



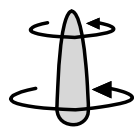
Super Science

Symbol supported
science activities

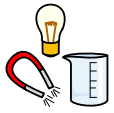
Part of the British Science Association's National Science & Engineering Week activity pack series. www.nsew.org.uk

BIS | Department for
Business Innovation & Skills

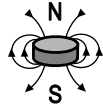




Spinning screws



Equipment



magnet



screw



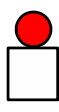
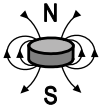
battery



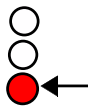
wire



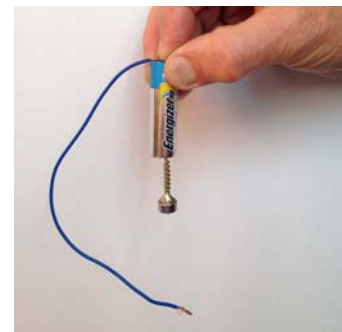
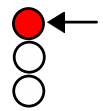
Put the magnet on top of the screw.



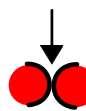
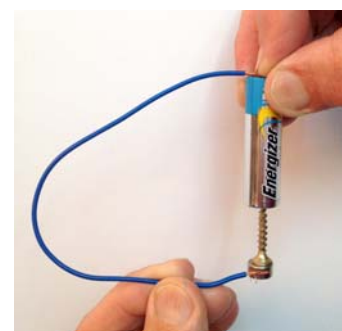
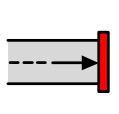
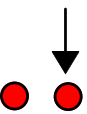
Put screw tip on the bottom of the battery.



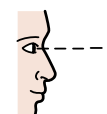
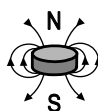
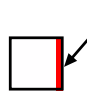
Put the wire on top of the battery.



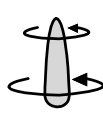
Find the other end of the wire.

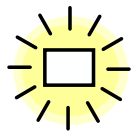
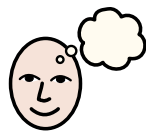


Touch the wire on the edge of the magnet.

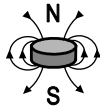
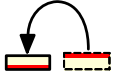


Watch the screw spin.

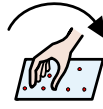




Think of new experiments

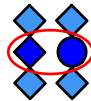


+

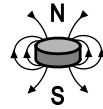
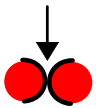


Turn over the magnet and try the experiment again

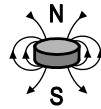
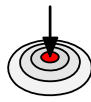
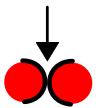
?



What is the difference?



Touch the wire on the bottom of the magnet.

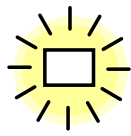
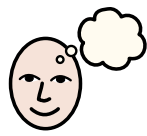


Touch the wire in the middle of the magnet.

?



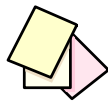
Does it work as easily?



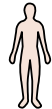
Think of new experiments



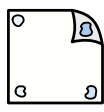
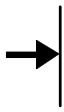
Decorate the screw.



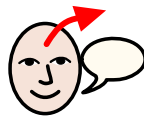
Get some small bits of paper.



Make some wings or a body.



Stick it to the screw with blu-tac.



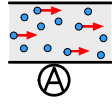
Explanation



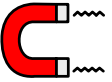
The battery



makes



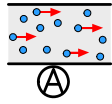
a current.



Magnetism

+

and



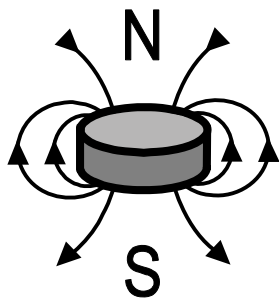
a current

=

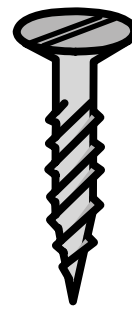
creates



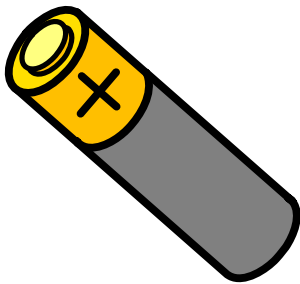
movement.



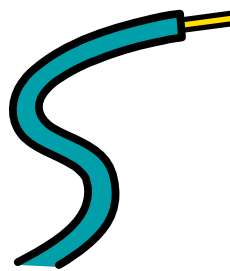
magnet



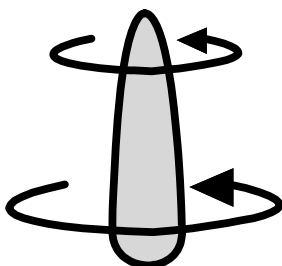
screw



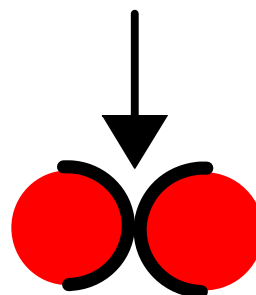
battery



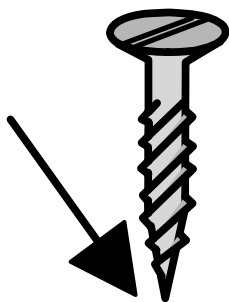
wire



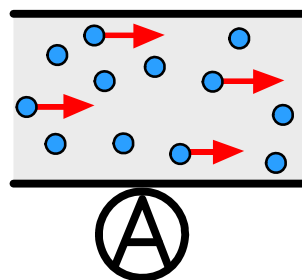
spin



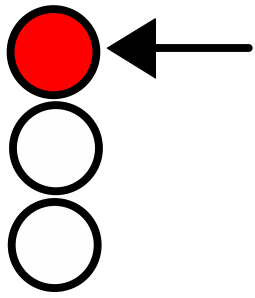
touch



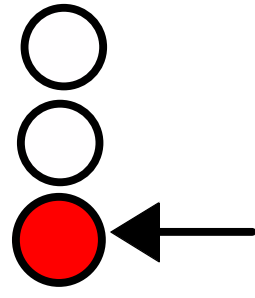
tip



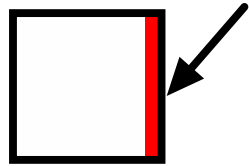
current



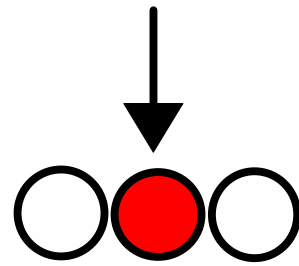
top



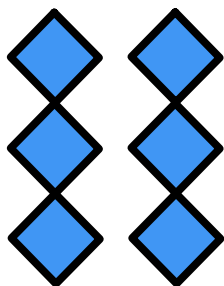
bottom



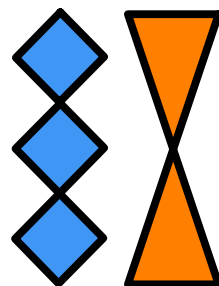
side



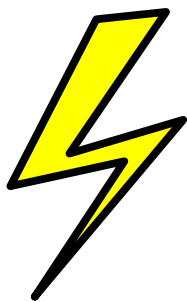
middle



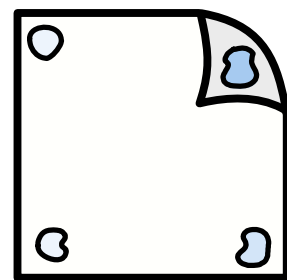
same



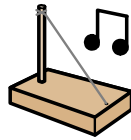
different



electricity



blu-tac



Skiffle bass data sheet



Listen to the note



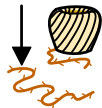
high



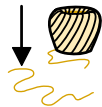
medium



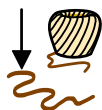
low



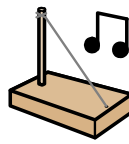
thin string



medium string



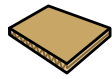
heavy string



skiffle bass



Equipment



a cardboard



or



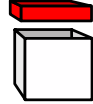
wooden



box



without



a lid



a washer



or



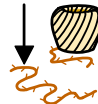
bead



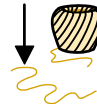
different



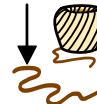
threads:



twine,



light string,



heavy string



60cm



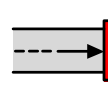
strip of wood



with



a hole



at the end



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



or



to the

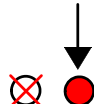


end of the string.



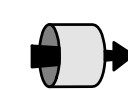
Put

the

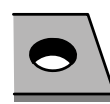


other

end of the string



through



the hole



in

the



box.



The washer



or



bead



must

be

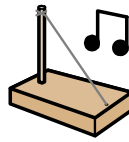
inside



the



box.

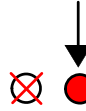


skiffle bass

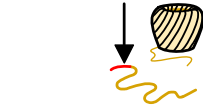


Thread

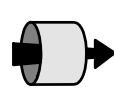
the



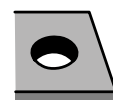
other



end of the string



through



the hole



in



the stick.

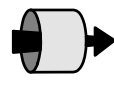


Pull

the



string



through

=

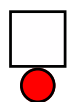


the same as

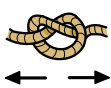
the



picture

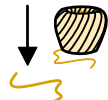


below.

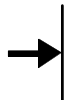


Tightly tie

the



string

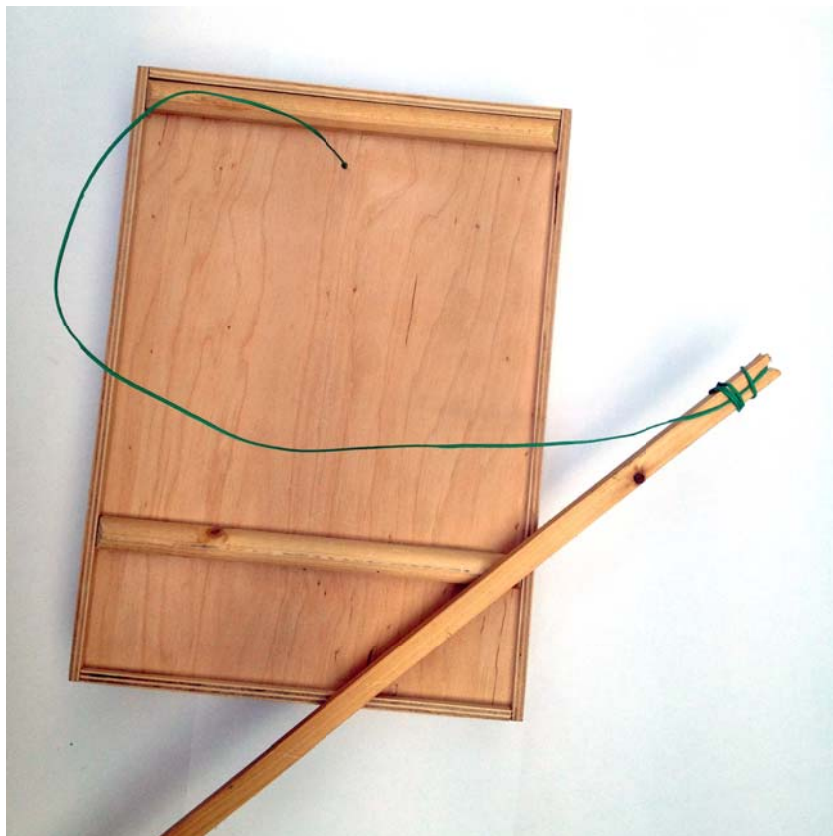


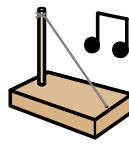
to

the

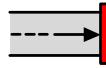
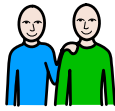


stick.

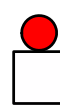
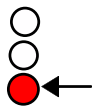
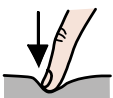




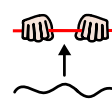
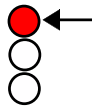
skiffle bass



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

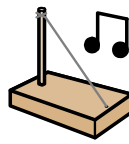


Press the bottom of the stick down on the box



Pull the top of the stick so the string tight.





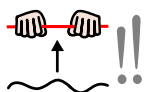
skiffle bass



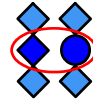
+



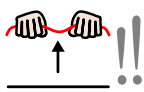
Pluck the string and listen to the note.



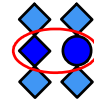
?



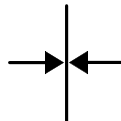
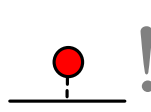
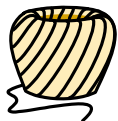
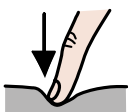
Tighten the string, What is the difference?



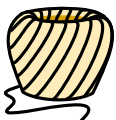
?



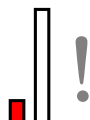
loosen the string, What is the difference?



Press the string lower against the stick.



=

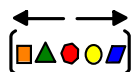
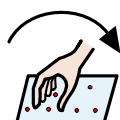


The string is shorter.

?

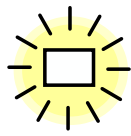
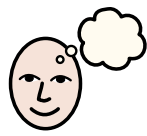


Is the note different?



Try a range of notes.

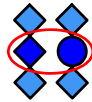




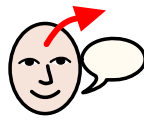
Think of new experiments



Change the thickness of the string.



What is the difference?



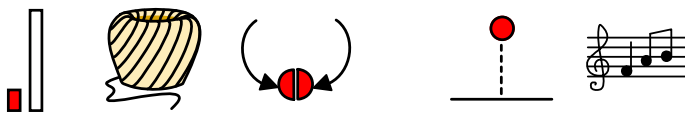
Explanation



A tight string vibrates faster.



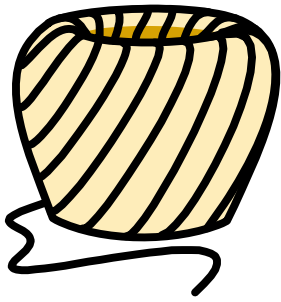
A faster vibration makes a higher note.



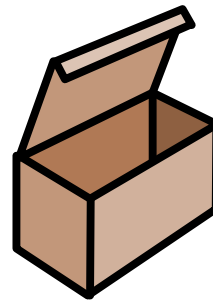
A short string makes a high note.



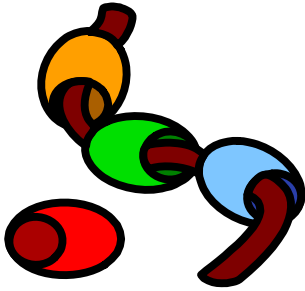
A thick string makes a low note.



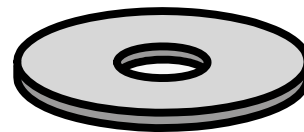
string



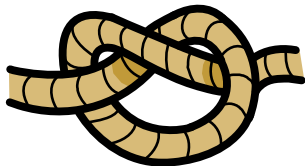
box



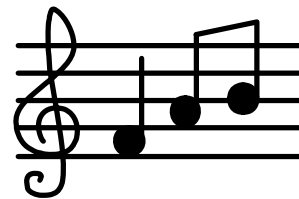
bead



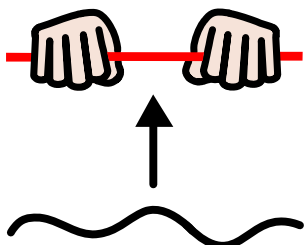
washer



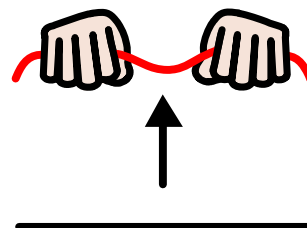
tie



note



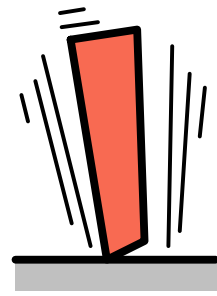
tight



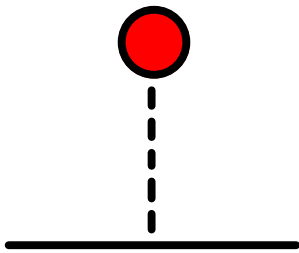
loose



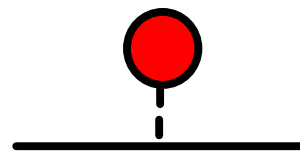
listen



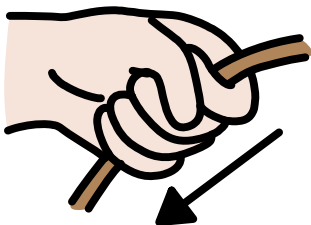
vibrate



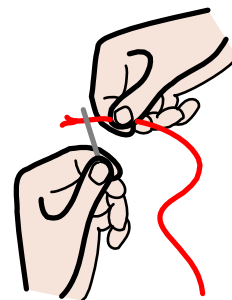
high



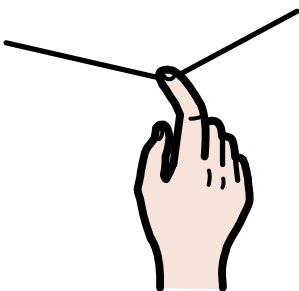
low



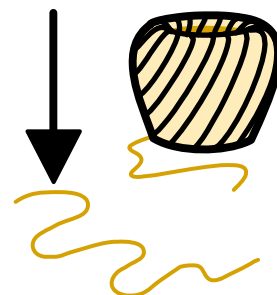
pull



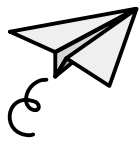
thread



pluck



thin string



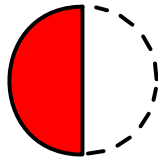
Aeroplane engineers



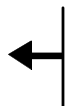
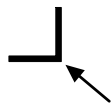
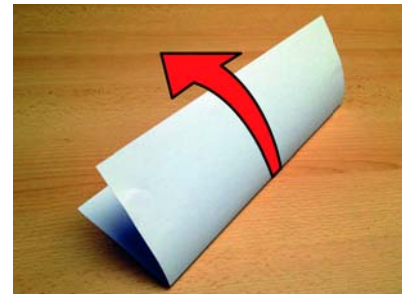
Equipment



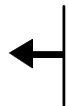
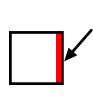
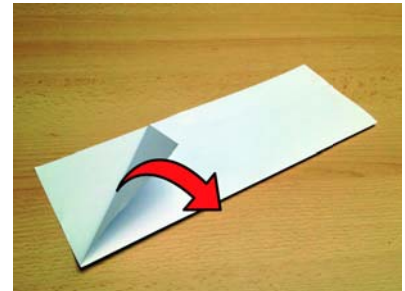
sheets of paper



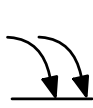
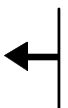
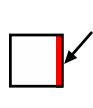
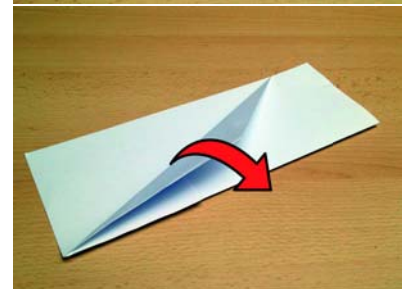
Fold the paper in half.



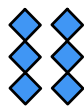
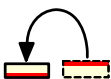
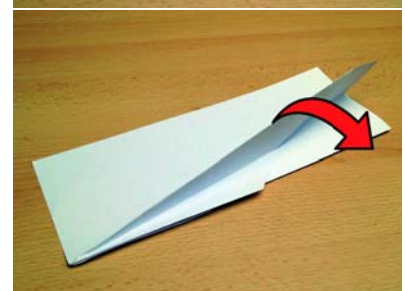
Fold the corner back.



Fold the edge back.



Fold the edge back again.

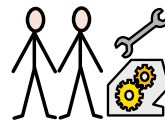
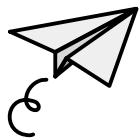


Turn over and fold the same.

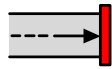


Unfold the plane.

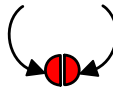
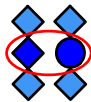




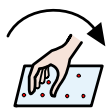
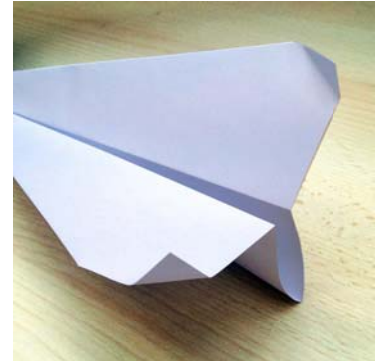
Aeroplane engineers



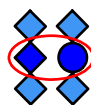
Fold up the end of the wings a little.



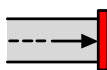
What difference does the fold make?



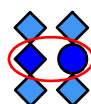
Try folding the wings up more.



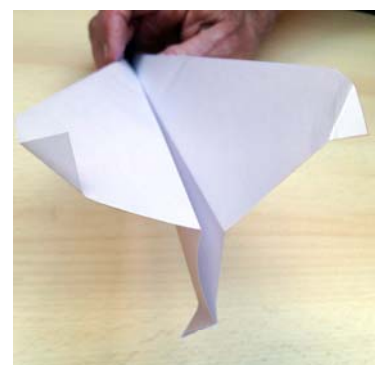
What is the difference?

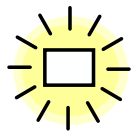
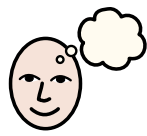


Fold the ends of the wings and the body clockwise.

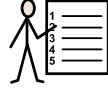
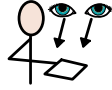


What is the difference?





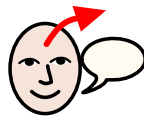
Think of new experiments



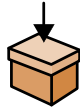
Find a book that shows you how to make paper planes.



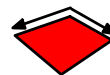
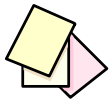
How much better are these?



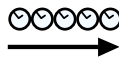
Explanation



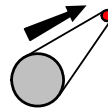
Air resistance slow objects when they fall.



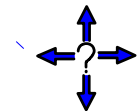
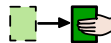
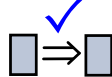
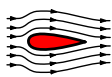
Paper is light and has a large area.



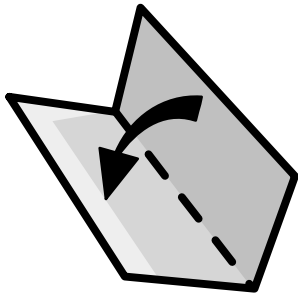
Air resistance means paper takes time to fall.



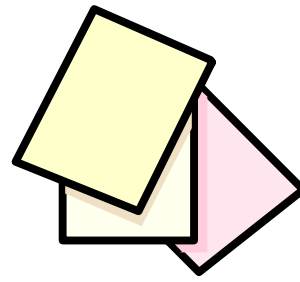
A good paper plane can fly a long way while it is falling.



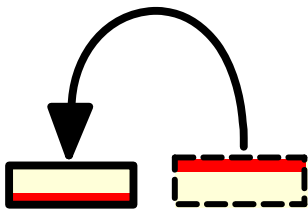
Wing shape causes the air to move the plane in different directions.



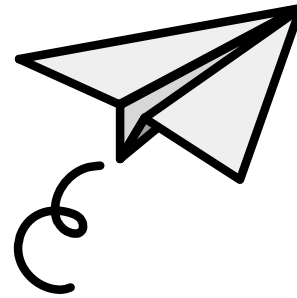
fold



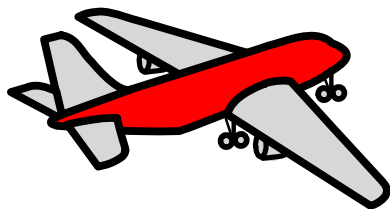
paper



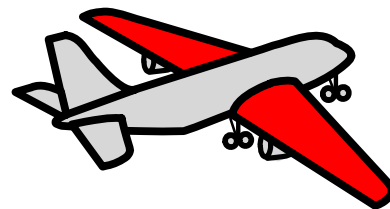
turn over



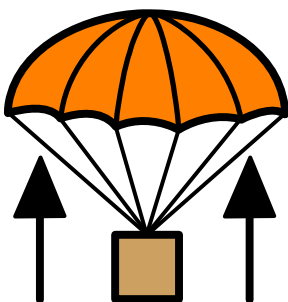
plane



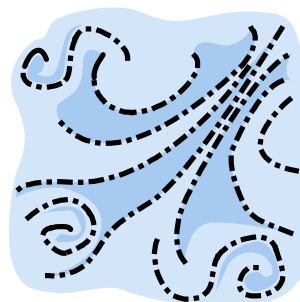
body



wings



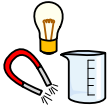
air resistance



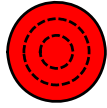
air



Fizzics experiment



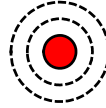
Equipment



large



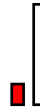
balloon



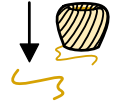
small



funnel



short



string



Bottle



of

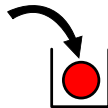
very



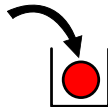
fizzy drink



Put the funnel into the balloon.



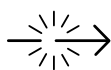
Pour fizzy drink into the balloon.



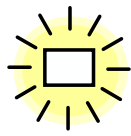
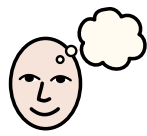
Quickly tie the balloon.



Shake the balloon to make the drink fizz.



What happens?



Think of new experiments



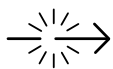
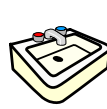
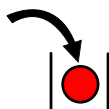
Try fizzy water.



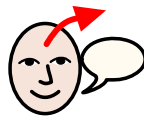
Does fizzy water work as well.





Try putting the balloon in a sink of warm water.

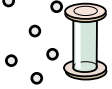






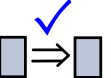
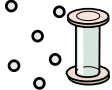

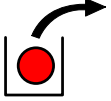
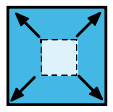

What happens.



Explanation

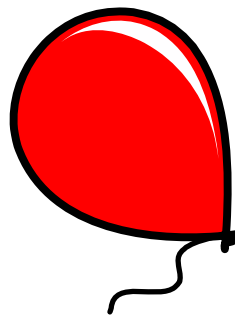
   = 
the gas in fizzy drinks is carbon dioxide.

   
The gas dissolves in the liquid.

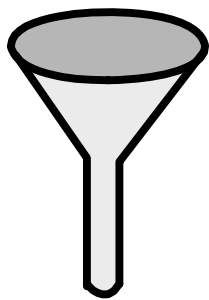
     +  
Shaking causes the gas to fizz out and expand the balloon.



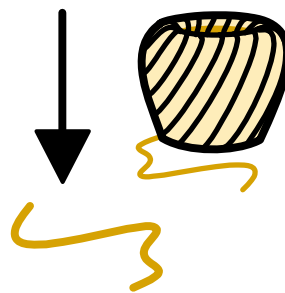
fizzy



balloon



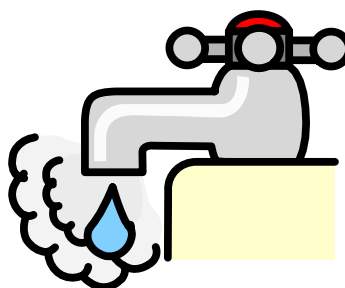
funnel



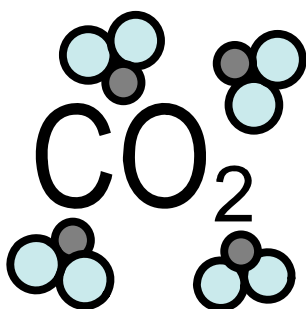
string



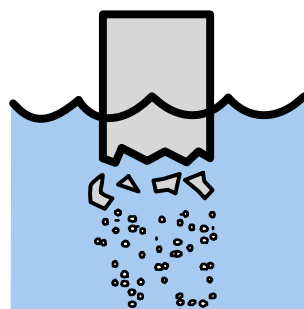
shake



warm water



carbon dioxide



dissolve



Invisible



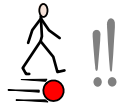
treacle



data sheet



Which is



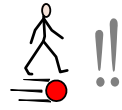
the slowest?



fastest



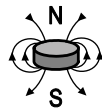
medium



slowest

1

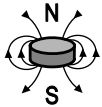
One



magnet

2

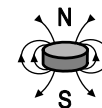
Two



magnets

3

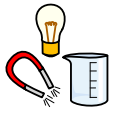
Three



magnets



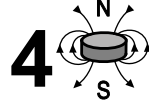
Invisible treacle



Equipment



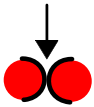
copper tube



4 magnets

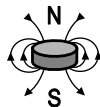


small object

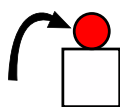


Touch

the



the magnet



onto

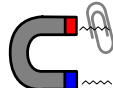
the copper tube.



Is



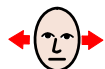
copper



magnetic?



yes

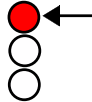


no

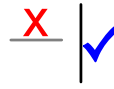




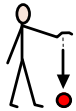
Invisible treacle



=



Hold the tube at the top so it is vertical.



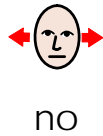
Drop the small object down the tube.



Does it fall quickly?



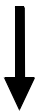
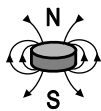
yes



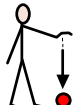
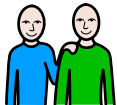
no



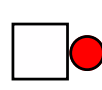
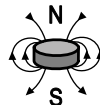
2



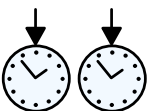
Drop 2 magnets down the tube.



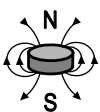
2



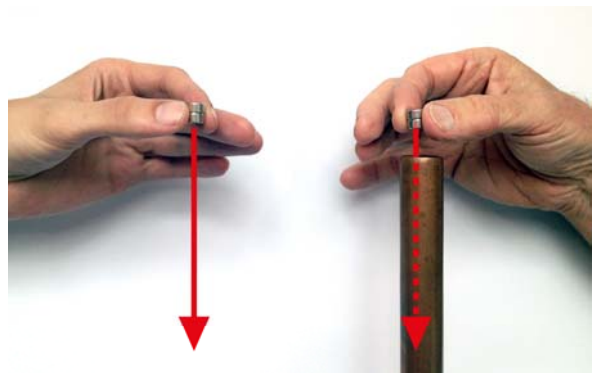
Ask a friend to drop 2 magnets next to the tube



at the same time.

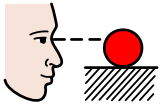


Which magnets fall quickest?





Invisible treacle



Look



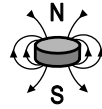
down



the tube



while



the magnets



are falling.

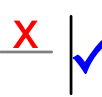


Make sure



the tube

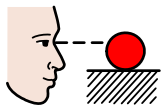
=



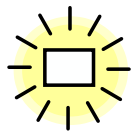
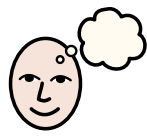
is vertical.

?

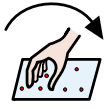
What do



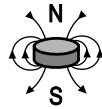
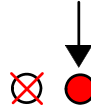
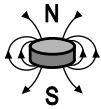
you see?



Think of new experiments



4



Try

4

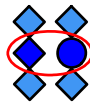
magnets

instead of

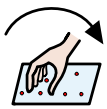
2

magnets.

?



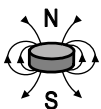
What is the difference?



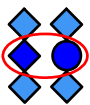
Try

3

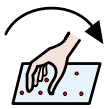
magnets.



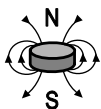
?



What is the difference?



1

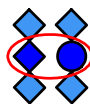


Try

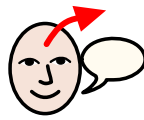
1

magnet.

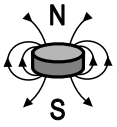
?



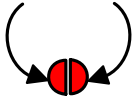
What is the difference?



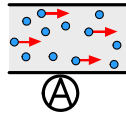
Explanation



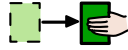
Magnets



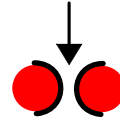
create



current



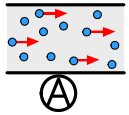
when moving



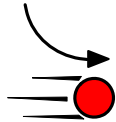
near to



a metal.



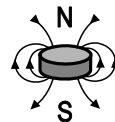
The current



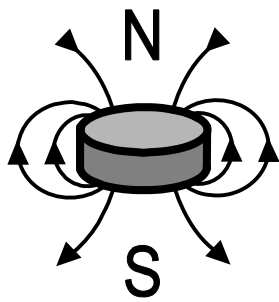
slows down



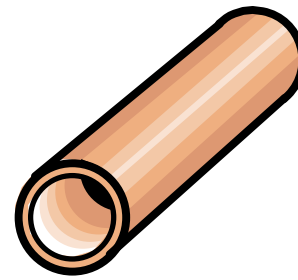
the falling



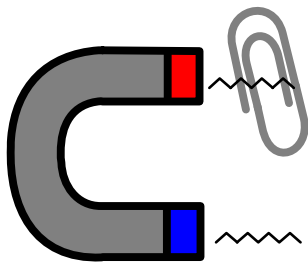
magnet.



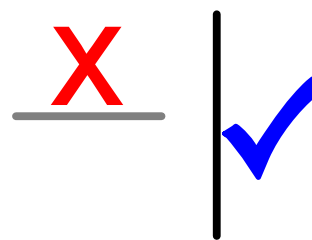
magnet



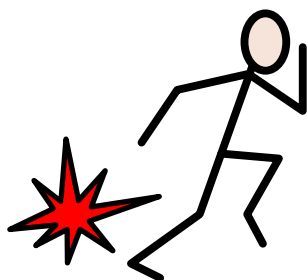
copper tube



magnetic



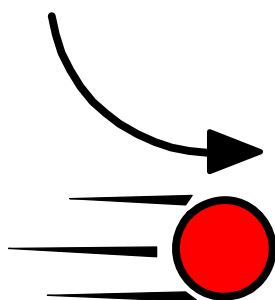
vertical



fast



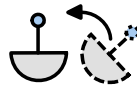
slow



slow down



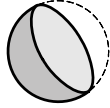
metal



Kelly wobbles



Equipment



half a table tennis ball



plasticine



cocktail sticks

3



3

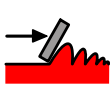
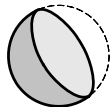
balls of



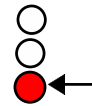
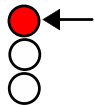
plasticine



Fill the half a table tennis ball with plasticine.

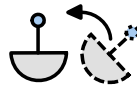


smooth over the top.



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

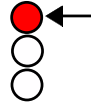
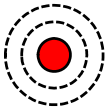




Kelly wobbles



1



Put

one

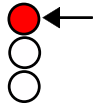
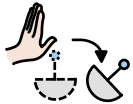
small

piece of

plasticine

on the top of

the cocktail stick.



Push

the top,

does it

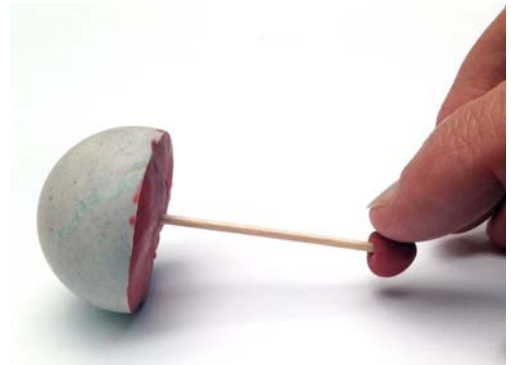
bounce back?



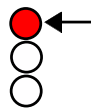
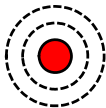
yes



no



2



Put

2

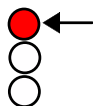
small

pieces of

plasticine

to the top of

the cocktail stick.



Push

the top,

does it

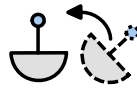
bounce back?



yes



no



Kelly wobbles

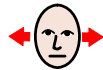
?



Does it wobble differently?



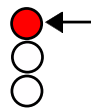
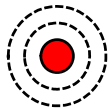
yes



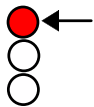
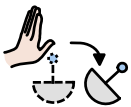
no



3



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



?



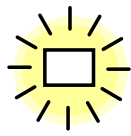
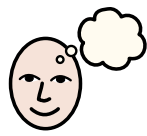
Push the top, does it bounce back?



yes



no



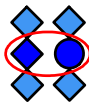
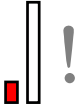
Think of new experiments



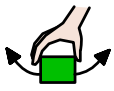
Try the experiment again.



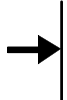
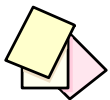
Use a shorter cocktail stick.



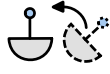
What is the difference?

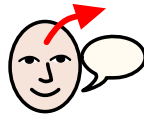


Use paper to decorate your Kelly.



You could decorate your Kelly like a clown.

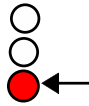




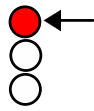
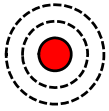
Explanation



=



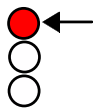
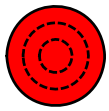
Most of the weight is at the bottom.



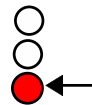
=



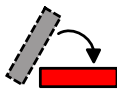
A small weight at the top means it bounces back.



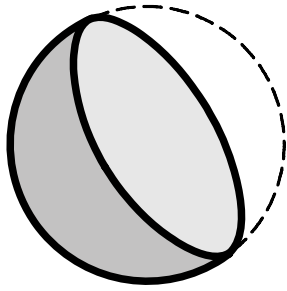
A big weight at the top stops it bouncing back.



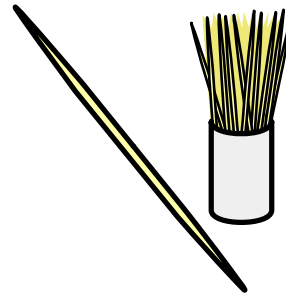
Double decker buses have a lot of weight low down.



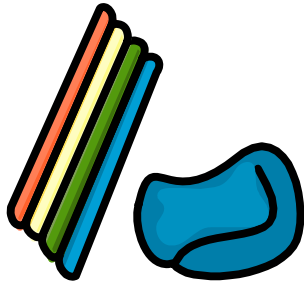
Buses don't fall over easily!



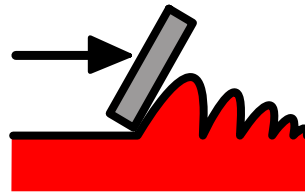
half a table tennis ball



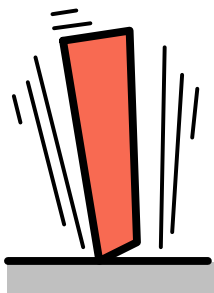
cocktail stick



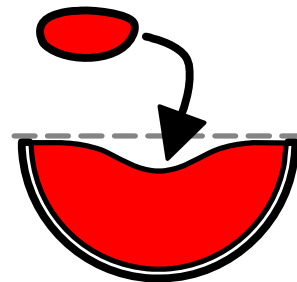
plasticine



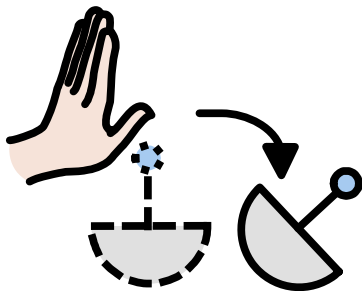
smooth



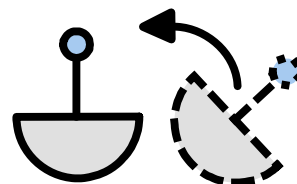
wobble



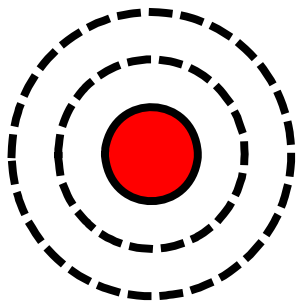
fill



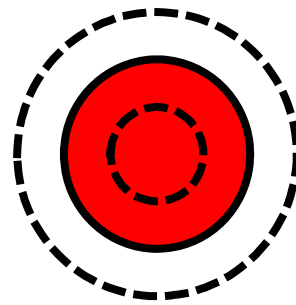
push



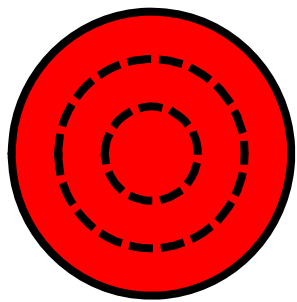
bounce back



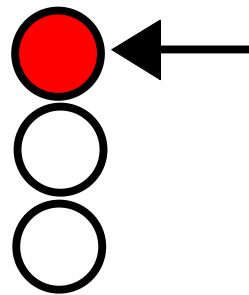
small



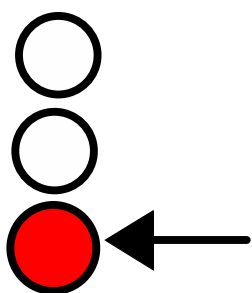
medium



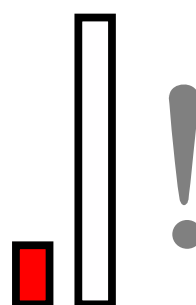
large



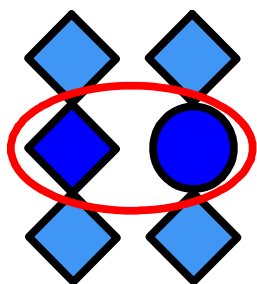
top



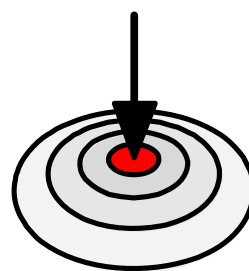
bottom



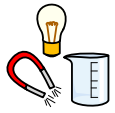
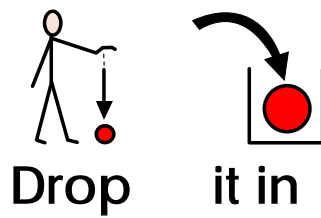
shorter



difference



centre



Equipment



plastic beaker



piece of card



Objects



All



objects



must



fit in

the



beaker.



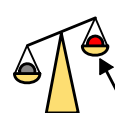
some



heavy



some



light



some



rough



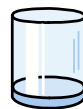
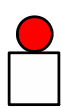
some



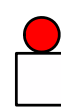
smooth



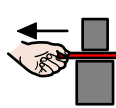
Put the card on top of the beaker.



Put an object on top of the card.



Slowly



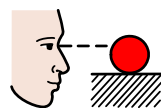
Pull out

the



card

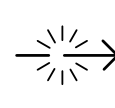
+



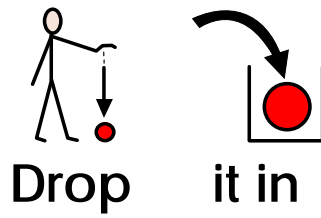
see

?

what



happens.



Drop it in



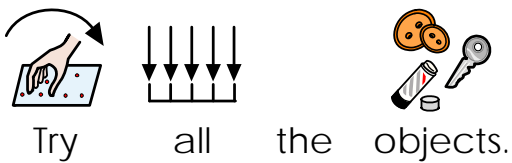
Try the experiment again.



Pull out the card quickly.



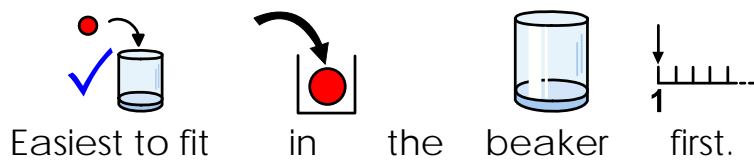
What happens?



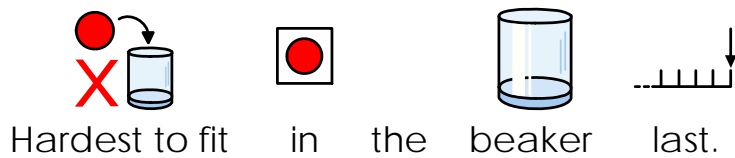
Try all the objects.



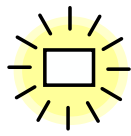
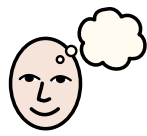
Put the objects in order:



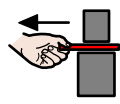
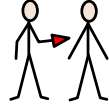
Easiest to fit in the beaker first.



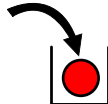
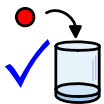
Hardest to fit in the beaker last.



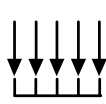
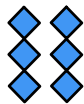
Think of new experiments



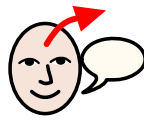
How slowly can you pull out the card?



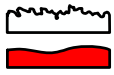
to get an object in the beaker.



Is it the same for all objects.



Explanation



Smooth



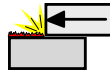
objects



create



less



friction.



Heavy



objects

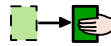


are



harder

to



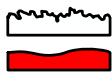
move.



Heavy



and



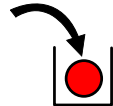
smooth



objects



fall



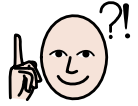
into



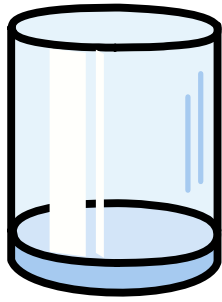
the beaker



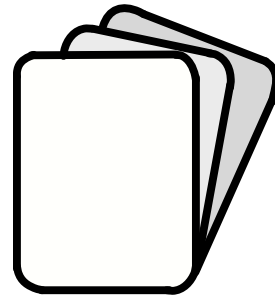
most



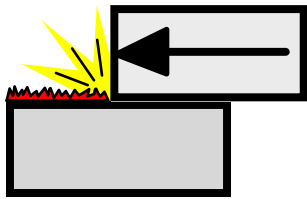
easily.



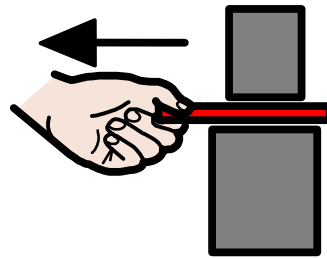
beaker



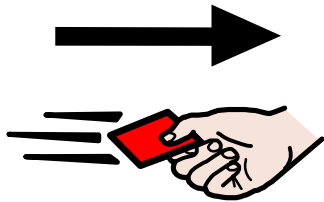
card



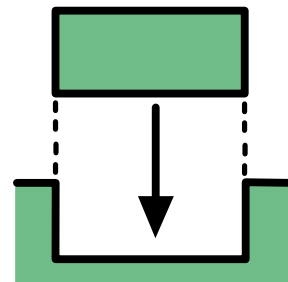
friction



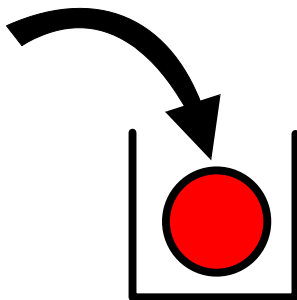
pull



snatch



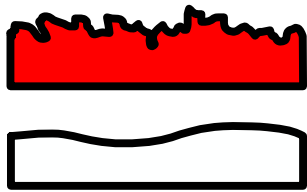
fit



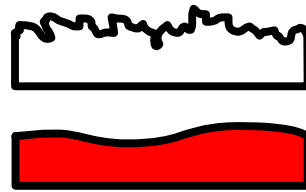
into



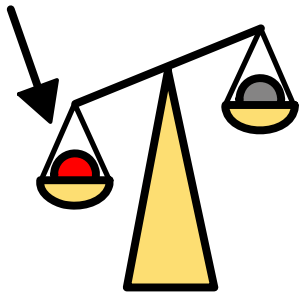
fall



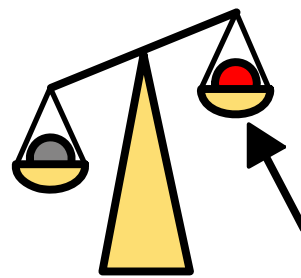
rough



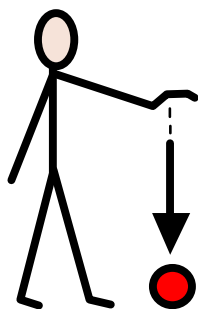
smooth



heavy



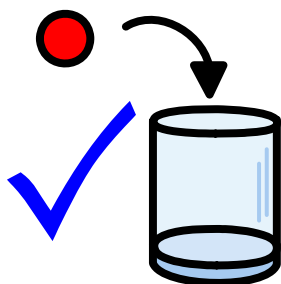
light



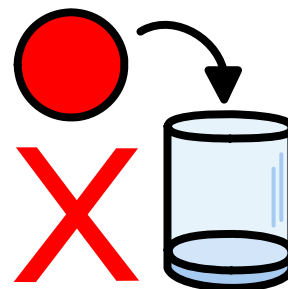
drop



object



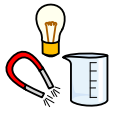
easiest to fit



hardest to fit



Rainmaker



Equipment



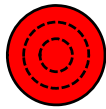
soil



cling film



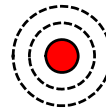
sticky tape



large



clear container



small



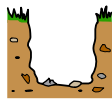
clear container



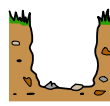
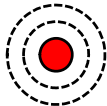
Put the soil in the large container.



Make a hole in the soil.



Put the small container in the hole.

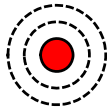


Make some mountains in the soil.





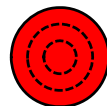
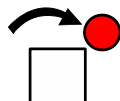
Rainmaker



Fill the small container with water.



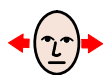
Dig up a weed and plant it like a tree.



Stretch the cling film over the large container.



Put tape round the cling film and container.

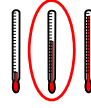


Make sure there are no holes.





Rainmaker



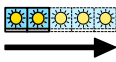
Put the container in a warm place.



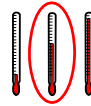
On a sunny day put the container in the sunlight.



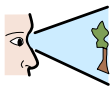
Wait for a few hours.



=



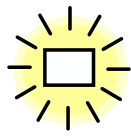
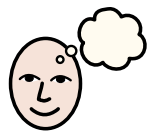
Wait a few days if it is not warm.



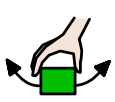
What do you see on the cling film?



Where has it come from?



Think of new experiments



Use



dry



soil

+

and



wait for



a

very

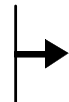


long time.



The

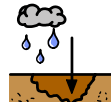
drops



from



the cling film

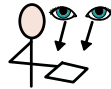


moisten the soil.

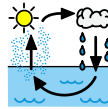


This

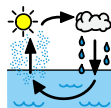
experiment



shows



the water cycle.

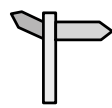


The

water cycle



explains



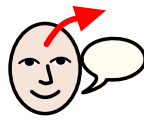
where



rain



comes from.



Explanation



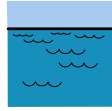
The warmth



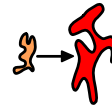
makes



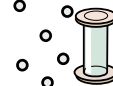
some of the



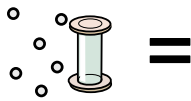
water



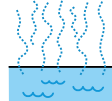
turn into



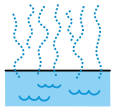
a gas



=



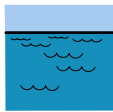
The gas is water vapour.



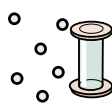
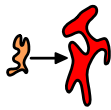
=



Water vapour is invisible.



Water becoming



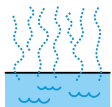
gas



is called



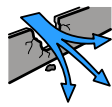
evaporation.



The water vapour



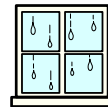
cannot



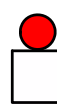
escape

+

and



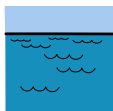
condenses



on



the cling film.



The

water

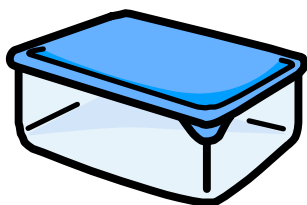


falls to

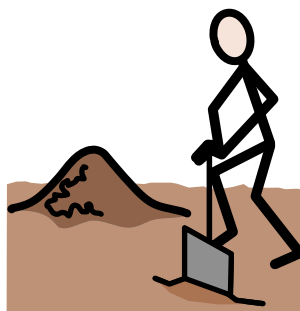


the

soil.



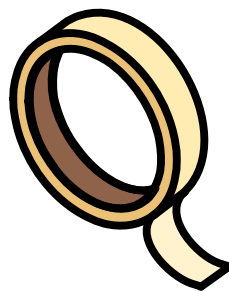
container



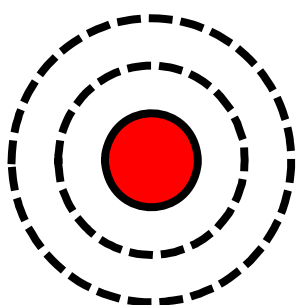
soil



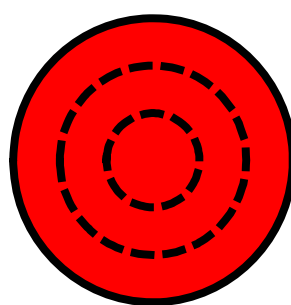
cling film



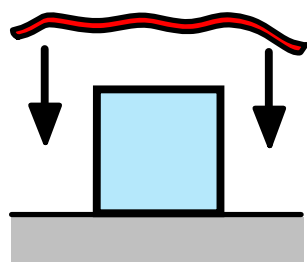
sticky tape



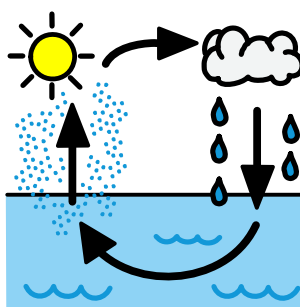
small



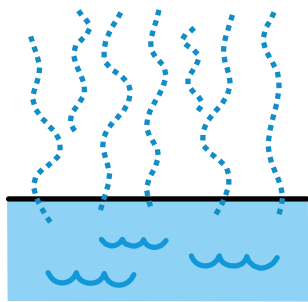
large



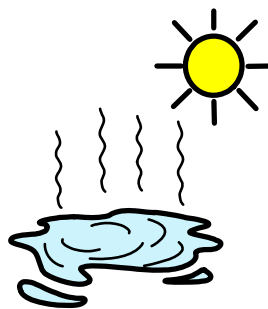
cover



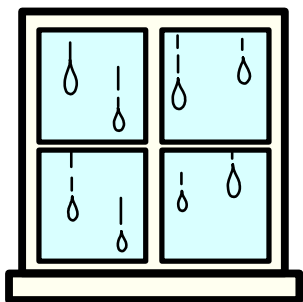
water cycle



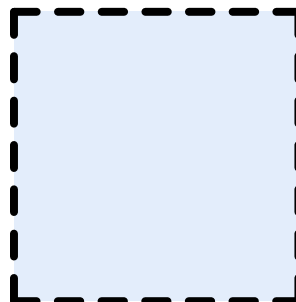
water vapour



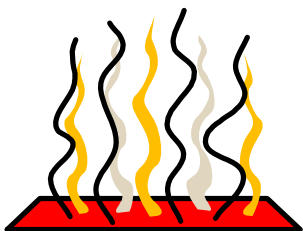
evaporation



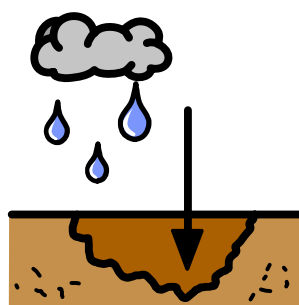
condensation



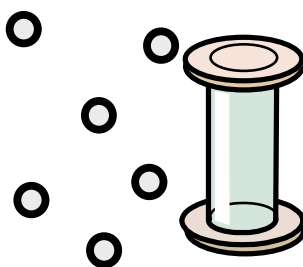
invisible



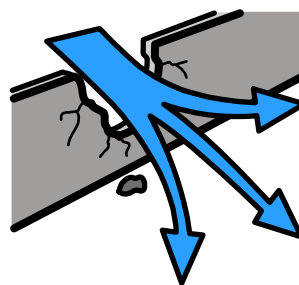
warmth



moist



gas



escape



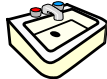
Wizzy Washing up liquid



Equipment



card



sink



scissors



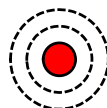
pencil



washing up liquid



in a



small



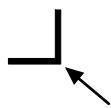
pot



Fold



the front



corners

of



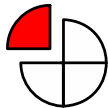
the card.



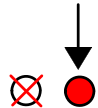
Cut



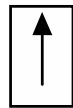
a triangular



piece



at the other



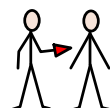
end.



=



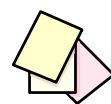
Make it like the picture.



You



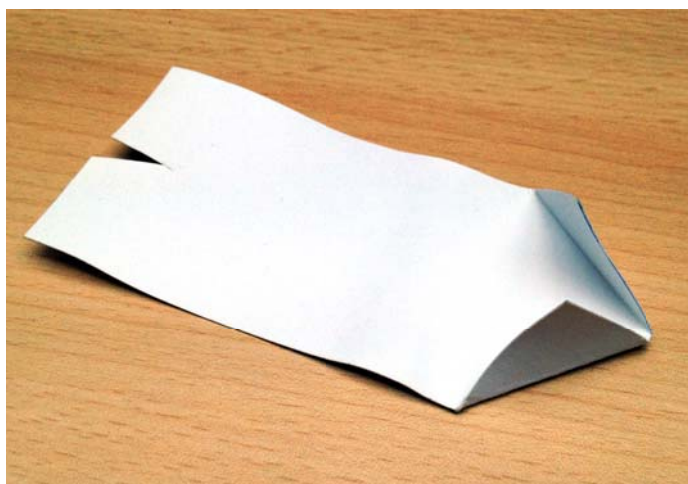
have

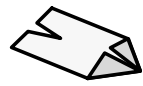


a paper



boat.

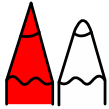




Wizzy Washing up liquid



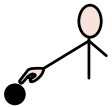
Place the boat in the sink.



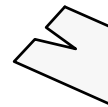
Dip the point of a pencil in the washing up liquid.



Use a tiny drop.

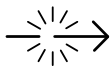


V

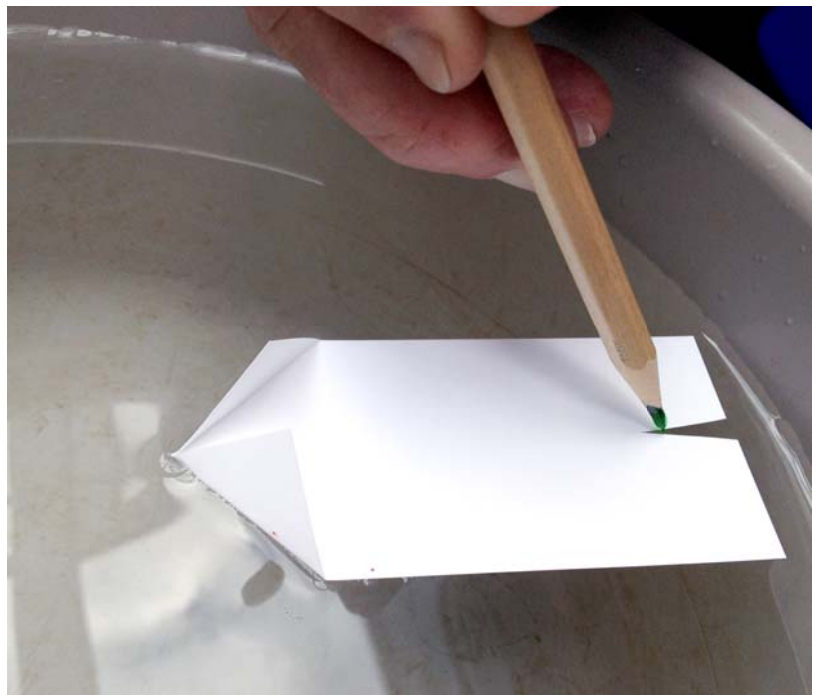


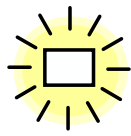
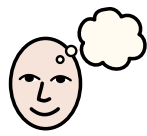
Touch the pencil to the v at the back of the boat.

?

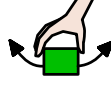
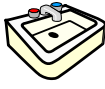
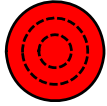


What happens?

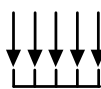
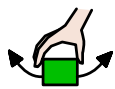




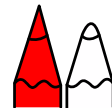
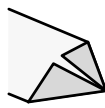
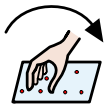
Think of new experiments



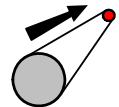
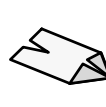
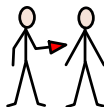
In a large sink try again using more washing up liquid.



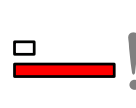
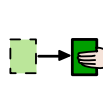
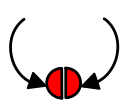
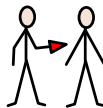
Use a new piece of card for each experiment.



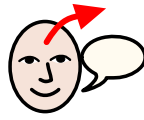
Try making the front of the boat more pointed.



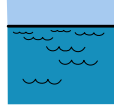
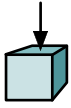
What can you do to make the boat go a long way?



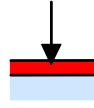
How can you make the boat move further?



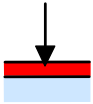
Explanation



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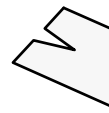
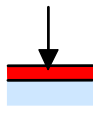
The surface of water is like a skin.



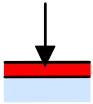
=



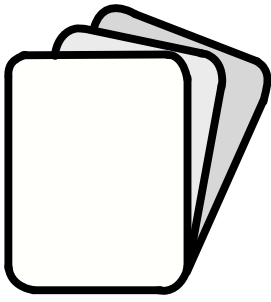
The skin is stretched.



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



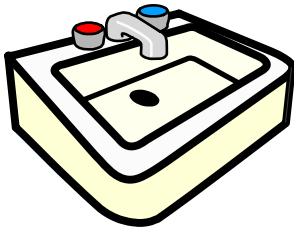
The skin pulls the boat forward.



card



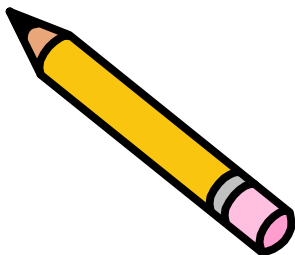
scissors



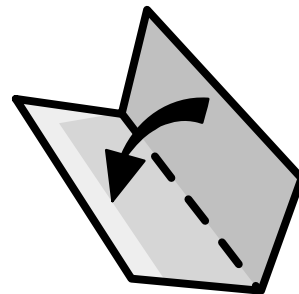
sink



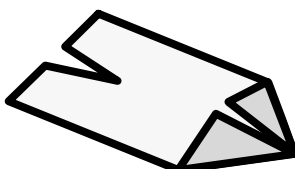
washing up liquid



pencil



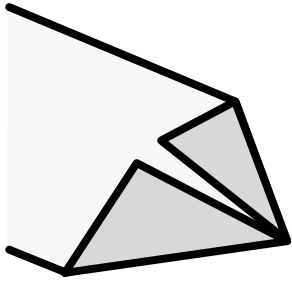
fold



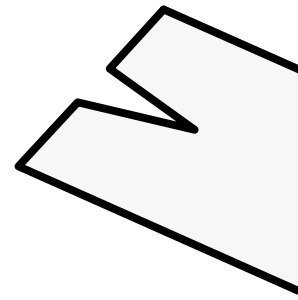
boat



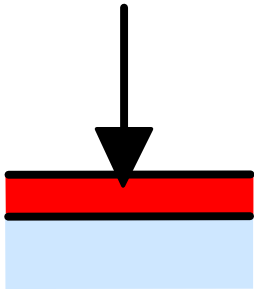
longer



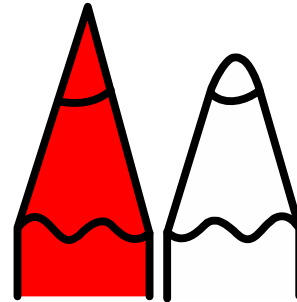
front



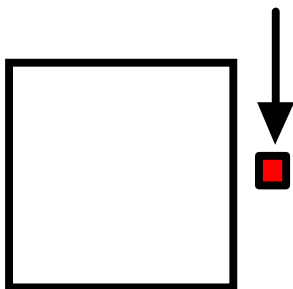
back



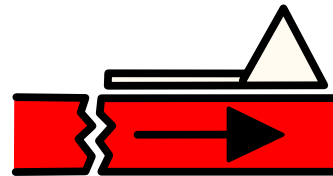
skin



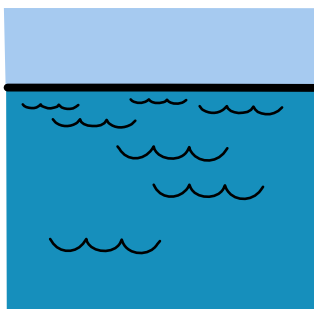
point



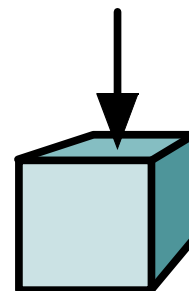
tiny



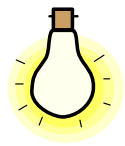
forward



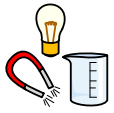
water



surface



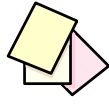
Light entertainment



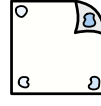
Equipment



white



paper



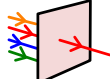
blu-tac



sticky tape



red



filter

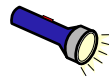


green



filter

2



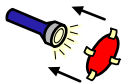
=



2 torches, equally bright.



Carefully

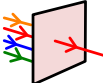


fasten

the



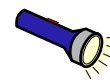
red



filter

to

1



torch



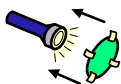
with



sticky tape.



Carefully

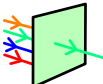


fasten

the



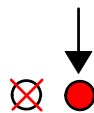
green



filter

to

the



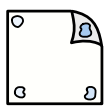
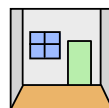
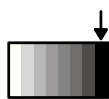
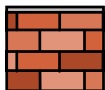
other



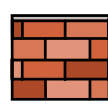
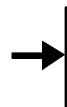
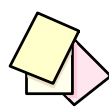
torch.

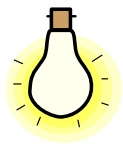


Find a wall in a dark place.

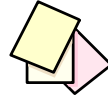
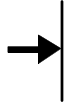
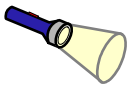


Fasten the white paper to the wall.

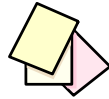
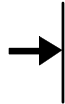
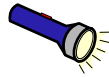
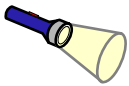




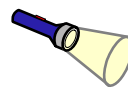
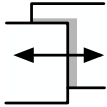
Light entertainment



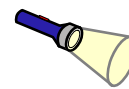
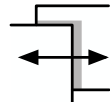
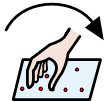
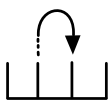
Shine the red torch on the paper.



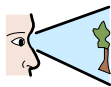
Shine the green torch on paper.



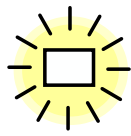
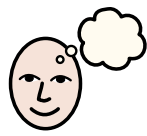
Do not overlap the green and red beams.



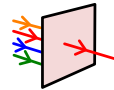
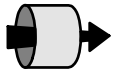
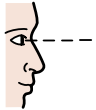
Next, try overlapping the green and red beams,



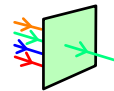
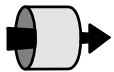
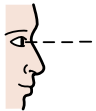
What do you see?



Think of new experiments



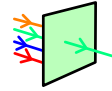
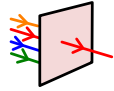
Look through the red filter.



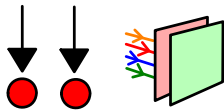
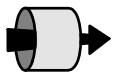
Look through the green filter.



1

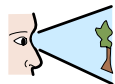


Now put one filter in front of the other filter.



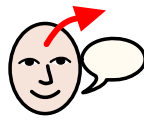
Look through both filters.

?

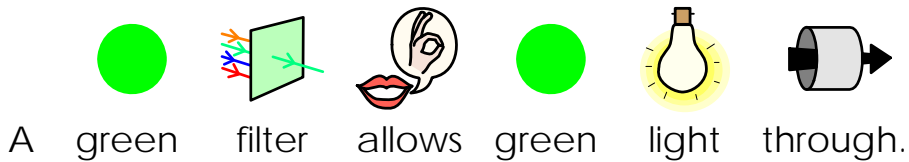
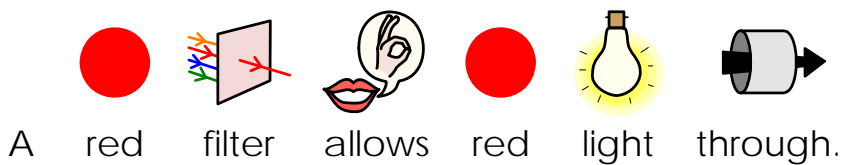
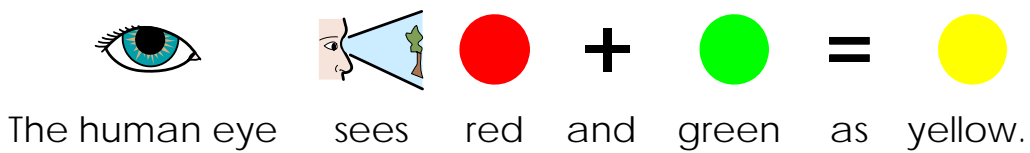


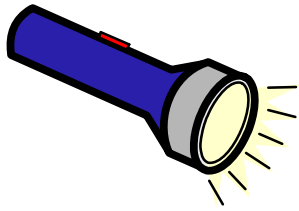
What do you see?



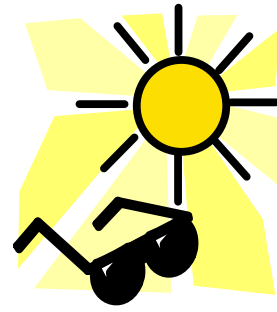


Explanation

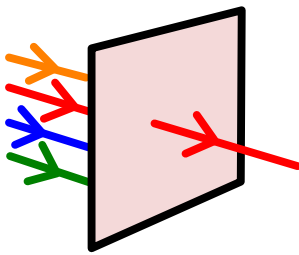




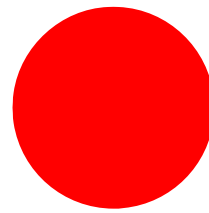
torch



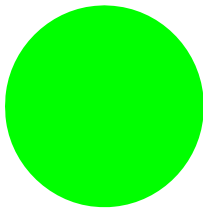
bright



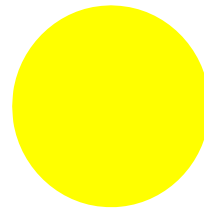
filter



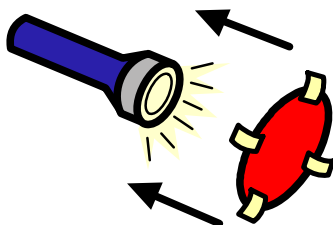
red



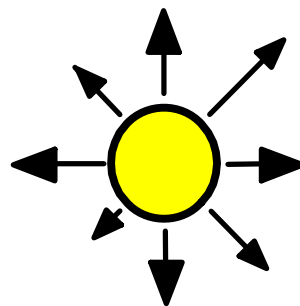
green



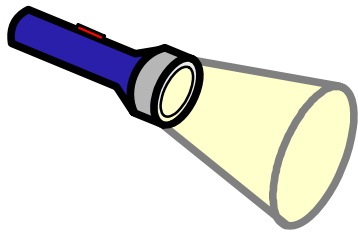
yellow



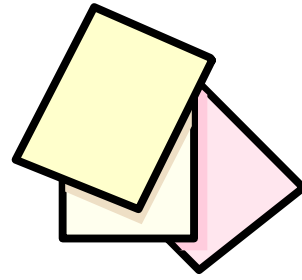
fasten



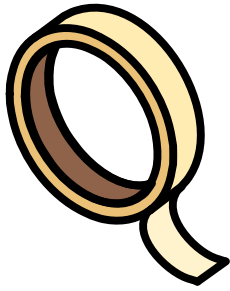
ray of light



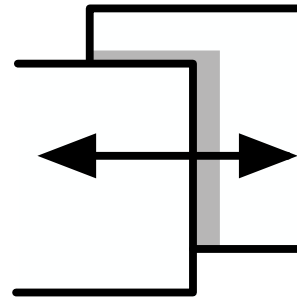
shine



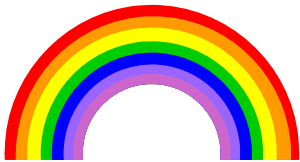
paper



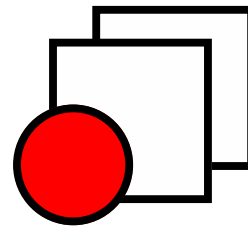
sticky tape



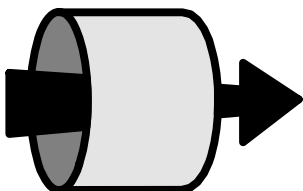
overlap



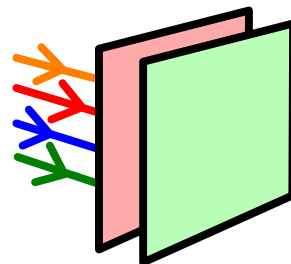
colours



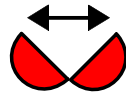
in front



through



both filters



Colour split



Equipment



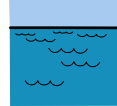
felt pens



container



tissue



water



Draw coloured dots along the edge of the tissue.



6



Draw six dots of different colours.



Fill container with water.



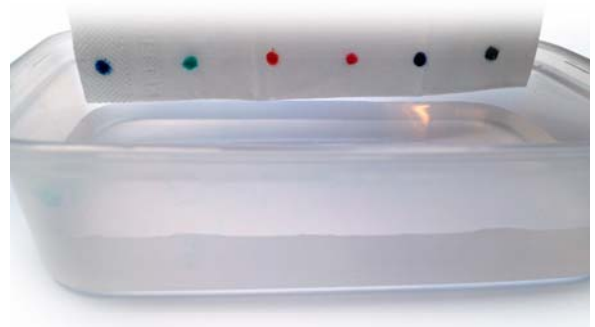
Hold the tissue at the top.

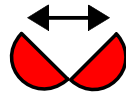


Dip the edge of the tissue in the water.



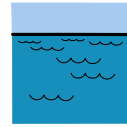
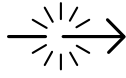
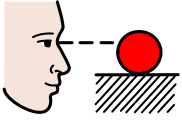
Dip the tissue for several seconds.





Colour

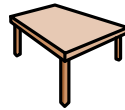
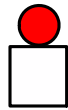
split



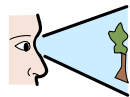
Watch what happens as the water rises up.



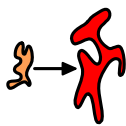
Is this quick or slow?



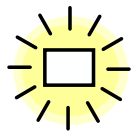
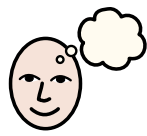
Put the tissue on the table.



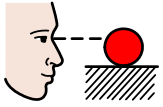
What do you see?



Have the colours changed?



Think of new experiments



Watch



paint

being



mixed



in

a



DIY store



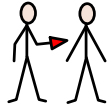
Are

the

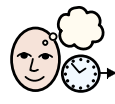


colours

what



you



expect?

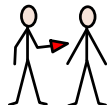


What



happens

when



you



mix



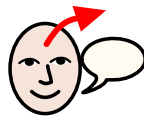
coloured paints



in



Art Class.



Explanation



Colours



are mixed



to make



a felt-tip



have a special



colour.



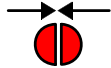
Different



colours

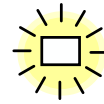


mixed



together

look like

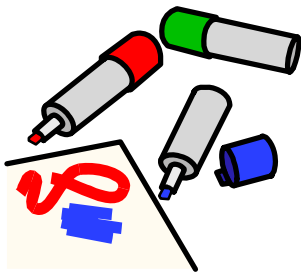


a

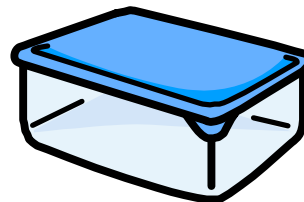
new



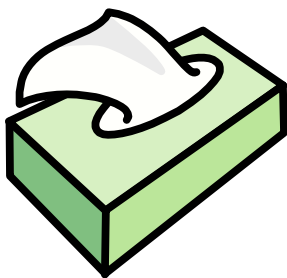
colour.



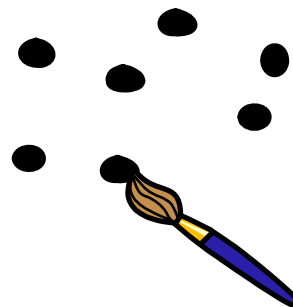
felt pens



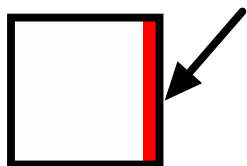
container



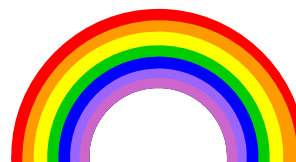
tissues



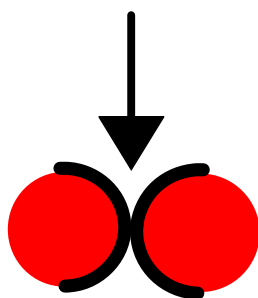
dots



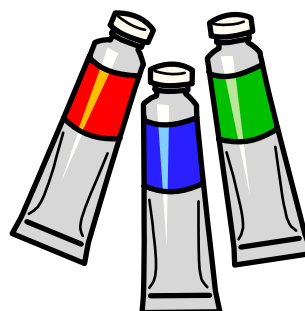
edge



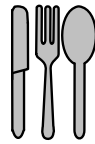
colours



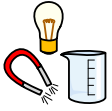
touch



paints



Noisy cutlery



Equipment



metal



fork



metal



spoon



plastic



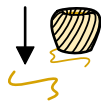
fork



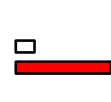
plastic



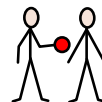
spoon



piece of string



as long as



your



arm



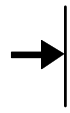
sticky tape



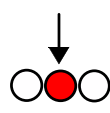
Tie



the fork



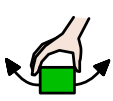
to



the middle



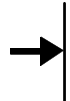
of the string.



Use



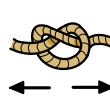
sticky tape



to



hold it



tight.



Wrap

one

end of the string

around

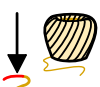
your

first finger



Wrap

the other



end



around

the first finger

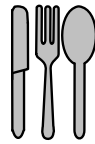


of

your other

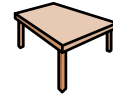
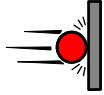
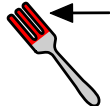


hand.



Noisy

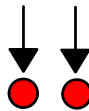
cutlery



Swing the prongs against the edge of a table.



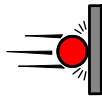
Listen to the sound it makes.



Now put your fingers in both your ears.

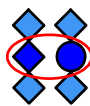


Keep the string attached.



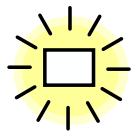
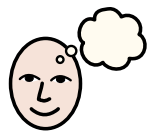
Knock the prongs against the edge of the table again.

?



What is the difference?

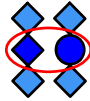




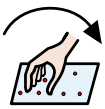
Think of new experiments



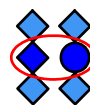
Try the experiment with the metal spoon



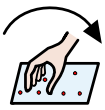
What is the difference?



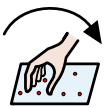
try with the plastic fork and spoon



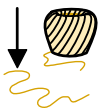
What is the difference?

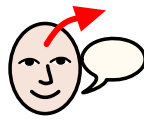


Try the experiment with different string.



Try thin string and thick string.

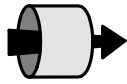




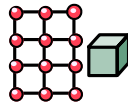
Explanation



Sound travels



through



solids



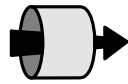
best.



Sound travels



well



through



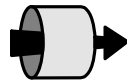
string



Sound travel



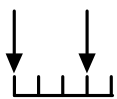
badly



through



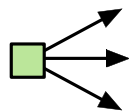
air.



Some



objects



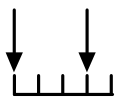
give out



more



sound.



Some



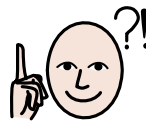
objects



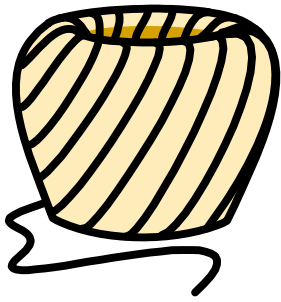
vibrate



more



easily.



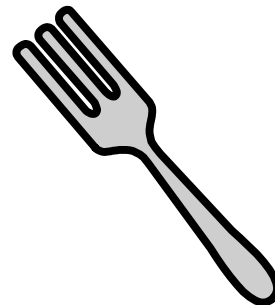
string



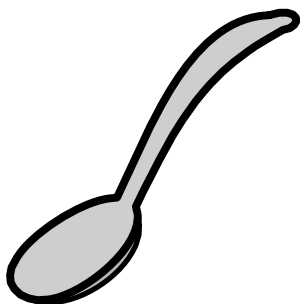
metal



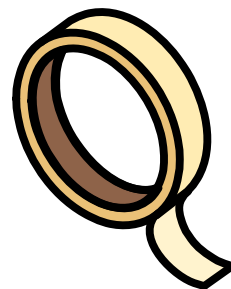
plastic



fork



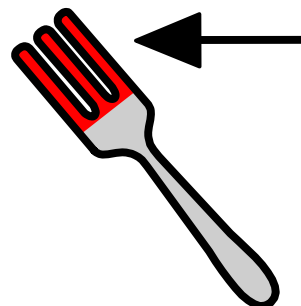
spoon



sticky tape



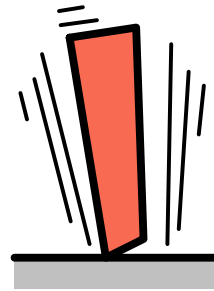
listen



prongs



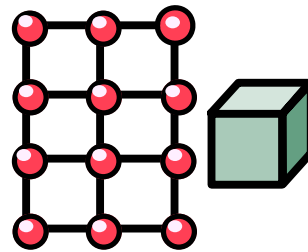
first finger



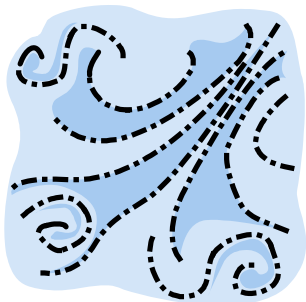
vibrate



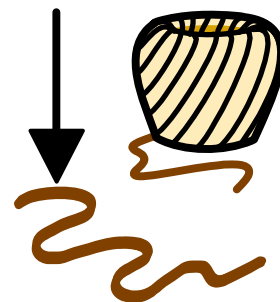
sound



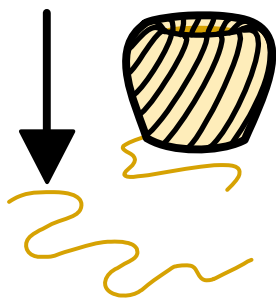
solid



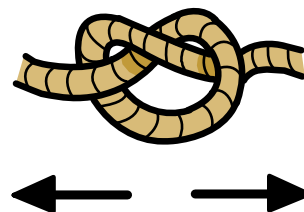
air



thick string



thin string



tight



Investigation 1: Teabag trouble



Equipment



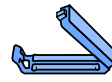
loose tea

3



3 glasses

3



3 clippits

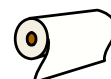
3



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.

?

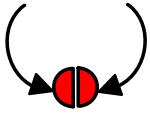



Can you make tea bags?

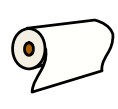
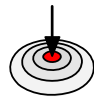
?



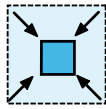
Which material is best to make tea bags?

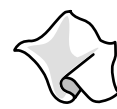
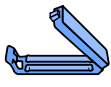
Making teabags



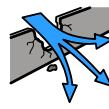
Put a teaspoon of loose tea in the middle of a piece of kitchen roll.



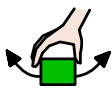
Fold up the edges around the loose tea.



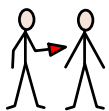
Use a clippit and fasten the loose tea inside the kitchen roll.



It is important the loose tea cannot escape.



Repeat using the j-cloth and the newspaper.



3



Now You have 3 teabags.



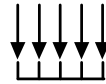
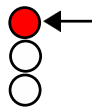
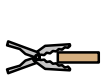
3



Carefully fill 3 glasses with hot water.



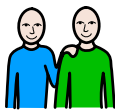
The experiment



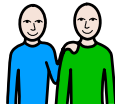
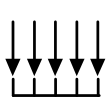
Clip a peg to the top of each teabag.



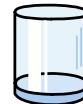
2



Ask two friends to help.



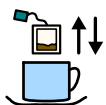
+



Give each friend a teabag and glass.



Dip the teabags in the hot water.



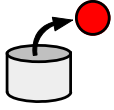
1



Dip the teabags for about a 1 minute.



The experiment



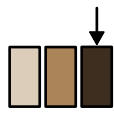
Remove the tea bags.



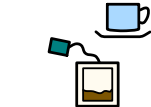
Do not drink the tea!



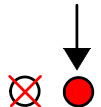
=



Which teabag is the darkest colour?



Did any tea bags leak?



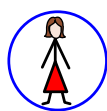
Try other materials.



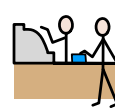
What material makes the best teabag?



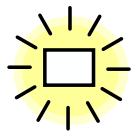
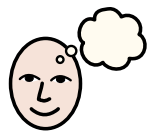
+



to



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?



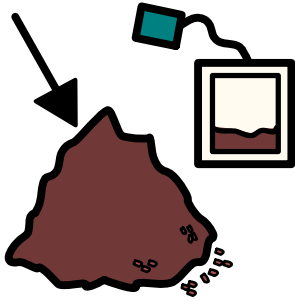
Can you explain?



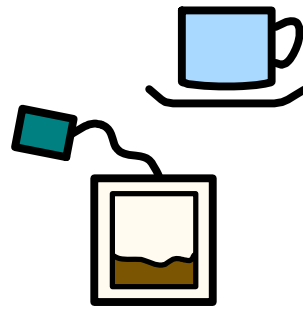
Can you think of better materials to use?



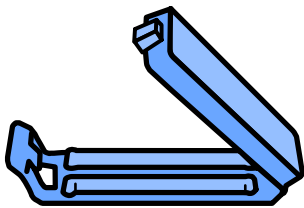
Design a poster showing your experiment.



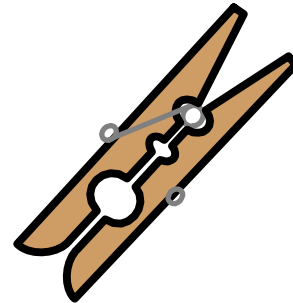
loose tea



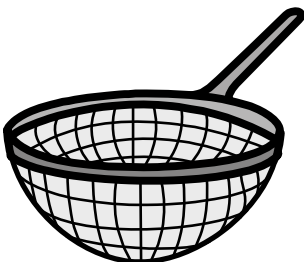
teabag



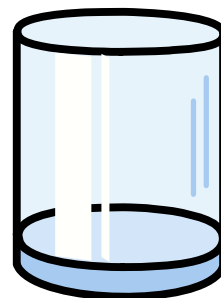
clippit



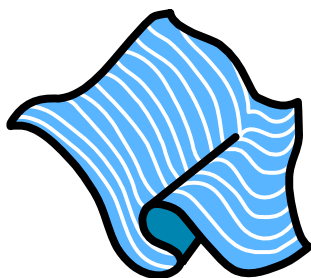
peg



tea strainer



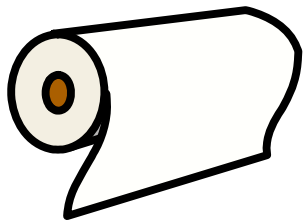
glass



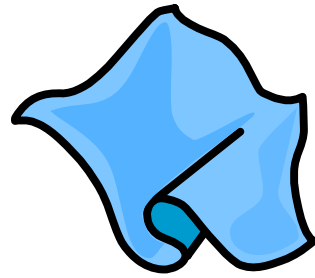
j-cloth



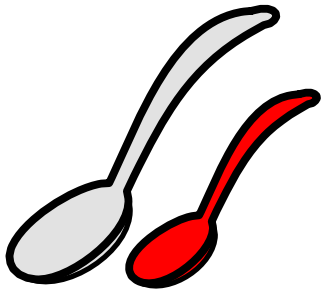
newspaper



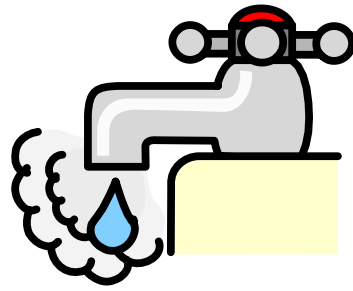
kitchen roll



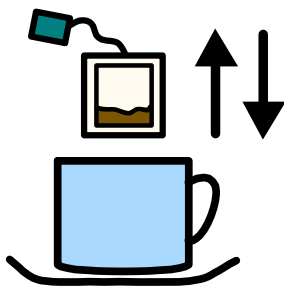
material



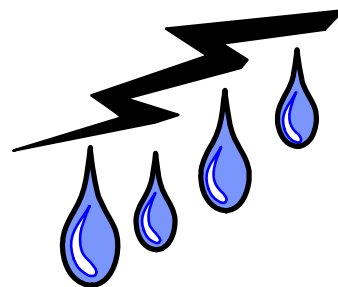
teaspoon



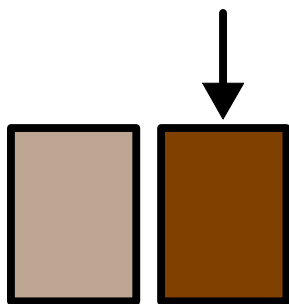
hot water



dunk



leak



strongest colour



don't drink



Teabag

trouble

data sheet



Which



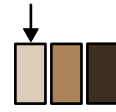
material

=



is

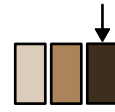
best?



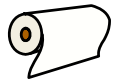
light colour



medium colour



dark colour



kitchen roll



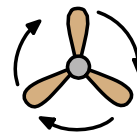
j-cloth



newspaper



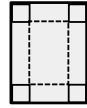
material



Investigation 2: Super spinners



Equipment



template



to make



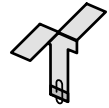
tray



template



to make



spinner



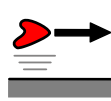
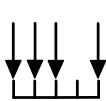
paperclips



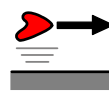
scissors



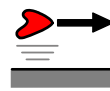
sticky tape



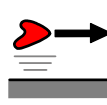
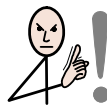
Many things fly through the air.



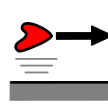
Aeroplanes, helicopters and gliders can fly.



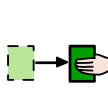
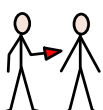
Animals like birds and insects can fly.



Air is important for flight.



No air means no flight.



You will learn about things moving in the air.

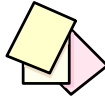


1

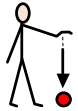
Experiment 1



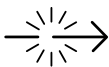
1



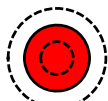
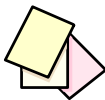
Hold 1 piece of paper flat.



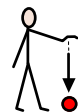
Drop the paper.



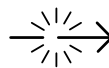
What happens?



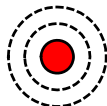
+



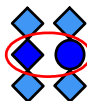
Scrunch up the paper a bit and drop it again.



What happens?



Scrunch the paper tightly.

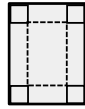
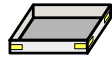


Does the paper fall differently?



1

Experiment 1



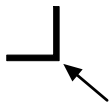
Look at the tray template.



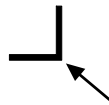
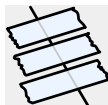
Carefully cut along the dotted lines.



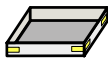
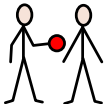
Fold along the straight lines.



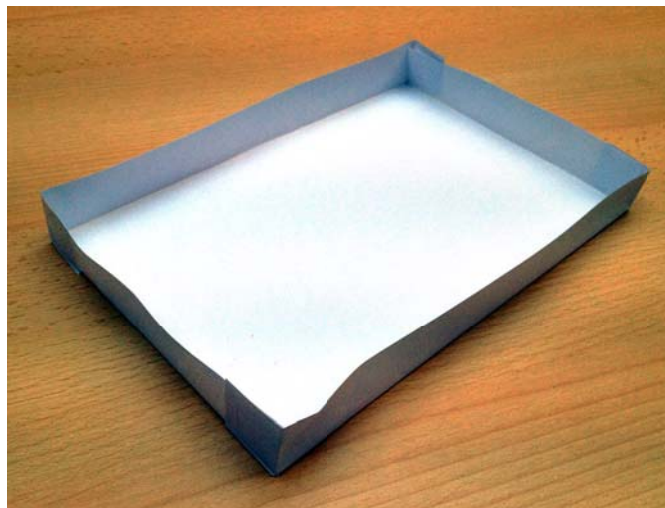
Fold the corners.



Put sticky tape to fasten the corners.



Make your tray like the picture.



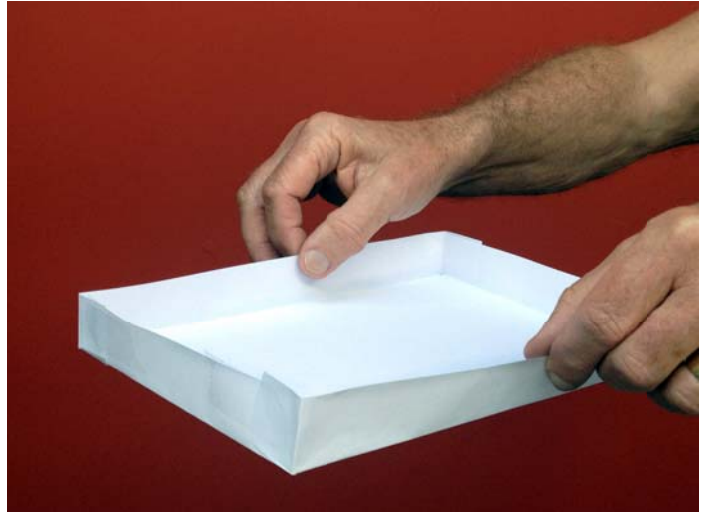


1

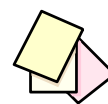
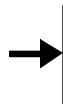
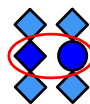
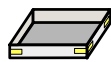
Experiment 1



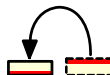
Hold the tray the right way up like the picture.



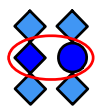
Drop the tray.



Does the tray fall differently to the piece of paper?

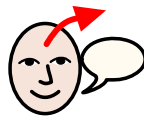


Try dropping the tray upside down.



What is the difference?

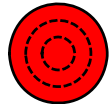




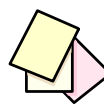
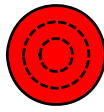
Explanation



Air resistance affects falling objects.



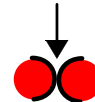
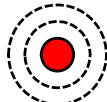
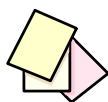
Paper has a large area.



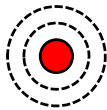
The air resistance is large and the paper is light.



The piece of paper falls slowly.



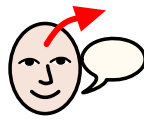
Scrunched up paper has a smaller area touching the air.



The air resistance is smaller.



The scrunched up paper falls faster.



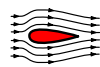
Explanation



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.



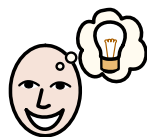
Air is trapped underneath.



The air tries to escape causing the tray to wobble.



The tray might turn over during the fall.



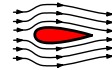
Ideas to talk about



air resistance



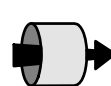
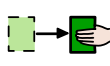
area



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.



=



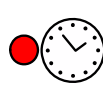
Fold it like the picture.



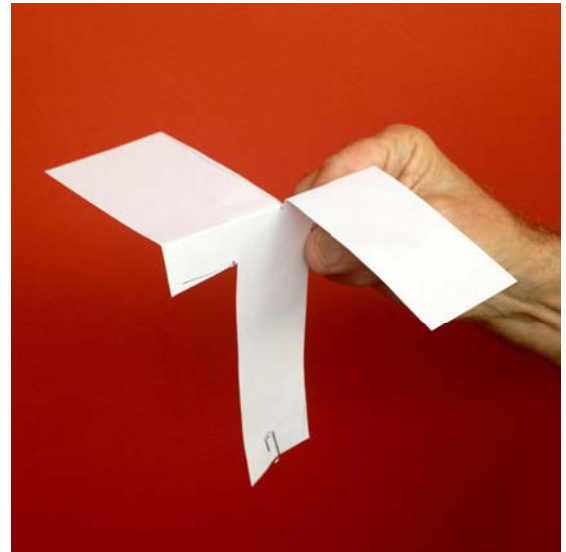
Put a paper clip at the bottom.



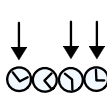
Drop it from a height.



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.



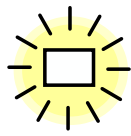
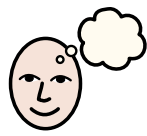
=



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?



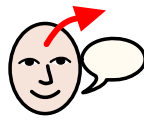
Write down the results.



OR



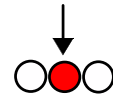
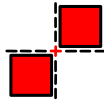
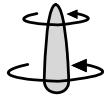
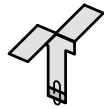
Tell other people the results and demonstrate your spinners.



Explanation



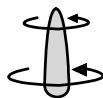
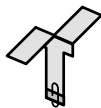
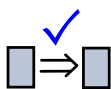
Why does the spinner spin?



The wings are on diagonally opposite sides of the middle.



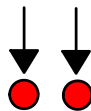
The air resistance pushes the wings in opposite directions,



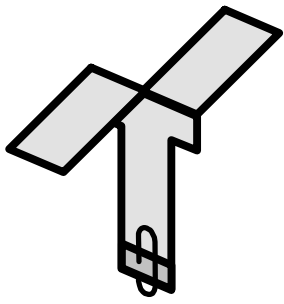
causing the spinner to spin around the centre.



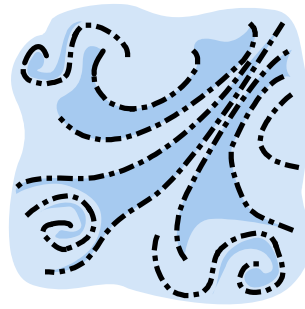
2



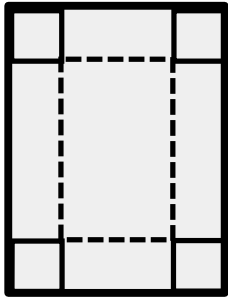
Imagine 2 people pushing either side of a roundabout.



spinner



air



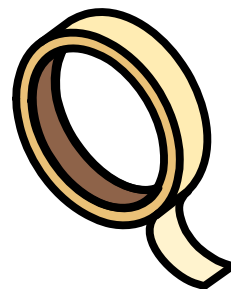
template



scissors



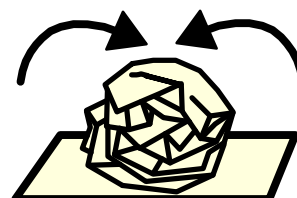
paperclip



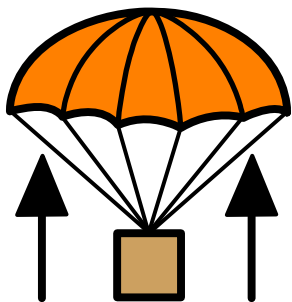
sticky tape



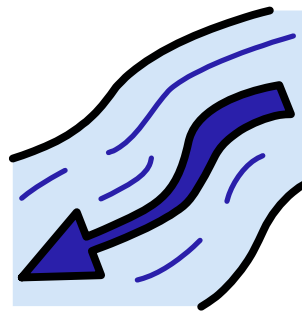
tray



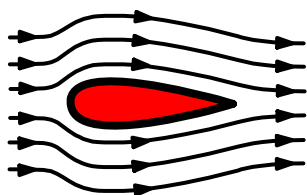
scrunch



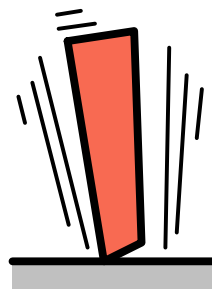
air resistance



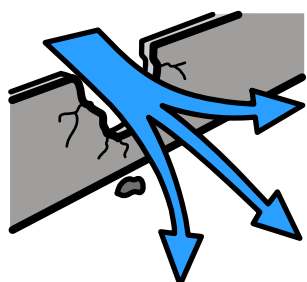
flow



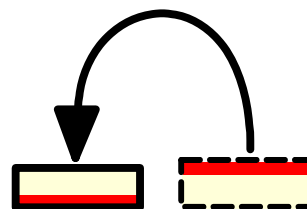
streamlined



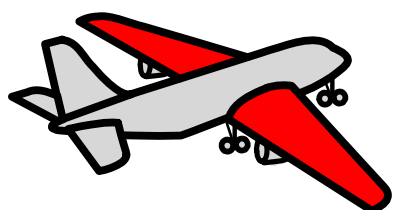
wobble



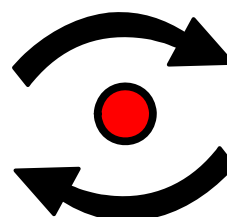
escape



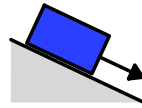
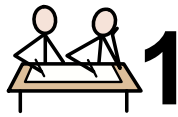
turn over



wing



opposite directions



Group work 1: Slippery slopes



Equipment



card



ruler



compass



parcel tape



scouring sponge



paperback book

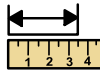


plastic cup

2



two pieces of wood



measuring:

30

x

12

x

1

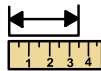


cm

1



1 pieces of wood



measuring:

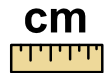
3

x

4.5

x

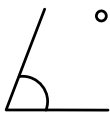
8



cm



At what

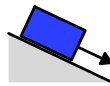


angle

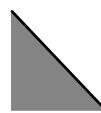
do



objects



slide down



a slope?



During



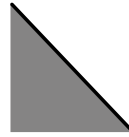
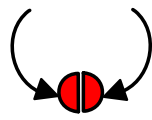
this experiment



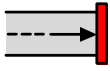
you will



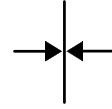
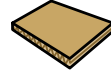
find out.



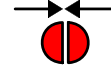
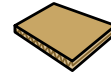
Make the slope



2



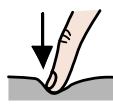
Put the ends of the two pieces of wood together.



Use strips of parcel tape to join the wood together.



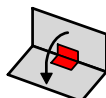
=



+



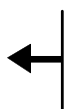
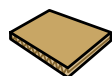
Make sure the tape is pressed down and sticks well.



The parcel tape makes a hinge.

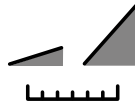


1

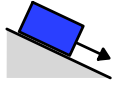
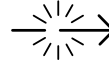
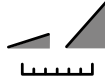
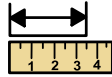


Fold one piece of wood back.

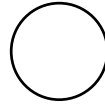
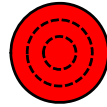
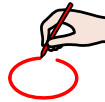




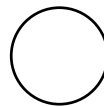
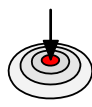
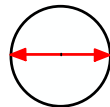
Steepness scale



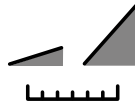
This experiment measures steepness of a slope when an object slides.



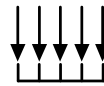
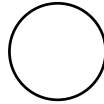
Use a compass to draw a big circle on the card.



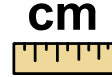
Draw a line across the centre of the circle.



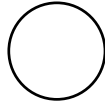
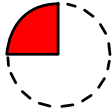
Steepness scale



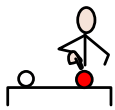
2



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



Mark a quarter of the circle.



=



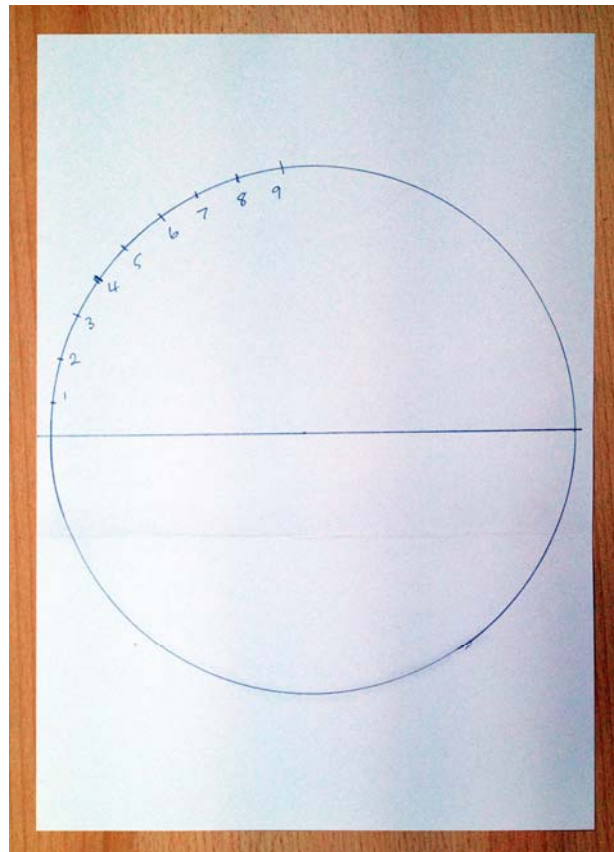
This is a steepness scale.

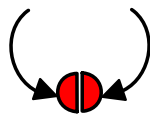


=



Use the ruler to mark accurately like the picture.





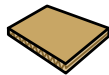
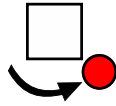
Putting together the apparatus



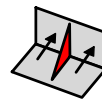
=



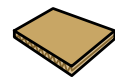
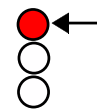
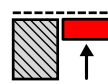
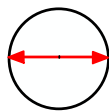
Putting together the apparatus is tricky.



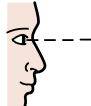
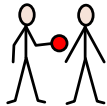
+



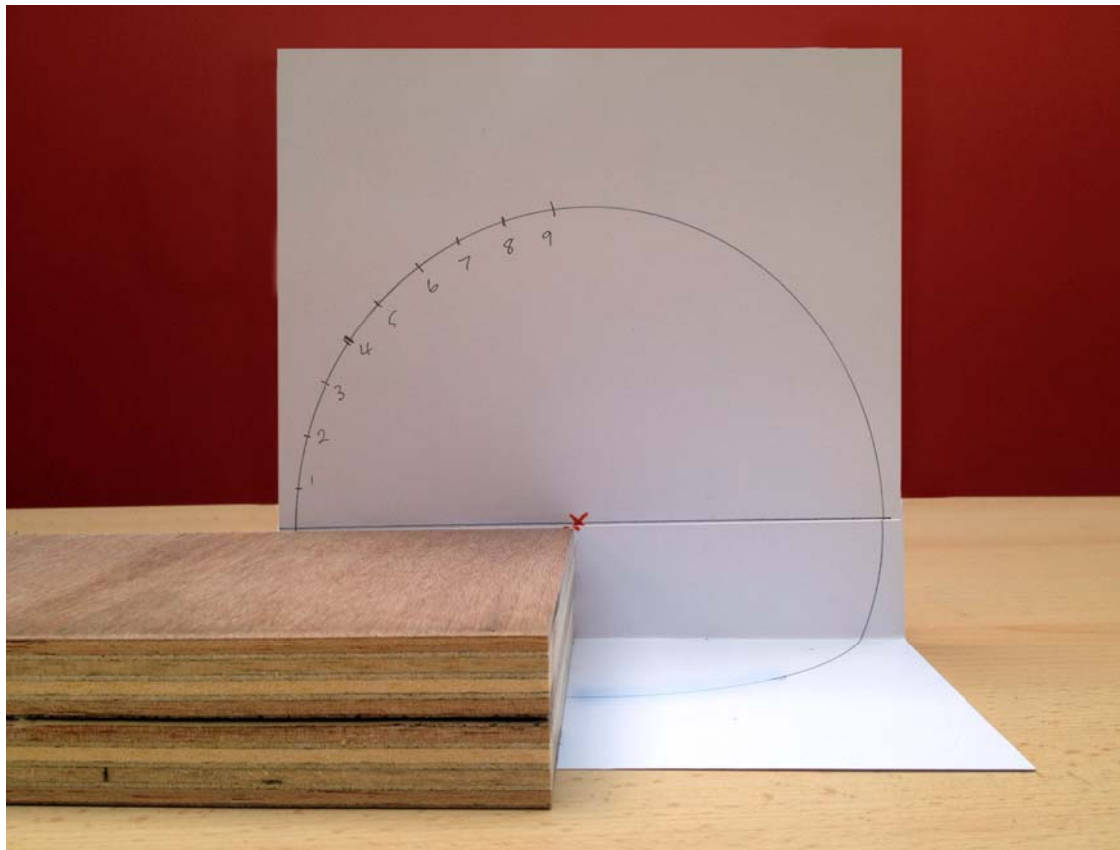
Fold the card under the wood and prop it up.



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



Make sure your apparatus looks like the picture.





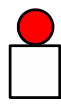
The experiment



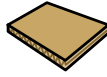
Put



an object



on top of



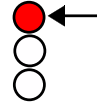
the wood.



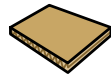
Slowly



Lift



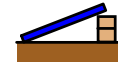
the top



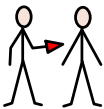
piece of wood



to make



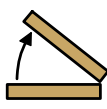
a slope.



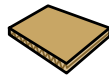
You



must



lift



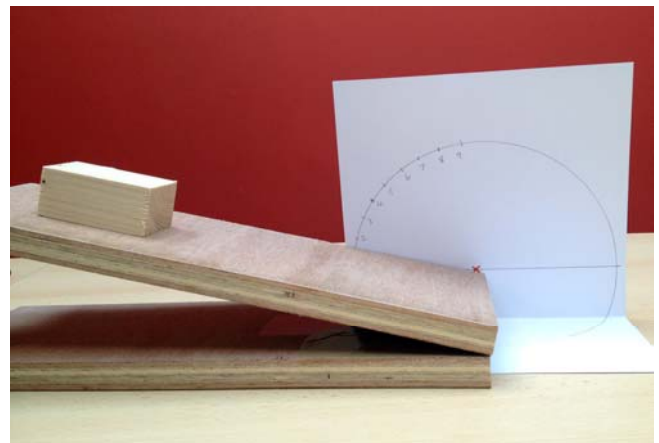
the wood



very



slowly.



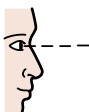
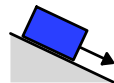
When

the

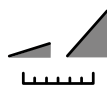


object

starts to slide,



look at

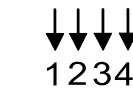


the steepness scale

+



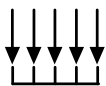
and remember



the number.



Try



each



experiment

3x

three times.



Decide



the best



number

+



and

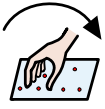
fill in



the data sheet.



The experiment



Try



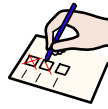
different



objects



and

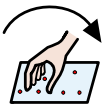


fill in

the



data sheet:



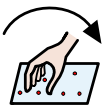
Try

the paperback book.



Try

the plastic cup.



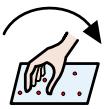
Try

the scouring sponge on the rough side



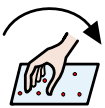
Try

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

?

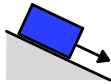


2



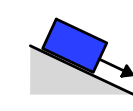
What is interesting about the two block of wood experiments?

?

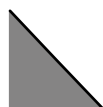
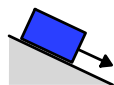


Which objects slide easily.

?



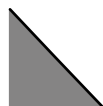
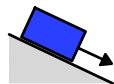
Which objects do not slide easily



=



when would slipping on a slope be useful



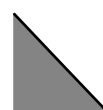
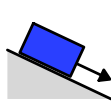
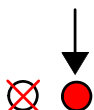
=



When would slipping on a slope be dangerous?



Think about activities in mountains.



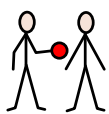
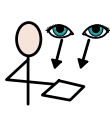
=



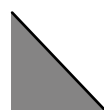
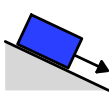
Where else would slipping on a slope be a problem?



Results poster



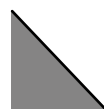
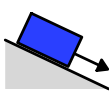
Make a poster showing your results.



=



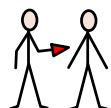
Write about places where slipping on a slope is useful.



=



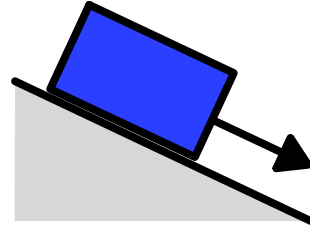
Write about places where slipping on a slope is dangerous.



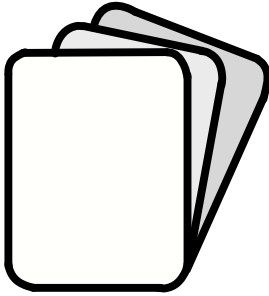
Make you poster colourful.



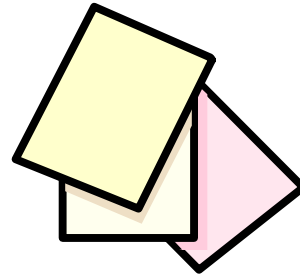
objects



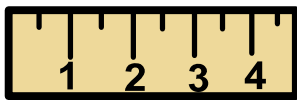
slide



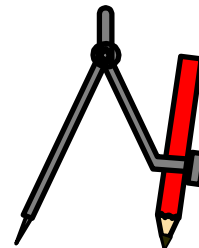
card



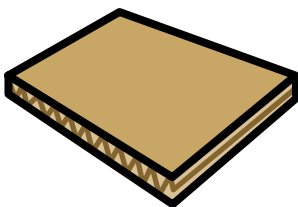
paper



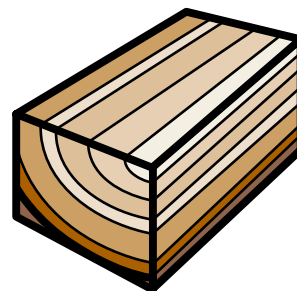
ruler



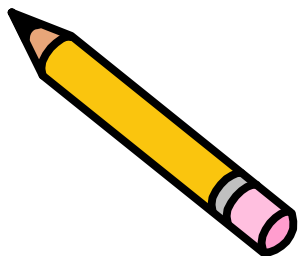
compass



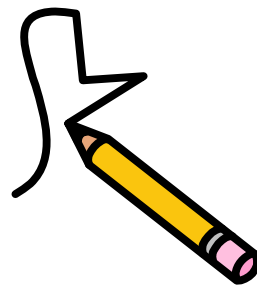
piece of wood



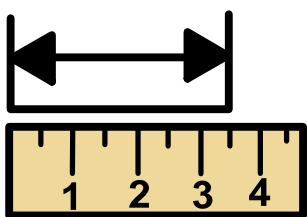
block of wood



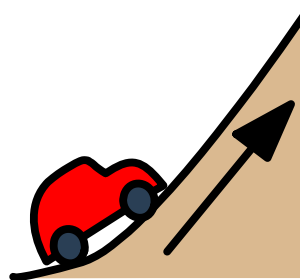
pencil



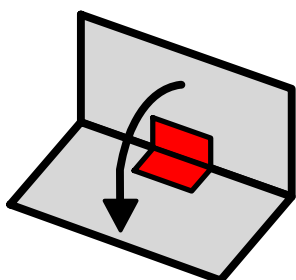
mark



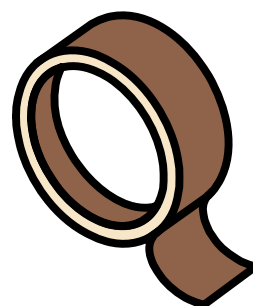
measure



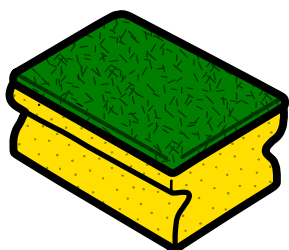
steep



hinge



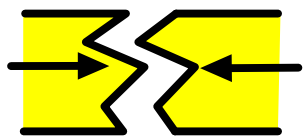
parcel tape



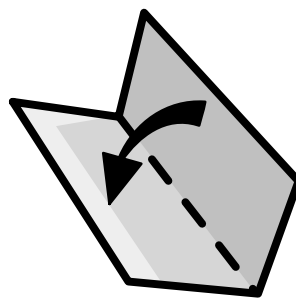
scouring sponge



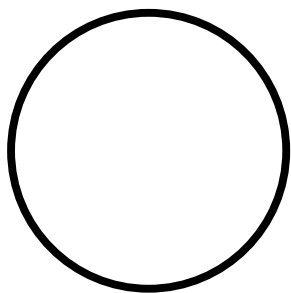
plastic cup



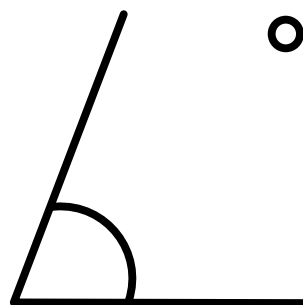
join



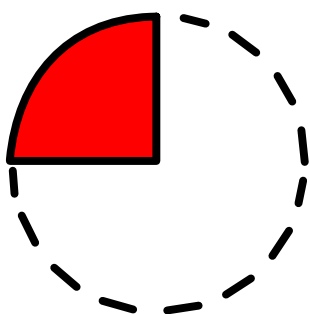
fold



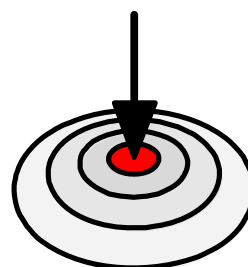
circle



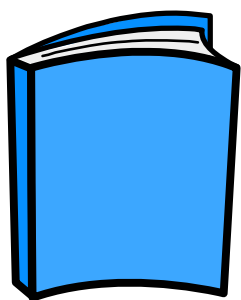
angle



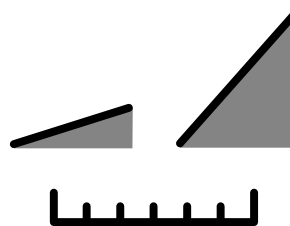
quarter



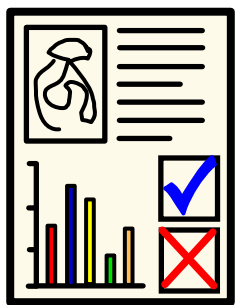
centre



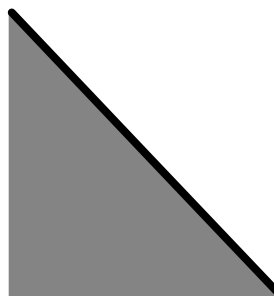
paperback book



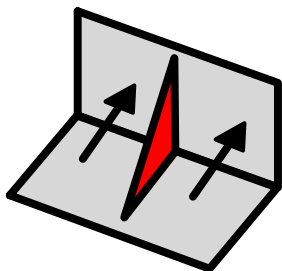
steepness scale



data sheet



slope



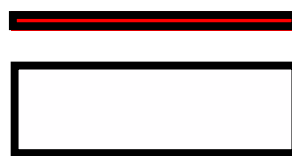
prop



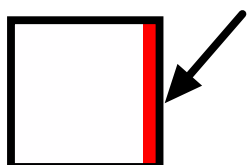
slow



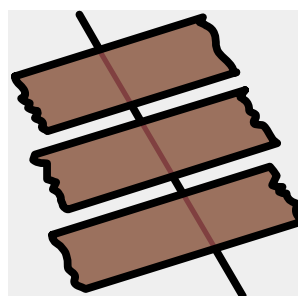
thick



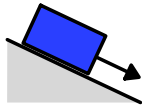
thin



edge



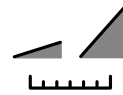
strips of tape



Slippery slopes data sheet



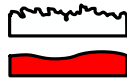
Material



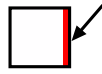
Steepness scale



scouring sponge



smooth



side

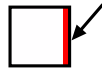
1 2 3 4 5 6 7 8 9



scouring sponge



rough



side

1 2 3 4 5 6 7 8 9



paperback book

1 2 3 4 5 6 7 8 9

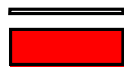


plastic cup

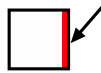
1 2 3 4 5 6 7 8 9



block of wood



thick



edge

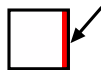
1 2 3 4 5 6 7 8 9



block of wood

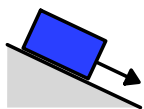


thin



edge

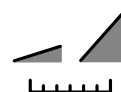
1 2 3 4 5 6 7 8 9



Slippery slopes data sheet



Material



Steepness scale

1 2 3 4 5 6 7 8 9

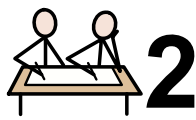
1 2 3 4 5 6 7 8 9

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



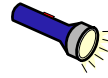
Group work 2: Slipping slopes



apparatus



card



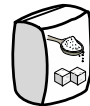
torch



paper



jug



sugar



couscous



lentils



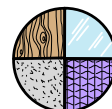
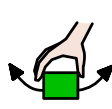
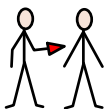
flour



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.



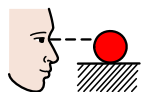
Try to make the highest heap.



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.



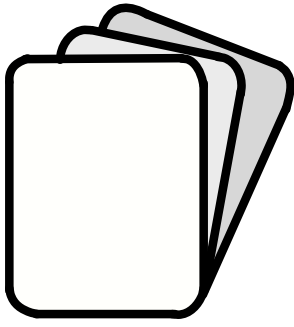
Think about places where slopes slip down.



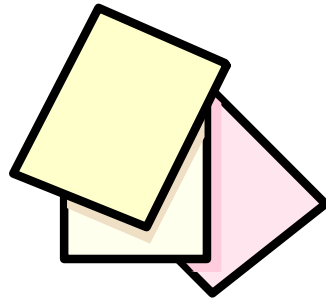
Think about when slopes slip down.



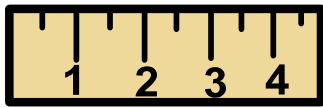
Find information about the Aberfan landslide.



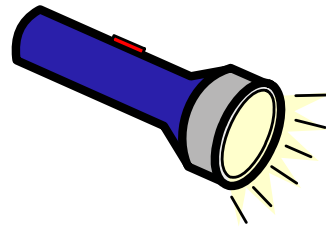
card



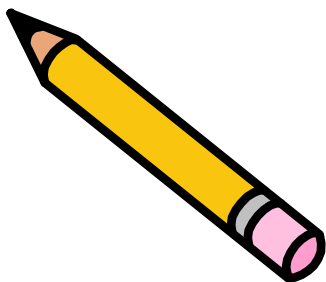
paper



ruler



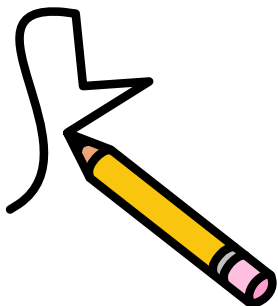
torch



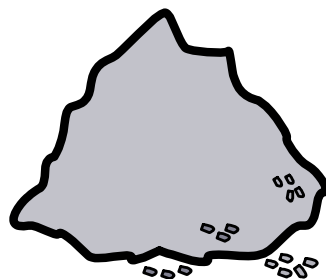
pencil



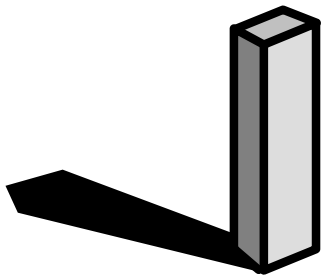
jug



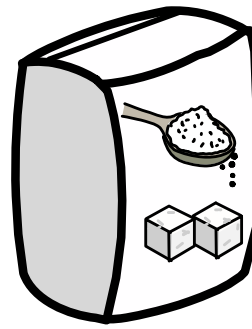
draw



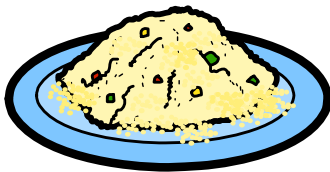
heap



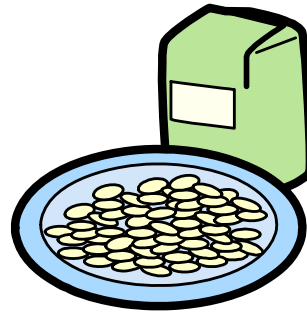
shadow



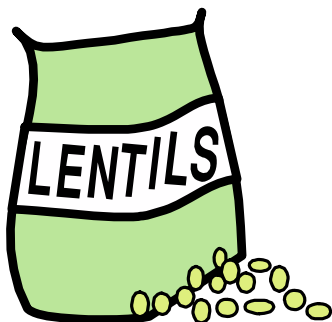
sugar



COUSCOUS



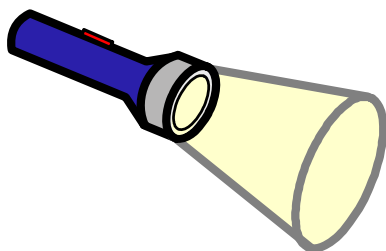
rice



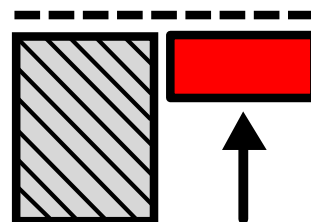
lentils



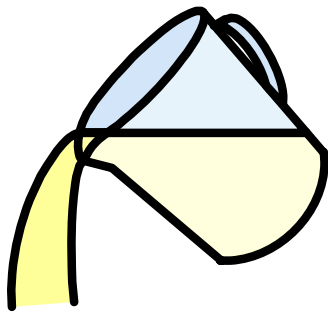
flour



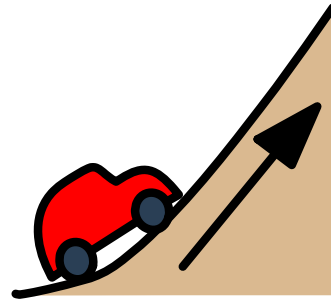
shine



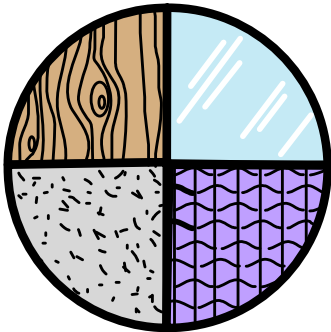
level



pour



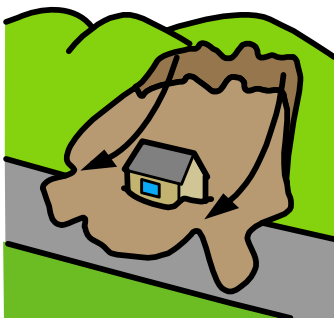
steep



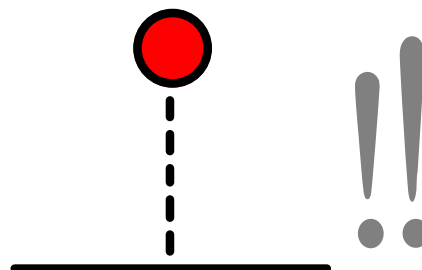
materials



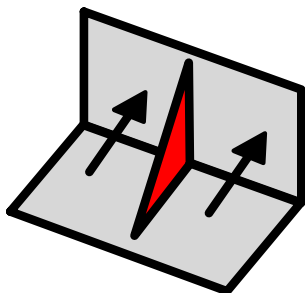
avalanche



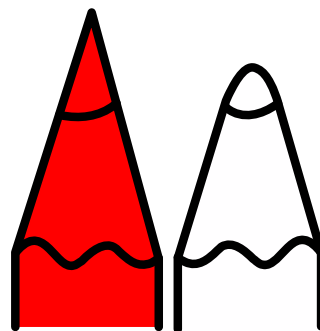
landslide



highest



prop



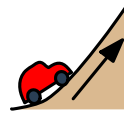
pointed



Slipping slopes data sheet



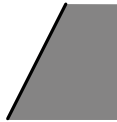
Heap



steepness



material



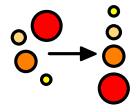
high



medium



low



order



sugar



lentils



flour



rice



COUSCOUS