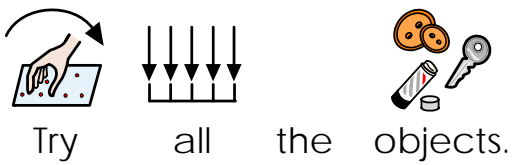
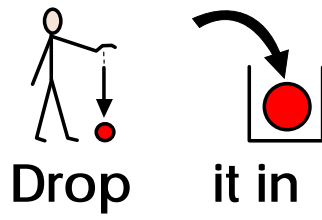
see

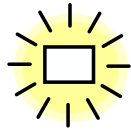
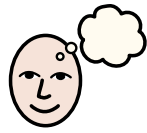


what

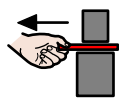
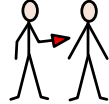
happens.



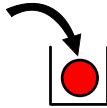
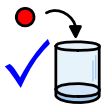




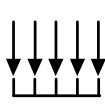
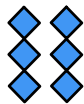
Think of new experiments



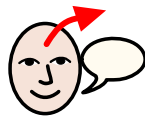
How slowly can you pull out the card?







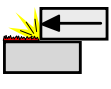
to get an object in the beaker.










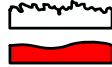


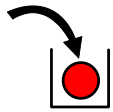



Is it the same for all objects.

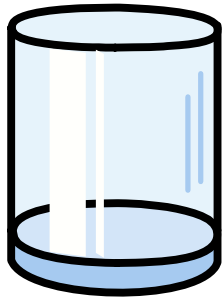


Explanation

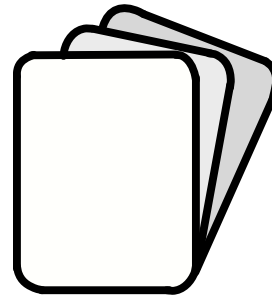
 Smooth  objects  create  less  friction.

 Heavy  objects  are  harder  to move.

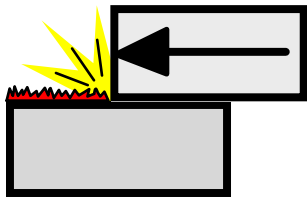
 Heavy  and  smooth  objects  fall  into  the beaker  most  easily.



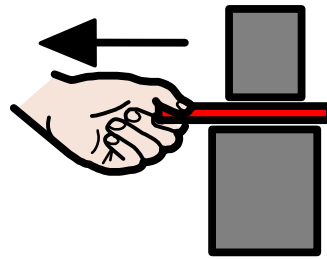
beaker



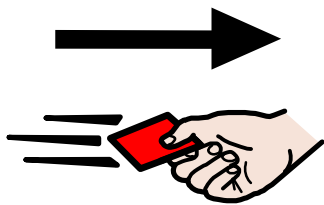
card



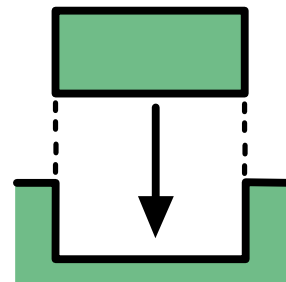
friction



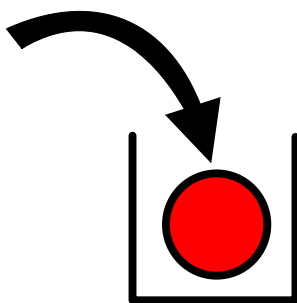
pull



snatch



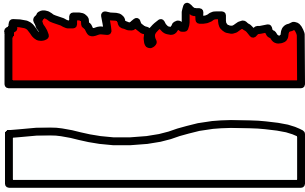
fit



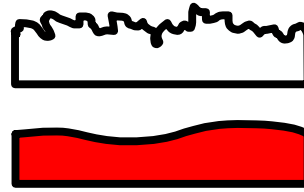
into



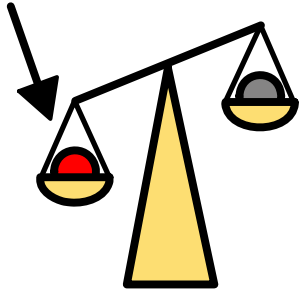
fall



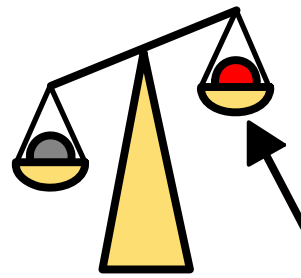
rough



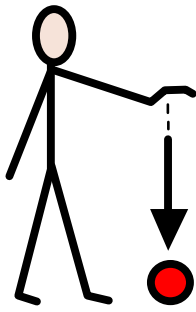
smooth



heavy



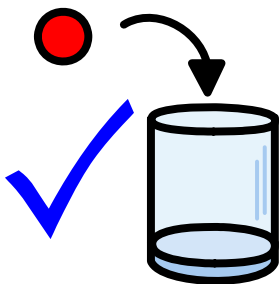
light



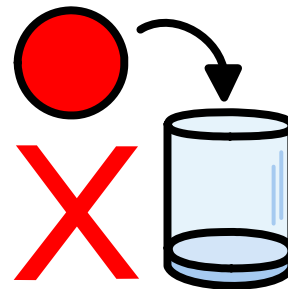
drop



object




easiest to fit




hardest to fit



Rainmaker



Equipment



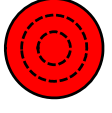

soil



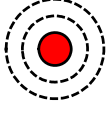

cling film



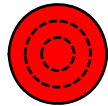
sticky tape

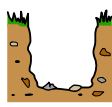
large clear container

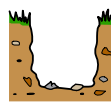
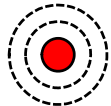
small clear container



Put the soil in the large container.



Make a hole in the soil.



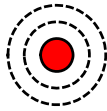
Put the small container in the hole.



Make some mountains in the soil.



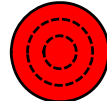
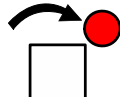
Rainmaker



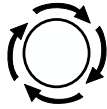
Fill the small container with water.



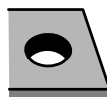
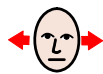
Dig up a weed and plant it like a tree.



Stretch the cling film over the large container.



Put tape round the cling film and container.

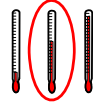


Make sure there are no holes.





Rainmaker



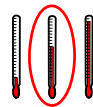
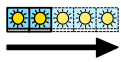
Put the container in a warm place.



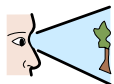
On a sunny day put the container in the sunlight.



Wait for a few hours.



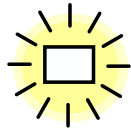
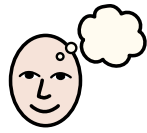
Wait a few days if it is not warm.



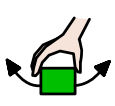
What do you see on the cling film?



Where has it come from?



Think of new experiments



Use



dry



soil



and



wait for



a

very

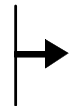


long time.



The

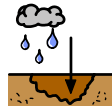
drops



from



the cling film

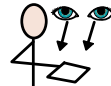


moisten the soil.

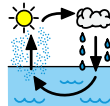


This

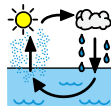
experiment



shows the

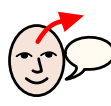


water cycle.

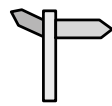


The

water cycle



explains



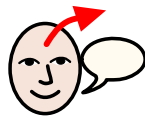
where



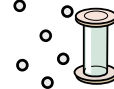
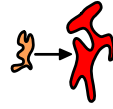
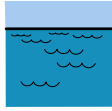
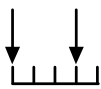
rain



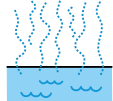
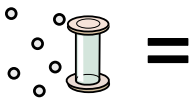
comes from.



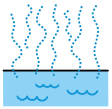
Explanation



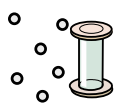
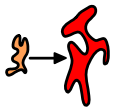
The warmth makes some of the water turn into a gas



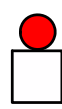
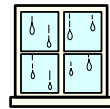
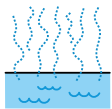
The gas is water vapour.



Water vapour is invisible.



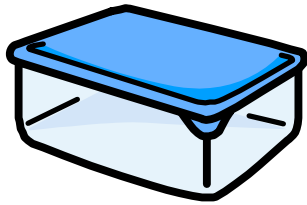
Water becoming gas is called evaporation.



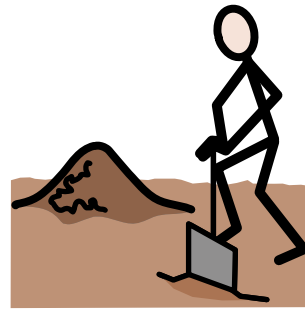
The water vapour cannot escape and condenses on the cling film.



The water falls to the soil.



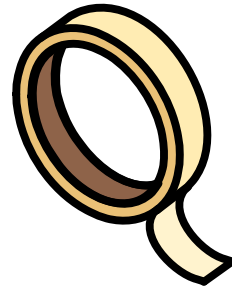
container



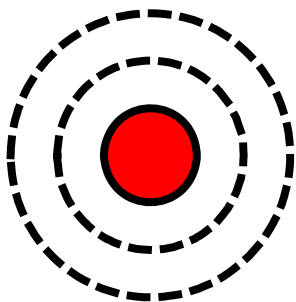
soil



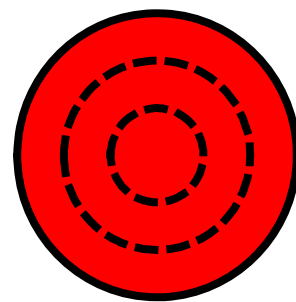
cling film



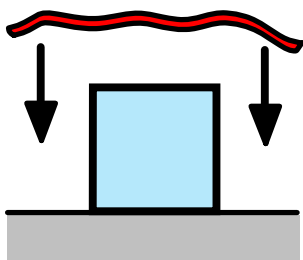
sticky tape



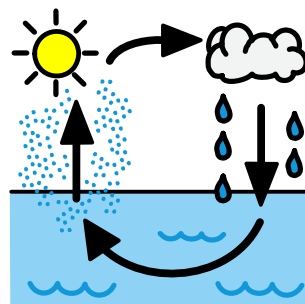
small



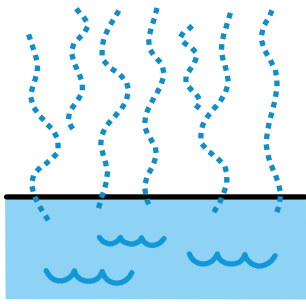
large



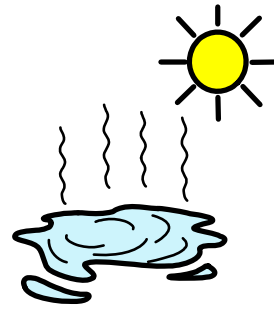
cover



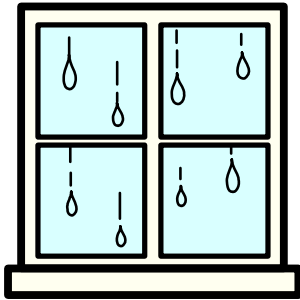
water cycle



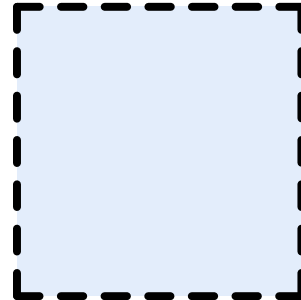
water vapour



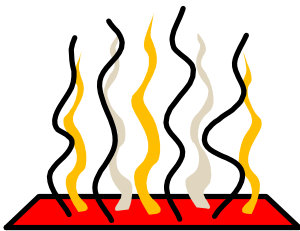
evaporation



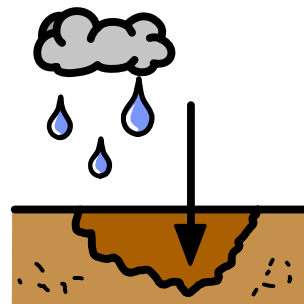
condensation



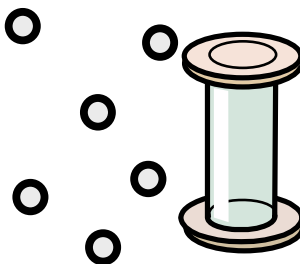
invisible



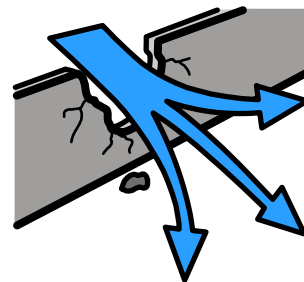
warmth



moist




gas




escape




Wizzy Washing up liquid




Equipment




card




sink




scissors



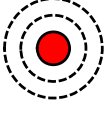
pencil




washing up liquid



in a



small



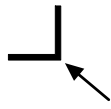
pot



Fold



the front



corners

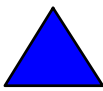
of



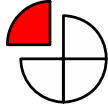
the card.



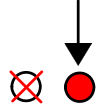
Cut



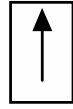
a triangular



piece



at the other



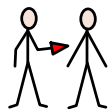
end.



=



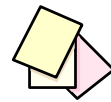
Make it like the picture.



You



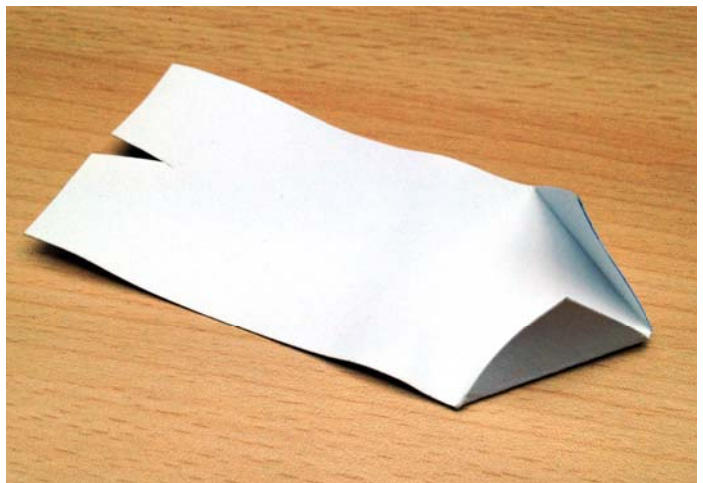
have

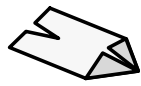


paper



boat.

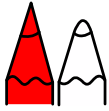




Wizzy Washing up liquid



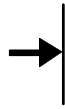
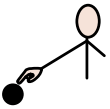
Place the boat in the sink.



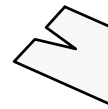
Dip the point of a pencil in the washing up liquid.



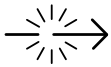
Use a tiny drop.



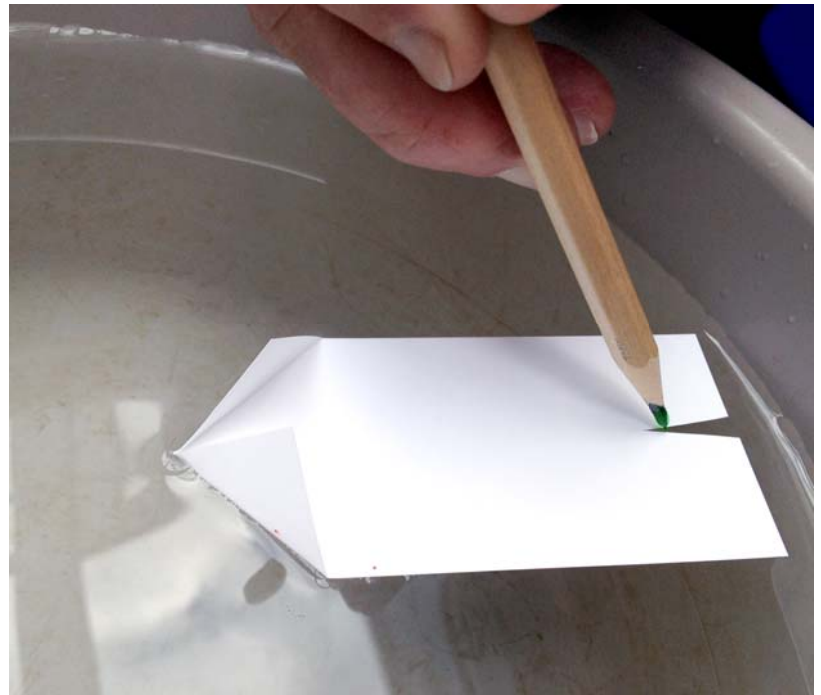
V

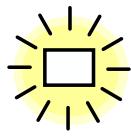
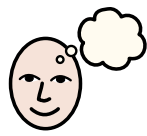


Touch the pencil to the v at the back of the boat.

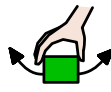
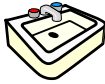
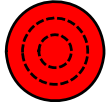


What happens?

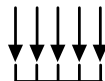
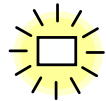




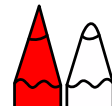
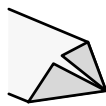
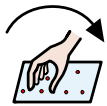
Think of new experiments



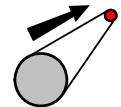
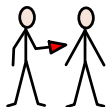
In a large sink try again using more washing up liquid.



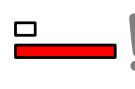
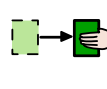
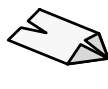
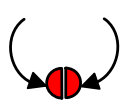
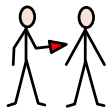
Use a new piece of card for each experiment.



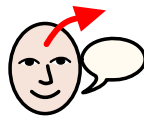
Try making the front of the boat more pointed.



What can you do to make the boat go a long way?



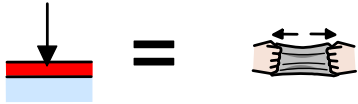
How can you make the boat move further?



Explanation



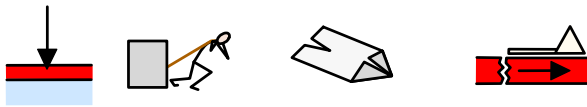
The surface of water is like a skin.



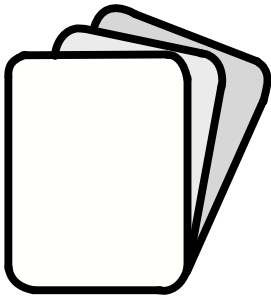
The skin is stretched.



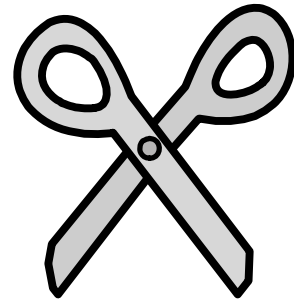
Washing up liquid tears the skin at the back of the boat.



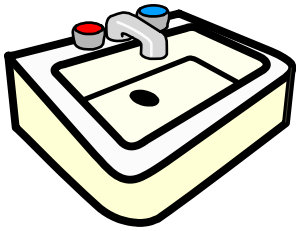
The skin pulls the boat forward.



card



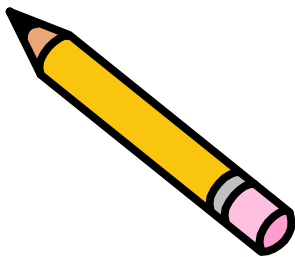
scissors



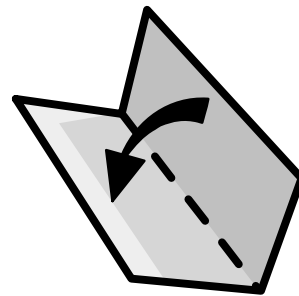
sink



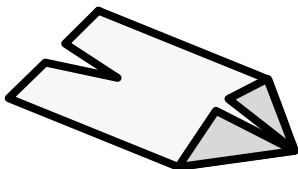
washing up liquid



pencil



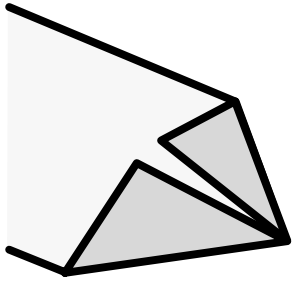
fold



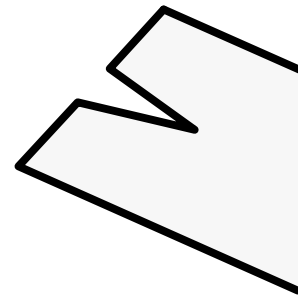
boat



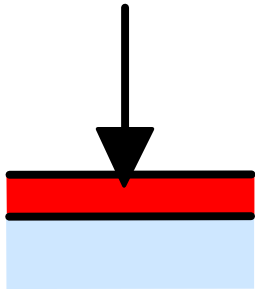
longer



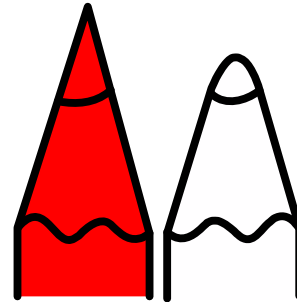
front



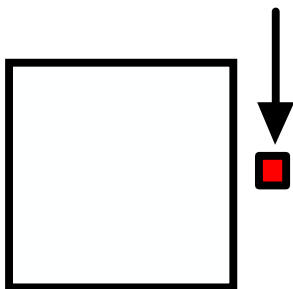
back



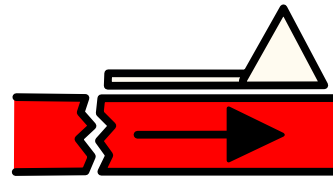
skin



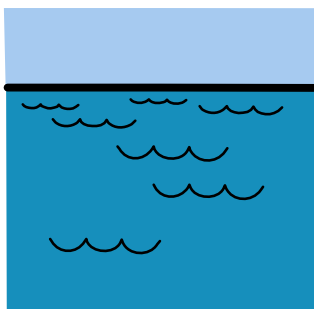
point



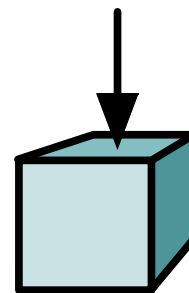
tiny



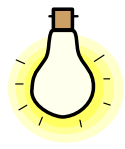
forward




water



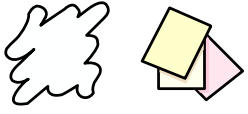
surface



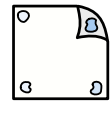
Light entertainment



Equipment



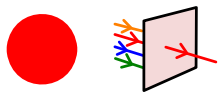
white paper



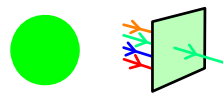
blu-tac



sticky tape

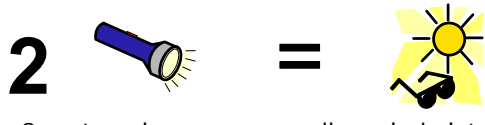


red filter

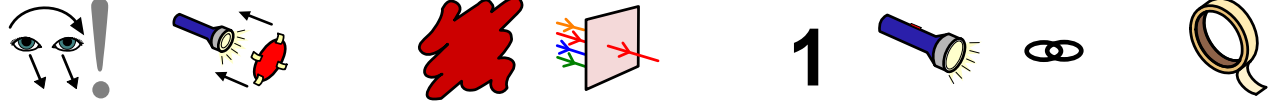


green filter

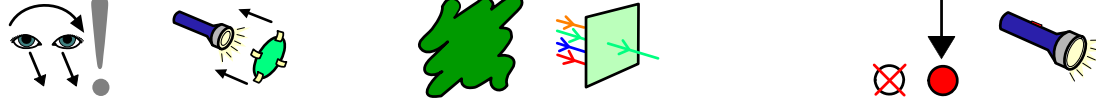
2 torches, = 1 torch, equally bright.



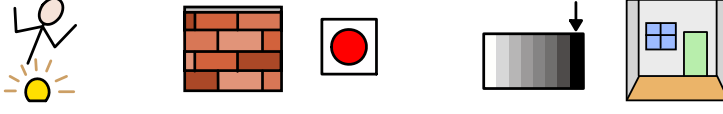
Carefully fasten the red filter to one torch with sticky tape.



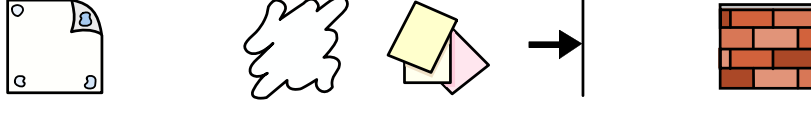
Carefully fasten the green filter to the other torch.

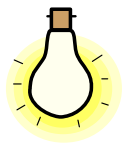


Find a wall in a dark place.

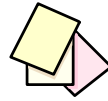
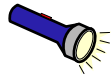
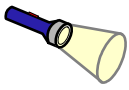


Fasten the white paper to the wall.

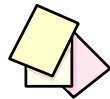
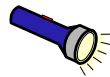
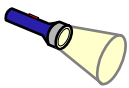




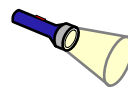
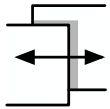
Light entertainment



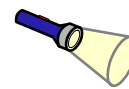
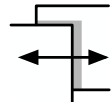
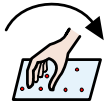
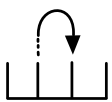
Shine the red torch on the paper.



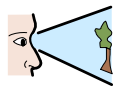
Shine the green torch on paper.



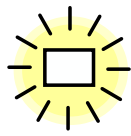
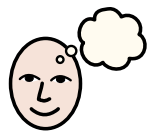
Do not overlap the green and red beams.



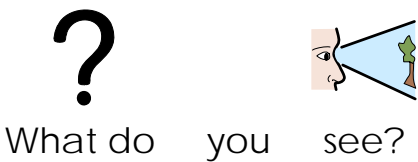
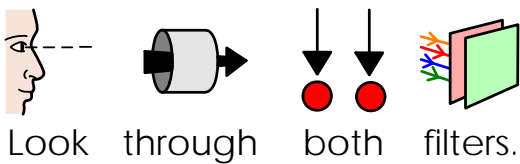
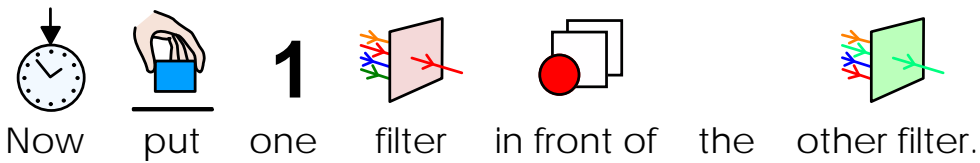
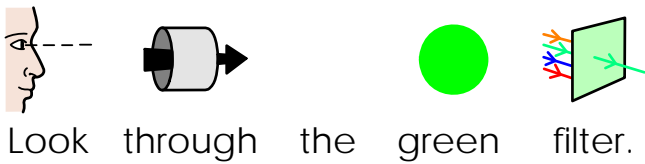
Next, try overlapping the green and red beams,

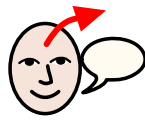


What do you see?

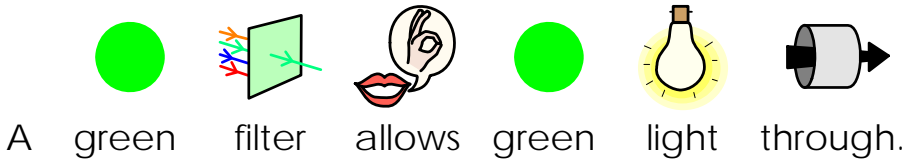
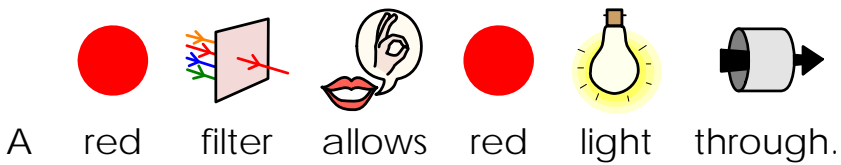
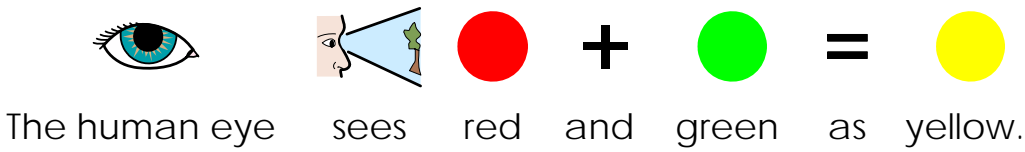


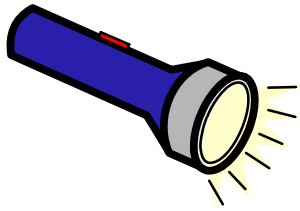
Think of new experiments



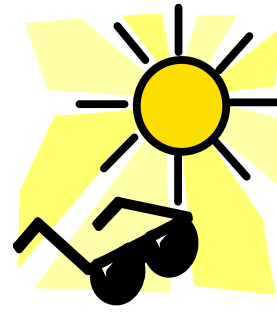


Explanation

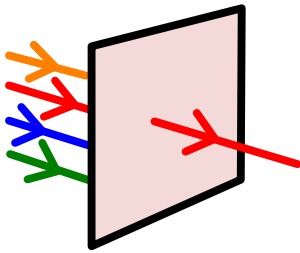




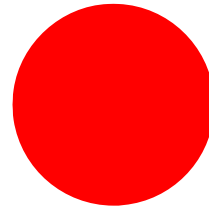
torch



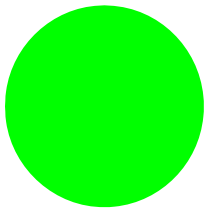
bright



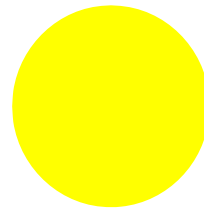
filter



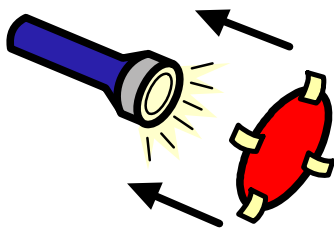
red



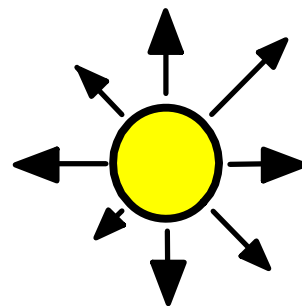
green



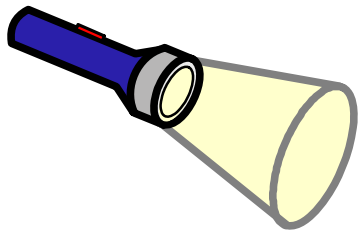
yellow



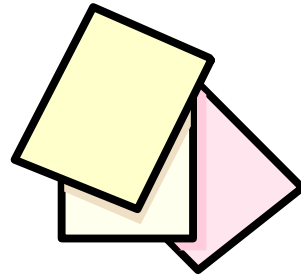
fasten



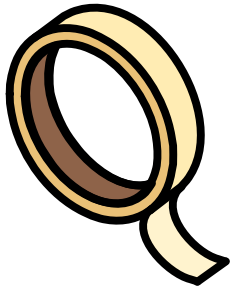
ray of light



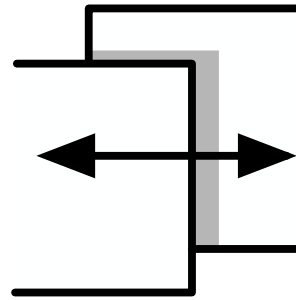
shine



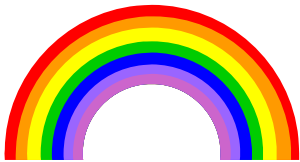
paper



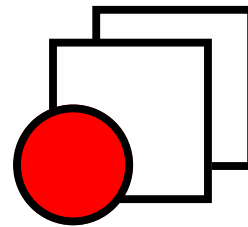
sticky tape



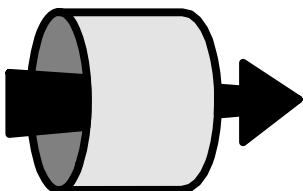
overlap



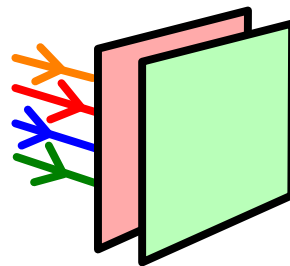
colours



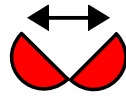
in front



through

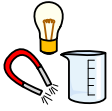


both filters



Colour

split



Equipment



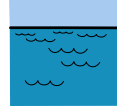
felt pens



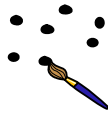
container



tissue



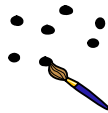
water



Draw coloured dots along the edge of the tissue.



6



Draw six dots of different colours.



Fill container with water.



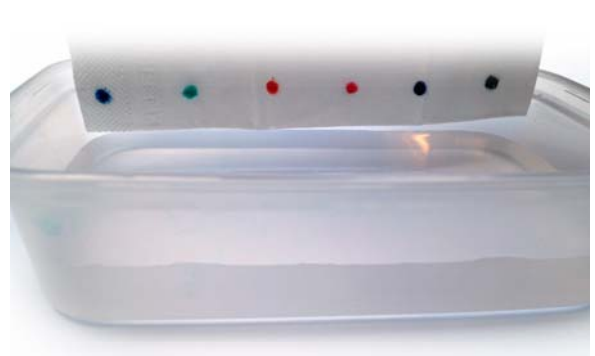
Hold the tissue at the top.

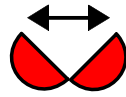


Dip the edge of the tissue in the water.



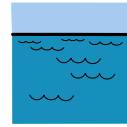
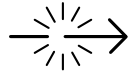
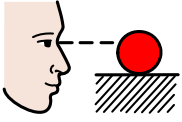
Dip the tissue for several seconds.



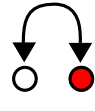


Colour

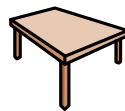
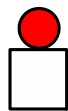
split



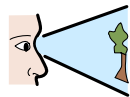
Watch what happens as the water rises up.



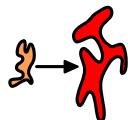
Is this quick or slow?



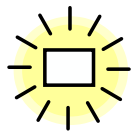
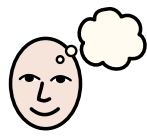
Put the tissue on the table.



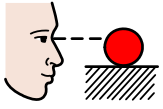
What do you see?



Have the colours changed?



Think of new experiments



Watch



paint

being



mixed



in

a



DIY store



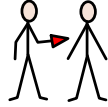
Are

the

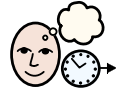


colours

what



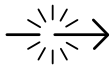
you



expect?

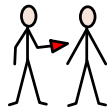


What



happens

when



you



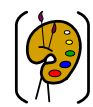
mix



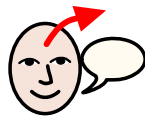
coloured paints



in



Art Class.



Explanation



Colours



are mixed



to make



a felt-tip



have a special



colour.



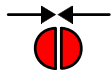
Different



colours

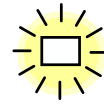


mixed



together

look like

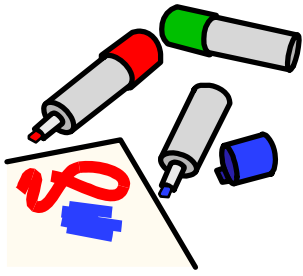


a

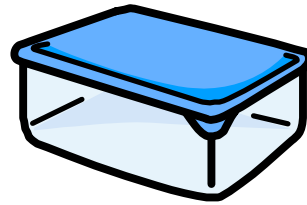
new



colour.



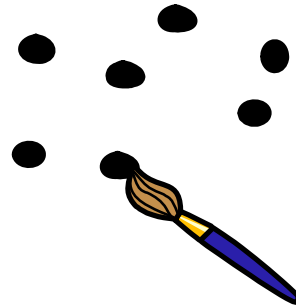
felt pens



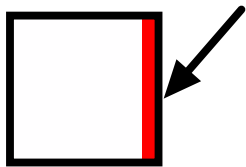
container



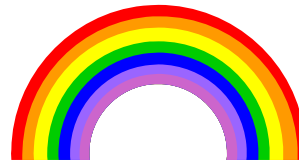
tissues



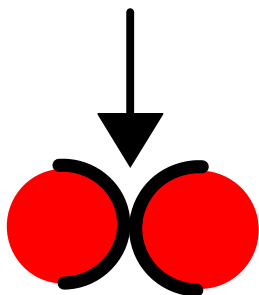
dots



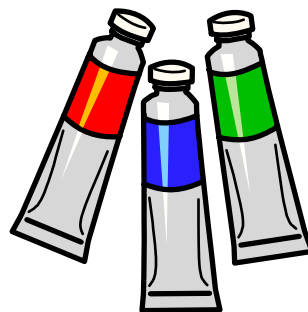
edge



colours



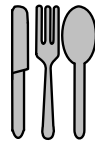
touch



paints



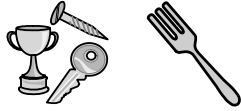
Noisy



cutlery



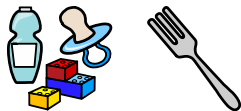
Equipment



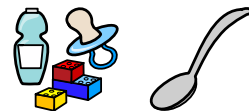
metal fork



metal spoon



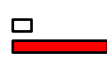
plastic fork



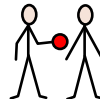
plastic spoon



piece of string



as long as



your



arm



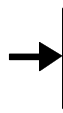
sticky tape



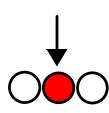
Tie



the fork



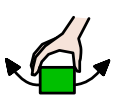
to



the middle



of the string.



Use



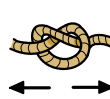
sticky tape



to



hold it



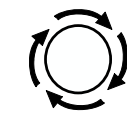
tight.



Wrap

one

end of the string



around



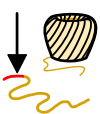
your

first finger

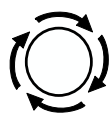


Wrap

the other



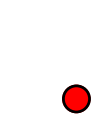
end



around



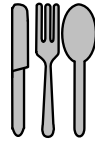
the first finger



of your other

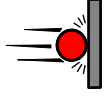
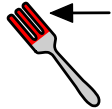


hand.

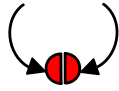


Noisy

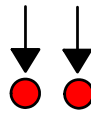
cutlery



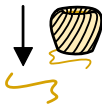
Swing the prongs against the edge of a table.



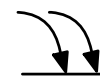
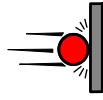
Listen to the sound it makes.



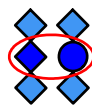
Now put your fingers in both your ears.



Keep the string attached.

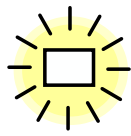
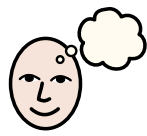


Knock the prongs against the edge of the table again.

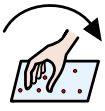


What is the difference?

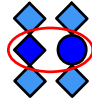




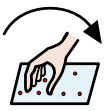
Think of new experiments



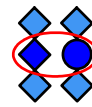
Try the experiment with the metal spoon



What is the difference?



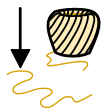
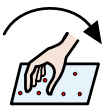
try with the plastic fork and spoon



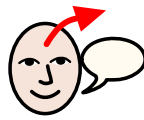
What is the difference?



Try the experiment with different string.



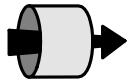
Try thin string and thick string.



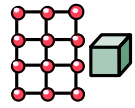
Explanation



Sound travels



through



solids



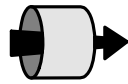
best.



Sound travels



well



through



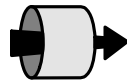
string



Sound travel



badly



through



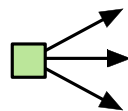
air.



Some



objects



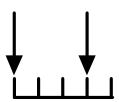
give out



more



sound.



Some



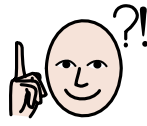
objects



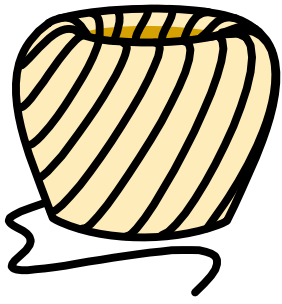
vibrate



more



easily.



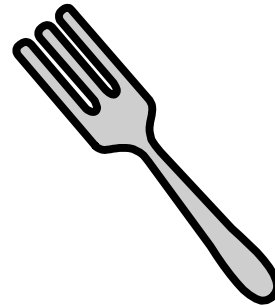
string



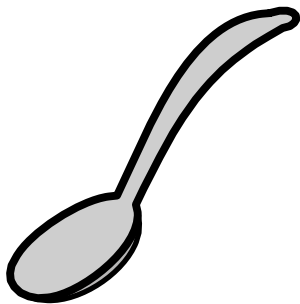
metal



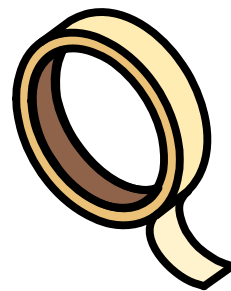
plastic



fork



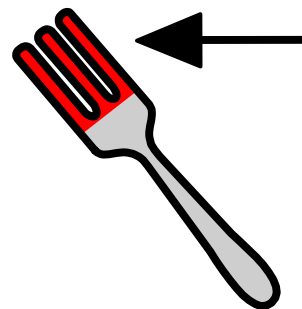
spoon



sticky tape



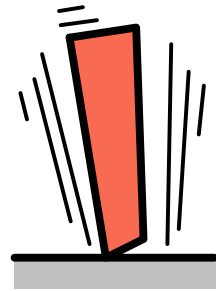
listen



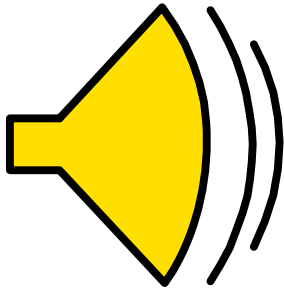
prongs



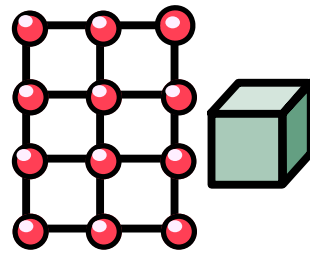
first finger



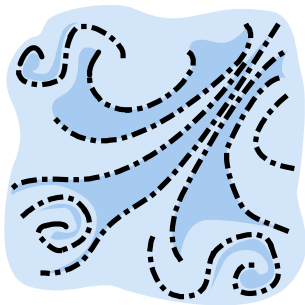
vibrate



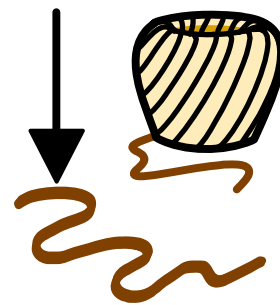
sound



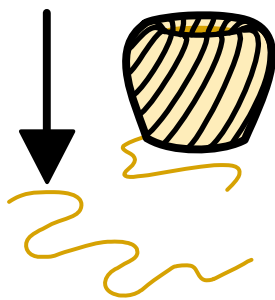
solid



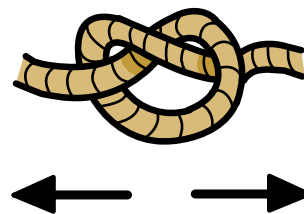
air



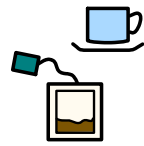
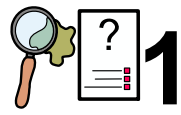
thick string



thin string



tight



Investigation 1: Teabag trouble

Equipment

loose tea

3 glasses

3 clippits

3 pegs

teaspoon

kitchen roll

j-cloth

newspaper

material



Imagine you have no tea bags.



Mum's friend is coming at tea time.



You have loose tea.



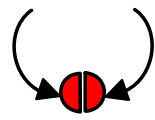
You do not have a tea strainer.



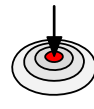
Can you make tea bags?



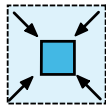
Which material is best to make tea bags?



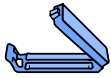
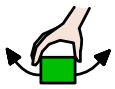
Making teabags



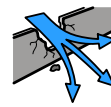
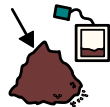
Put a teaspoon of loose tea in the middle of a piece of kitchen roll.



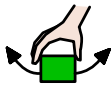
Fold up the edges around the loose tea.



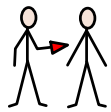
Use a clip and fasten the loose tea inside the kitchen roll.



It is important the loose tea cannot escape.



Repeat using the j-cloth and the newspaper.



3



Now You have 3 teabags.



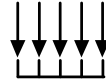
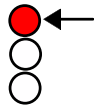
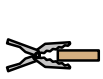
3



Carefully fill 3 glasses with hot water.



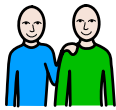
The experiment



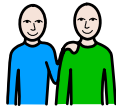
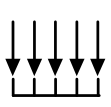
Clip a peg to the top of each teabag.



2



Ask two friends to help.



+



Give each friend a teabag and glass.



Dip the teabags in the hot water.



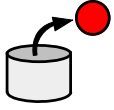
1



Dip the teabags for about a 1 minute.



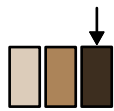
The experiment



Remove the tea bags.



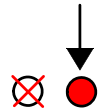
Do not drink the tea!



Which teabag is the darkest colour?



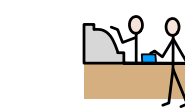
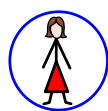
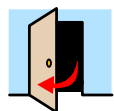
Did any tea bags leak?



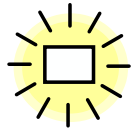
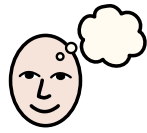
Try other materials.



What material makes the best teabag?



The shop opens and mum dashes to buy proper tea bags.



Think of new experiments



Why are some materials are better for making tea bags?



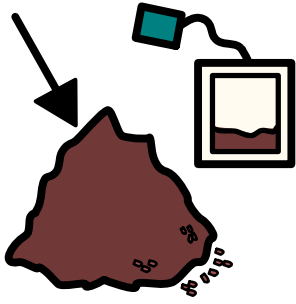
Can you explain?



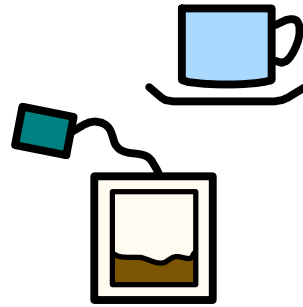
Can you think of better materials to use?



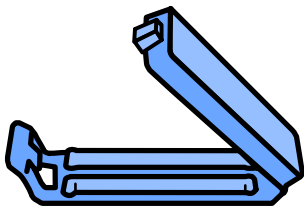
Design a poster showing your experiment.



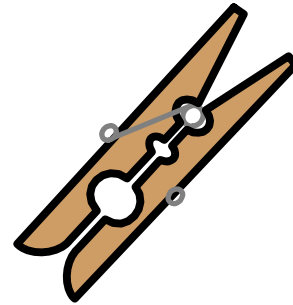
loose tea



teabag



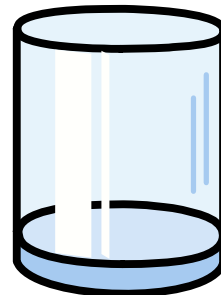
clippit



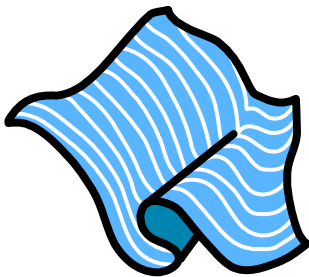
peg



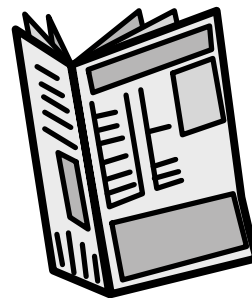
tea strainer



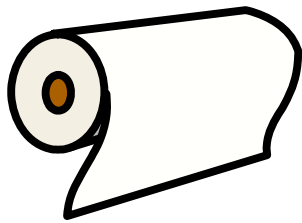
glass



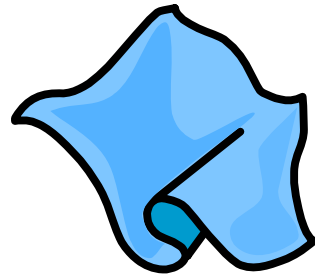
j-cloth



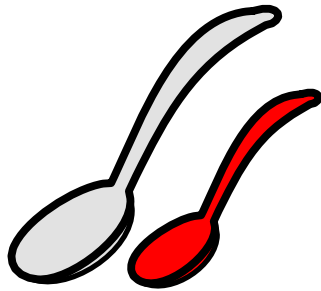
newspaper



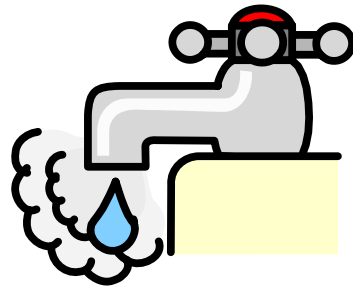
kitchen roll



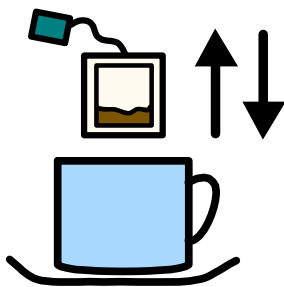
material



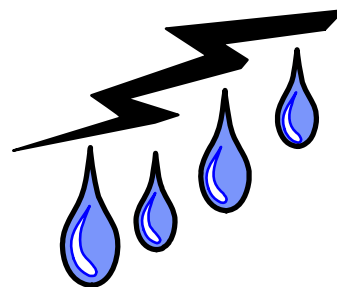
teaspoon



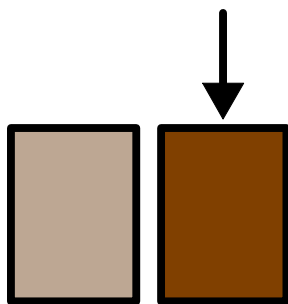
hot water



dunk



leak



strongest colour



don't drink



Teabag

trouble

data sheet



Which



material



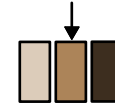
is



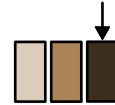
best?



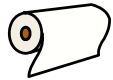
light colour



medium colour



dark colour



kitchen roll



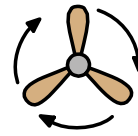
j-cloth



newspaper



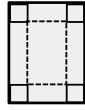
material



Investigation 2: Super spinners



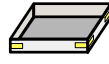
Equipment



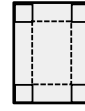
template



to make



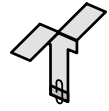
tray



template



to make



spinner



paperclips




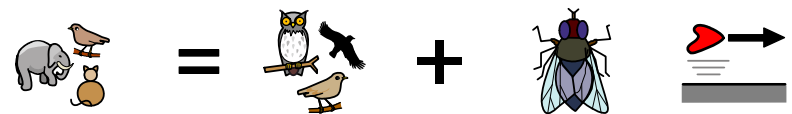
scissors





sticky tape

 Many things fly through the air.

 Aeroplanes, helicopters and gliders can fly.

 Animals like birds and insects can fly.

 Air is important for flight.

 No air means no flight.

 You will learn about things moving in the air.



1

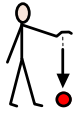
Experiment 1



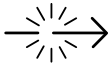
1



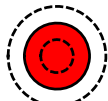
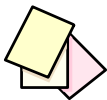
Hold 1 piece of paper flat.



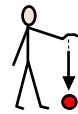
Drop the paper.



What happens?



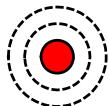
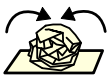
+



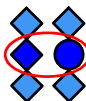
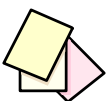
Scrunch up the paper a bit and drop it again.



What happens?



Scrunch the paper tightly.

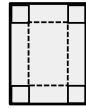
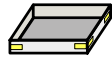


Does the paper fall differently?



1

Experiment 1



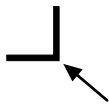
Look at the tray template.



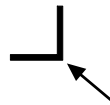
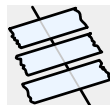
Carefully cut along the dotted lines.



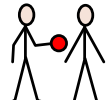
Fold along the straight lines.



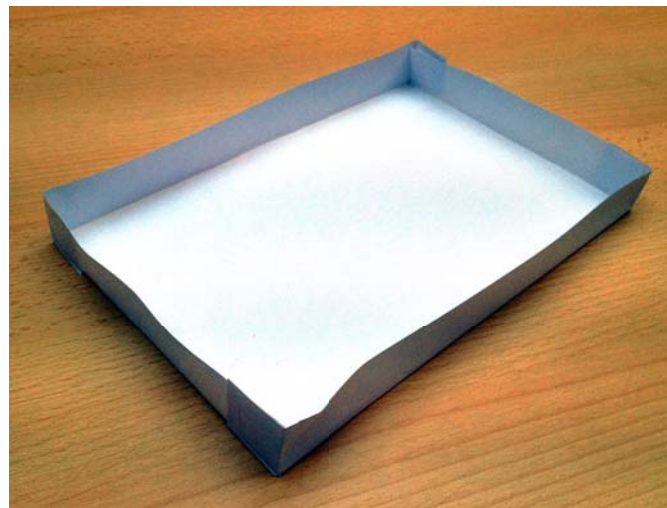
Fold the corners.



Put sticky tape to fasten the corners.



Make your tray like the picture.





1

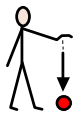
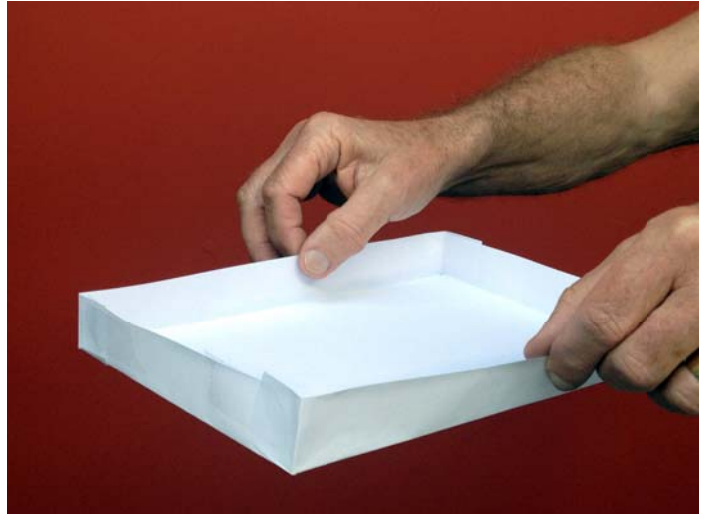
Experiment 1



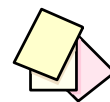
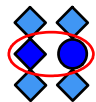
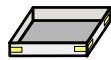
=



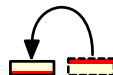
Hold the tray the right way up like the picture.



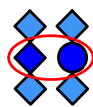
Drop the tray.



Does the tray fall differently to the piece of paper?

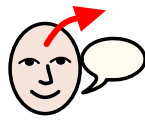


Try dropping the tray upside down.



What is the difference?

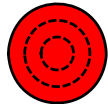




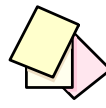
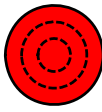
Explanation



Air resistance affects falling objects.



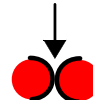
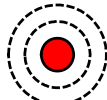
Paper has a large area.



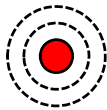
The air resistance is large and the paper is light.



The piece of paper falls slowly.



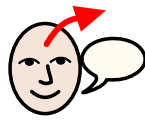
Scrunched up paper has a smaller area touching the air.



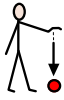
The air resistance is smaller.



The scrunched up paper falls faster.



Explanation



Dropping the tray the right way up.



The air can flow smoothly past the edges.



The tray is streamlined.



The tray falls smoothly.



The tray does not wobble.



Dropping the tray upside down.



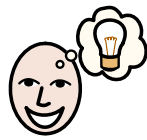
Air is trapped underneath.



The air tries to escape causing the tray to wobble.



The tray might turn over during the fall.



Ideas to talk about



air resistance



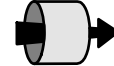
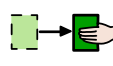
area



streamlined



Cars, planes and bikes are streamlined.



Cars, planes and bikes can move fast through air easily.



Think about cyclist's clothing.



2

Experiment 2



Cut out the medium spinner.



=



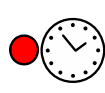
Fold it like the picture.



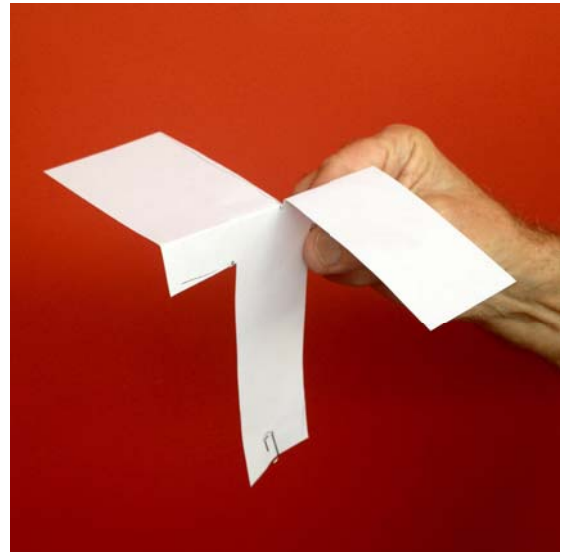
Put a paper clip at the bottom.



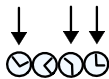
Drop it from a height.



you must ask before climbing on furniture.



Watch the spinner during the fall.



Try it several times.



Does it spin?



Does it start spinning straight away?



2

Experiment 2



Repeat the using the large spinner.



Make sure you look for all the differences.



Write down all the differences you can.



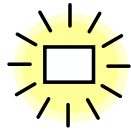
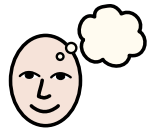
Try again using the small spinner.



Which spinner is best?



Can you improve the spinners?



Think of new experiments



Add more paper clips to the bottom.



Try cutting the wings smaller.



Try more experiments.



Which spinner falls the slowest and spins well?



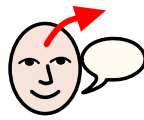
Write down the results.



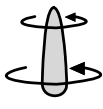
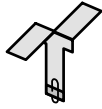
OR



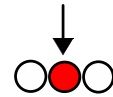
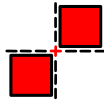
Tell other people the results and demonstrate your spinners.



Explanation



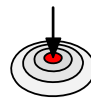
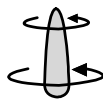
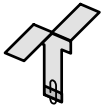
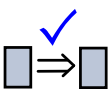
Why does the spinner spin?



The wings are on diagonally opposite sides of the middle.



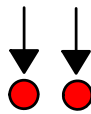
The air resistance pushes the wings in opposite directions,



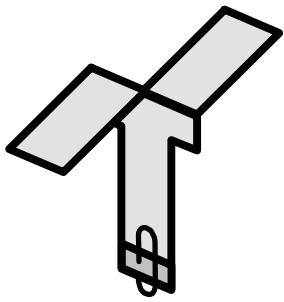
causing the spinner to spin around the centre.



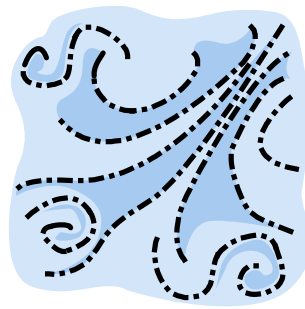
2



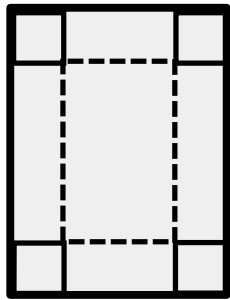
Imagine 2 people pushing either side of a roundabout.



spinner



air



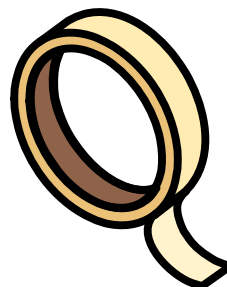
template



scissors



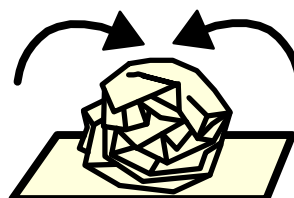
paperclip



sticky tape



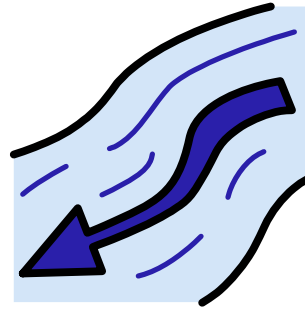
tray



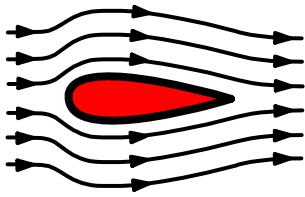
scrunch



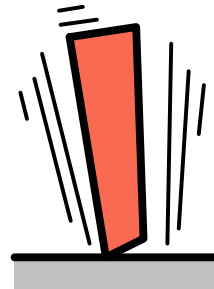
air resistance



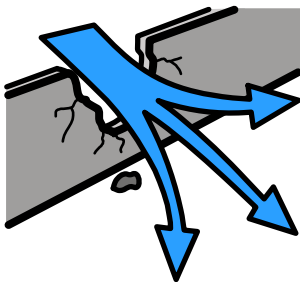
flow



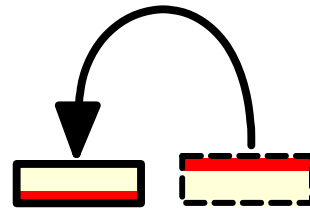
streamlined



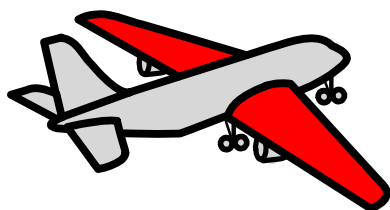
wobble



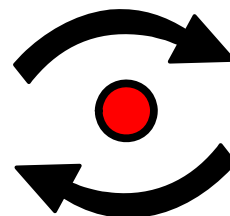
escape



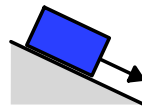
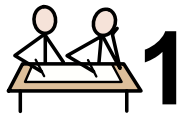
turn over



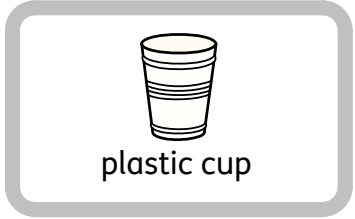
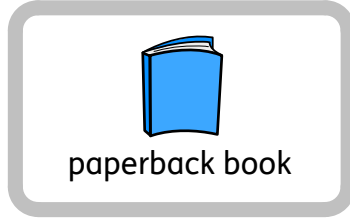
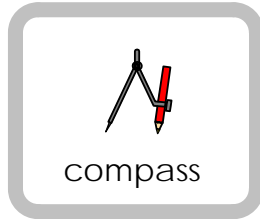
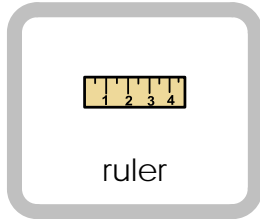
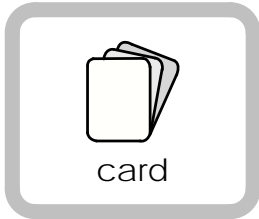
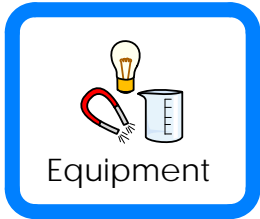
wing







opposite directions

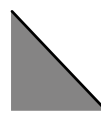
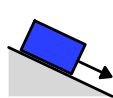
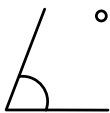


Group work 1: Slippery slopes

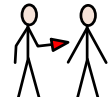


2  measuring: **30 x 12 x 1**  **cm**
two pieces of wood measuring: 30 x 12 x 1 cm

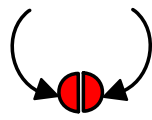
1  measuring: **3 x 4.5 x 8**  **cm**
1 pieces of wood measuring: 3 x 4.5 x 8 cm



At what angle do objects slide down a slope?



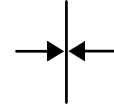
During this experiment you will find out.



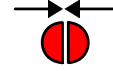
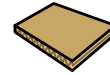
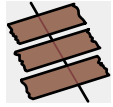
Make the slope



2



Put the ends of the two pieces of wood together.



Use strips of parcel tape to join the wood together.



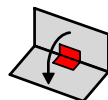
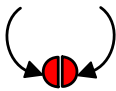
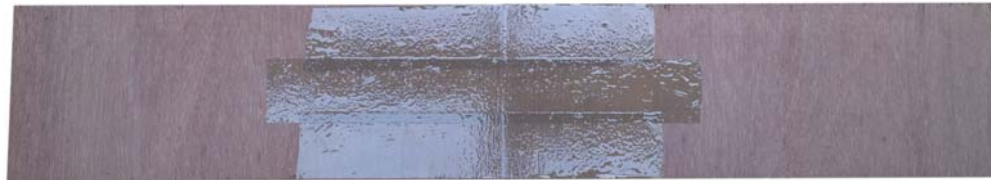
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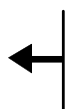
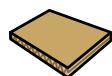
Make sure the tape is pressed down and sticks well.



The parcel tape makes a hinge.

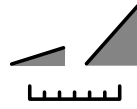


1

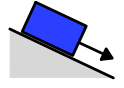
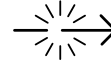
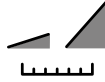
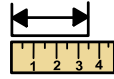


Fold one piece of wood back.

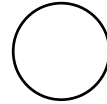
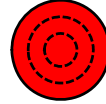
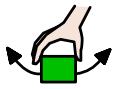




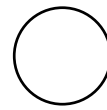
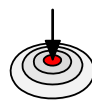
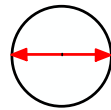
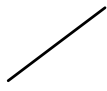
Steepness scale



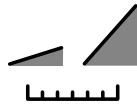
This experiment measures steepness of a slope when an object slides.



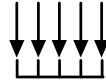
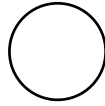
Use a compass to draw a big circle on the card.



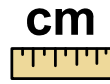
Draw a line across the centre of the circle.



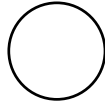
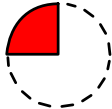
Steepness scale



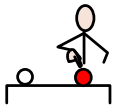
2



Make marks along the edge of the circle every 2 cm.



Mark a quarter of the circle.



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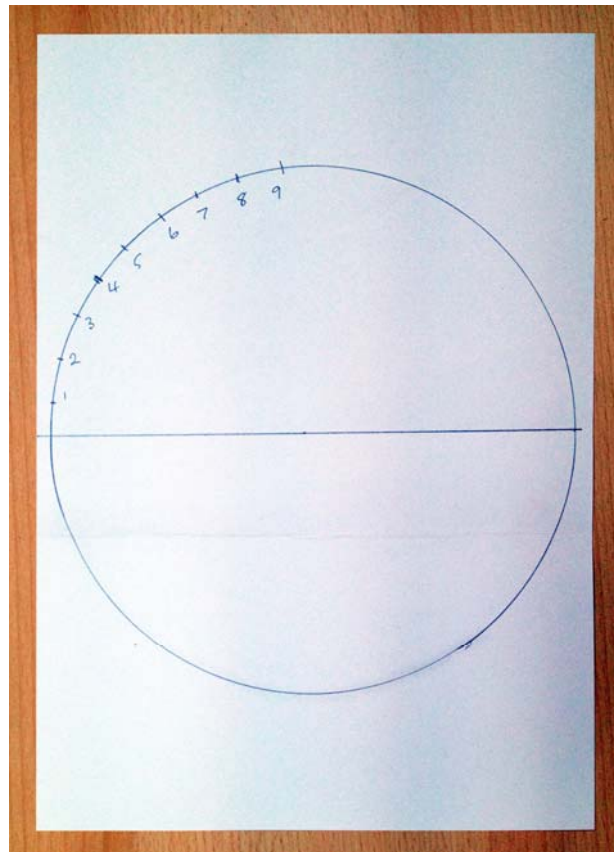
This is a steepness scale.

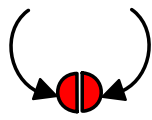


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Use the ruler to mark accurately like the picture.





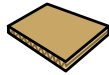
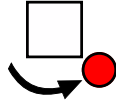
Putting together the apparatus



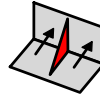
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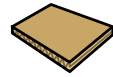
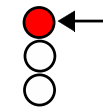
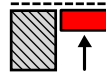
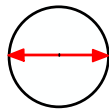
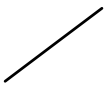
Putting together the apparatus is tricky.



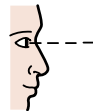
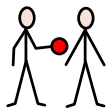
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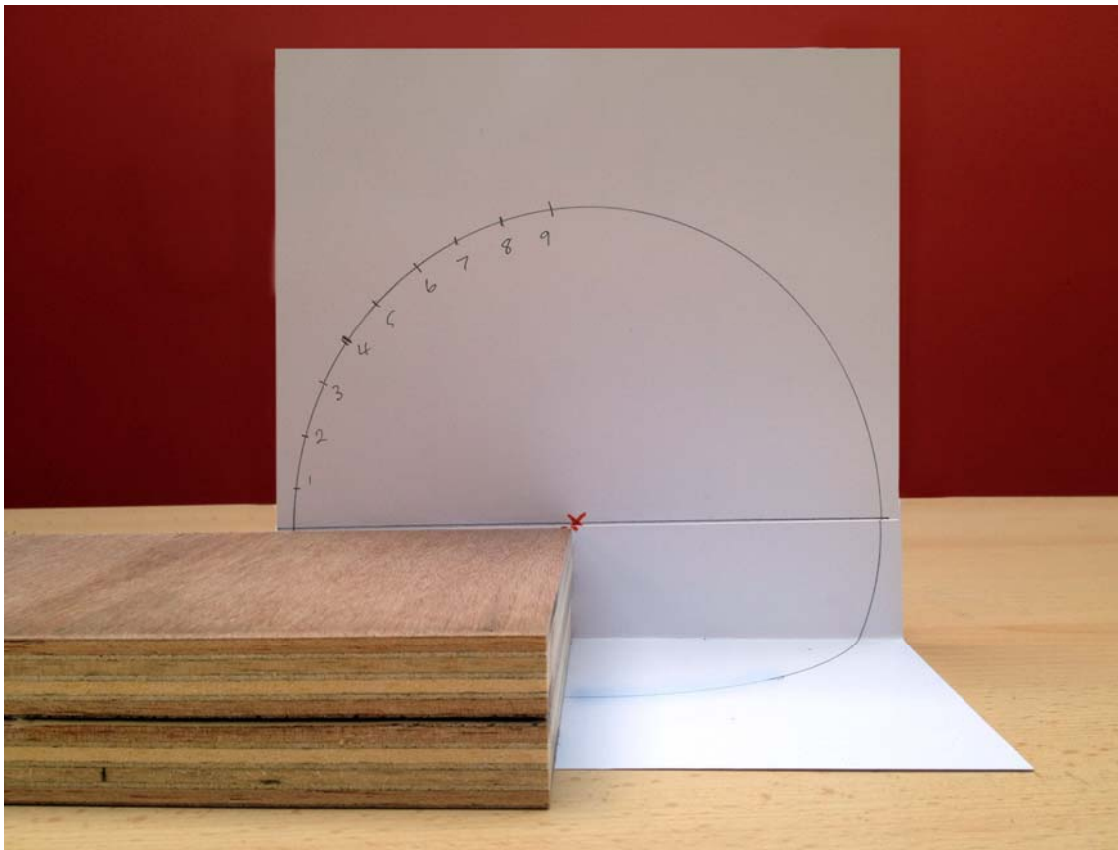
Fold the card under the wood and prop it up.



The line through the circle must line up with the top of the wood.

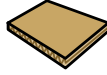
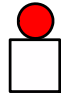


Make sure your apparatus looks like the picture.

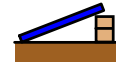
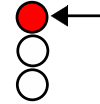




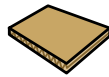
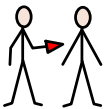
The experiment



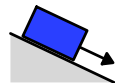
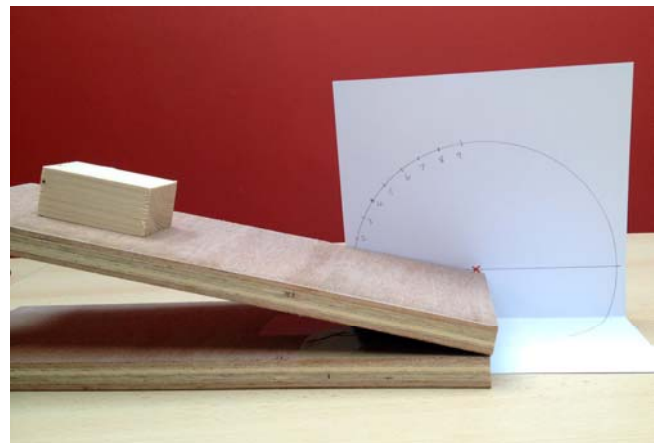
Put an object on top of the wood.



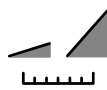
Slowly Lift the top piece of wood to make a slope.



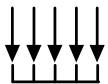
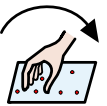
You must lift the wood very slowly.



When the object starts to slide,

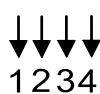
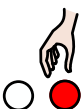


look at the steepness scale and remember the number.



3x

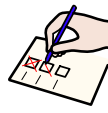
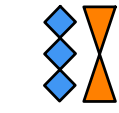
Try each experiment three times.



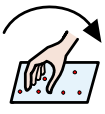
Decide the best number and fill in the data sheet.



The experiment



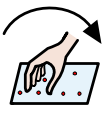
Try different objects and fill in the data sheet:



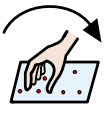
Try the paperback book.



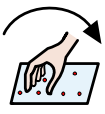
Try the plastic cup.



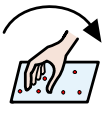
Try the scouring sponge on the rough side



Try the scouring sponge on the smooth side.



Try the block of wood on the thick edge.



Try the block of wood on the thin edge.

???

Questions

?

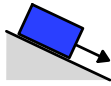


2



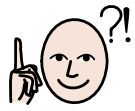
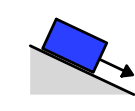
What is interesting about the two block of wood experiments?

?

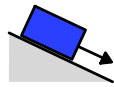


Which objects slide easily.

?



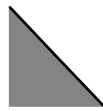
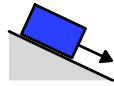
Which objects do not slide easily



=



when would slipping on a slope be useful



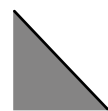
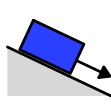
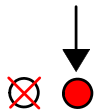
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When would slipping on a slope be dangerous?



Think about activities in mountains.



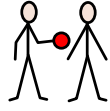
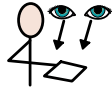
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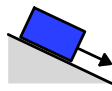
Where else would slipping on a slope be a problem?



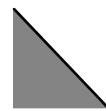
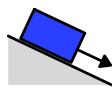
Results poster



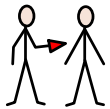
Make a poster showing your results.



Write about places where slipping on a slope is useful.



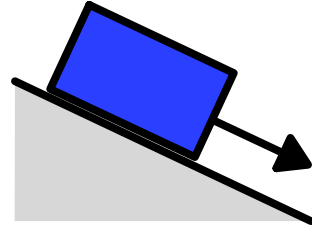
Write about places where slipping on a slope is dangerous.



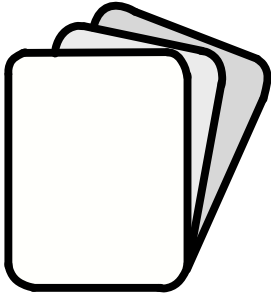
Make you poster colourful.



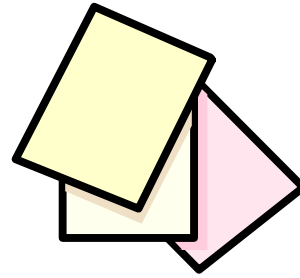
objects



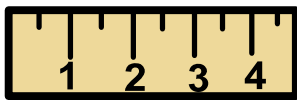
slide



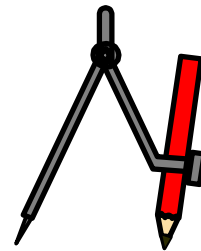
card



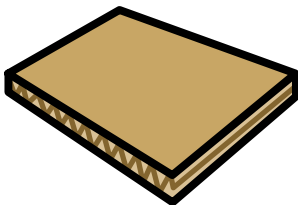
paper



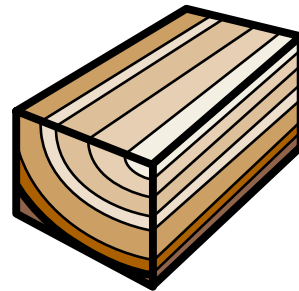
ruler



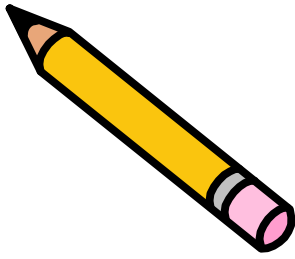
compass



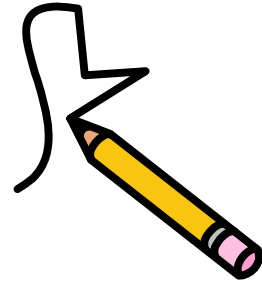
piece of wood



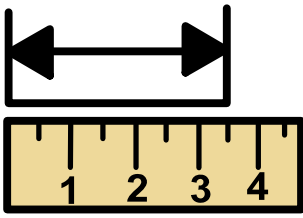
block of wood



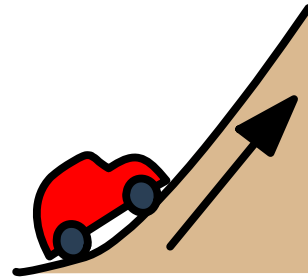
pencil



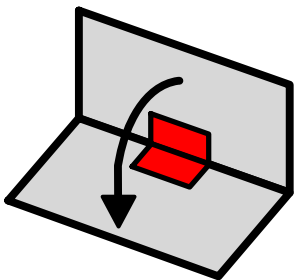
mark



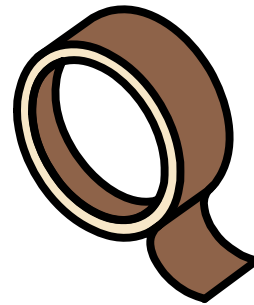
measure



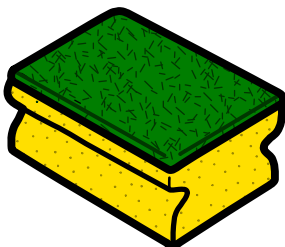
steep



hinge



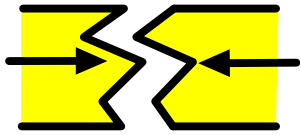
parcel tape



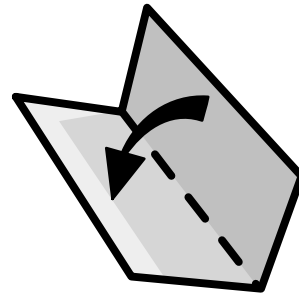
scouring sponge



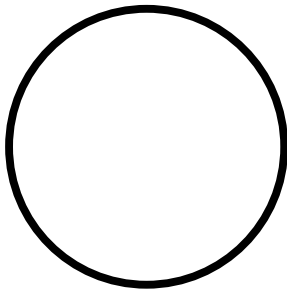
plastic cup



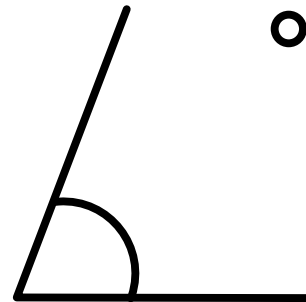
join



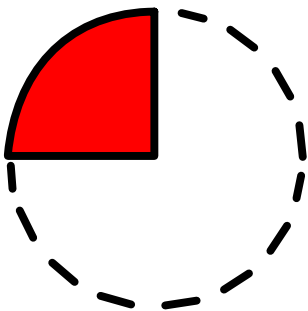
fold



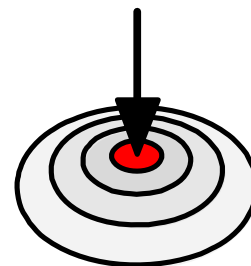
circle



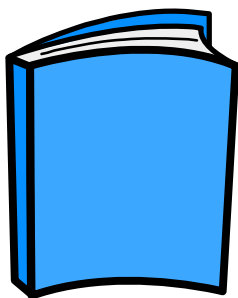
angle



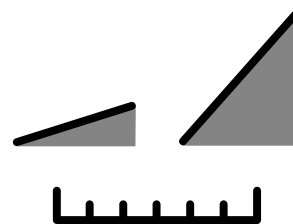
quarter



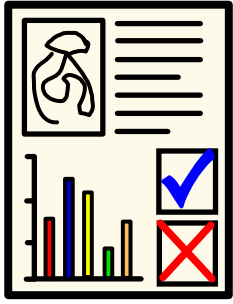
centre



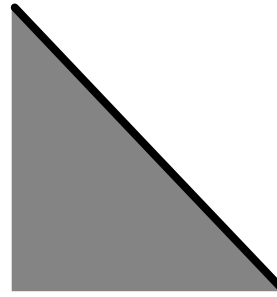
paperback book



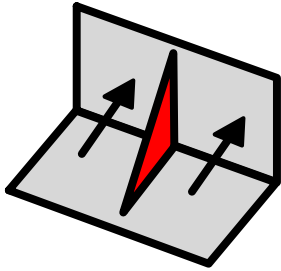
steepness scale



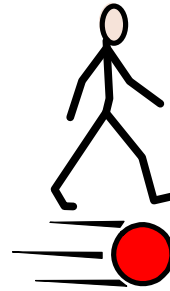
data sheet



slope



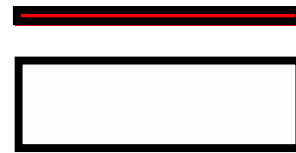
prop



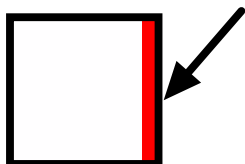
slow



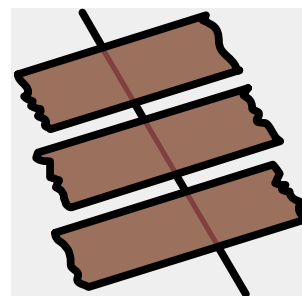
thick



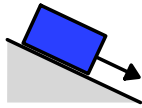
thin



edge



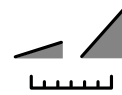
strips of tape



Slippery slopes data sheet



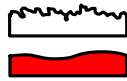
Material



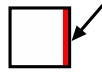
Steepness scale



scouring sponge



smooth



side

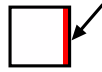
1 2 3 4 5 6 7 8 9



scouring sponge



rough



side

1 2 3 4 5 6 7 8 9



paperback book

1 2 3 4 5 6 7 8 9

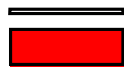


plastic cup

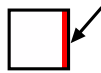
1 2 3 4 5 6 7 8 9



block of wood



thick



edge

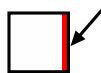
1 2 3 4 5 6 7 8 9



block of wood

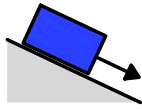


thin



edge

1 2 3 4 5 6 7 8 9



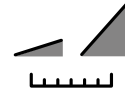
Slippery slopes



data sheet



Material



Steepness scale

1 2 3 4 5 6 7 8 9

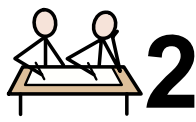
1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9

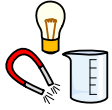
1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9

1 2 3 4 5 6 7 8 9



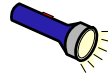
Group work 2: Slipping slopes



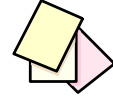
apparatus



card



torch



paper



jug



sugar



COUSCOUS



lentils



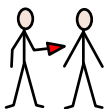
flour



rice



How high can you make a heap?



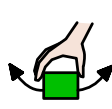
You will



make



a heap



using



different



materials.



The experiment



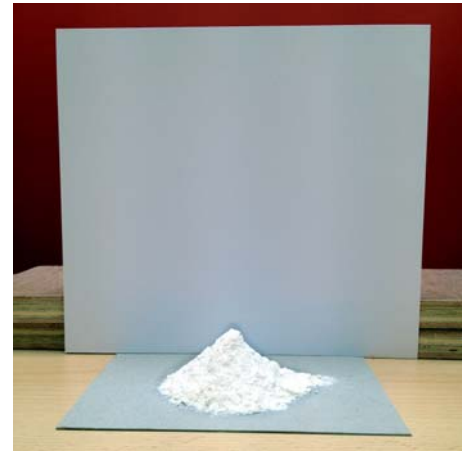
Put the couscous into the jug.



Very gently pour onto a sheet of paper.



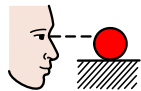
Try to make the highest heap.



Fold a piece of card and prop it up behind the heap.



Put a torch level with the heap and the paper.



You should see the heap shadow on the paper.



Carefully draw around the shadow.





The experiment



Repeat the experiment using sugar, Flour, Rice, lentils.



Which makes the steepest heap?



Which makes the most pointed heap?



Experiment using other materials.



Results poster



Make a poster showing your results.



Put the shadow drawings on the poster.



Write about the experiment.



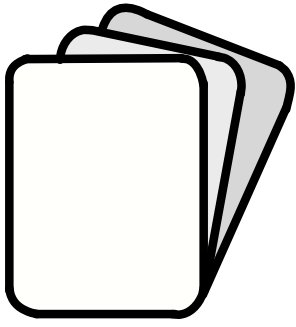
Think about places where slopes slip down.



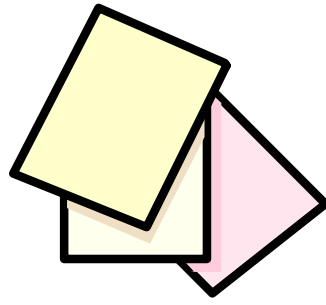
Think about when slopes slip down.



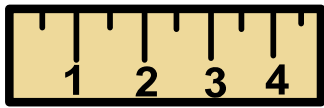
Find information about the Aberfan landslide.



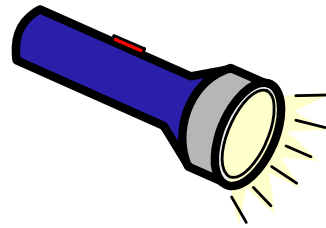
card



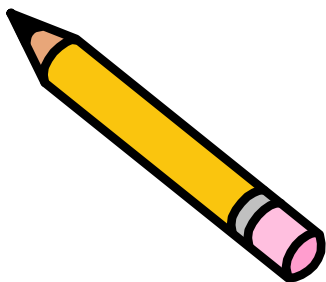
paper



ruler



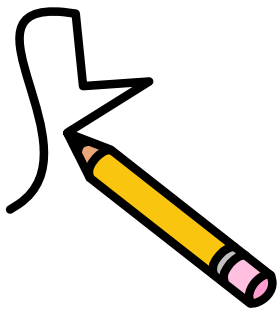
torch



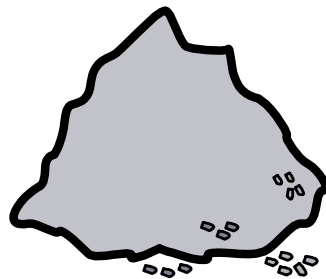
pencil



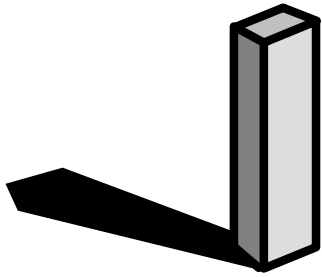
jug



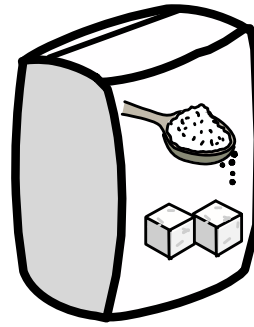
draw



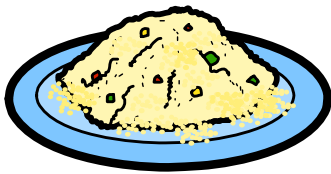
heap



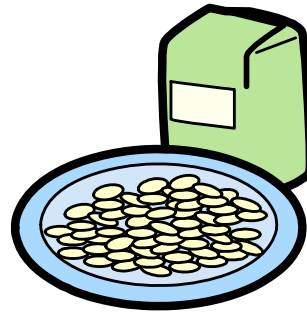
shadow



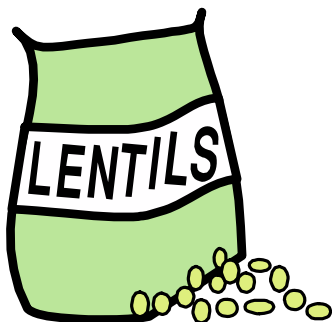
sugar



COUSCOUS



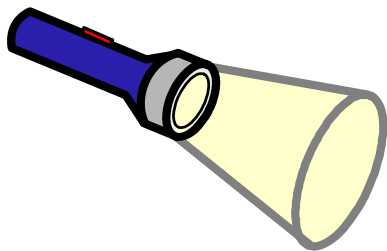
rice



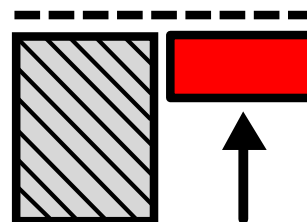
lentils



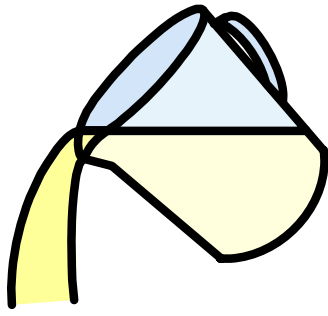
flour



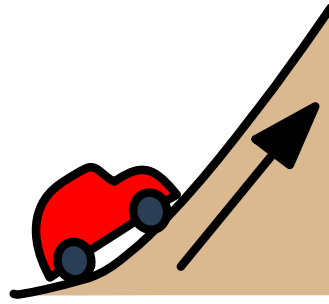
shine



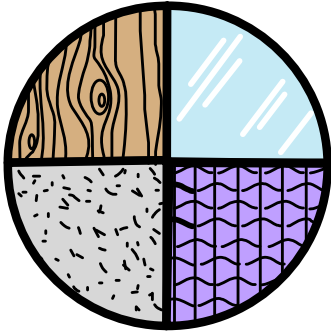
level



pour



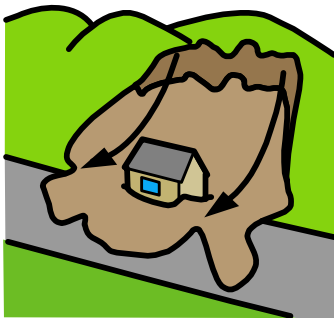
steep



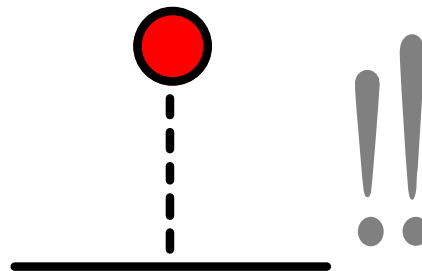
materials



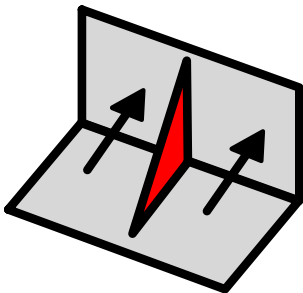
avalanche



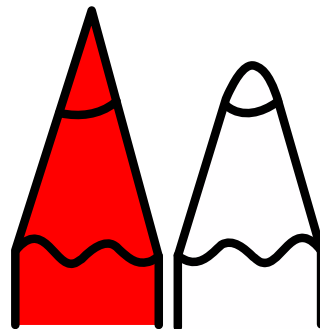
landslide



highest



prop



pointed



Slipping slopes data sheet



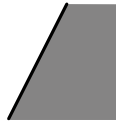
Heap



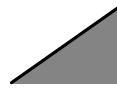
steepness



material



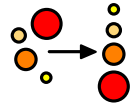
high



medium



low



order



sugar



lentils



flour



rice



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