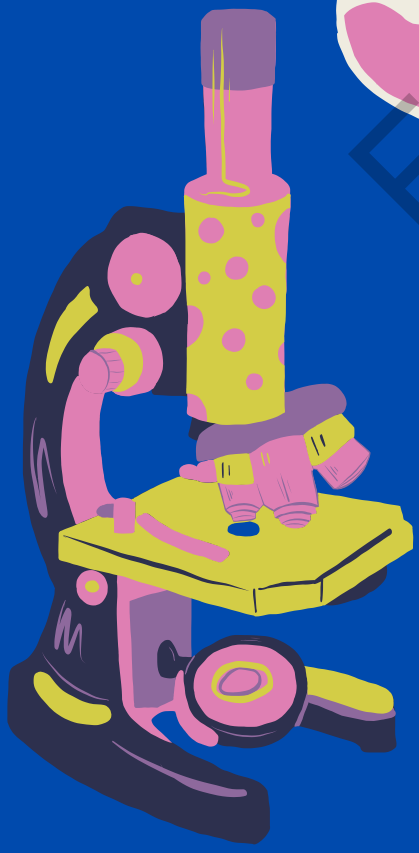
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Science Experiment







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Experiment #41 RAINBOW FROM GEMS

MATERIALS REQUIRED: Plate, Gems, Water

INSTRUCTIONS

1. Pour water until plate is covered. Don't pour so much that the water leaks over.
2. Place 10 gems onto plate in any design you want.
3. Wait and observe for 2-3 minutes as the outer dye appears to melt into the water. What a masterpiece you have created!

SCIENCE LOGIC

Gems dissolve very quickly when wet. That's why our saliva breaks them down quickly. The outer layer, which has the different colored dye, is the first to dissolve. When this happens, the colors spread in the water and make a really cool design.



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Experiment #42 DISSOLVING

MATERIALS REQUIRED: Water (hot & cold), Glasses, Sugar, Salt,Sand

INSTRUCTIONS 10 Min

1-Add one tbs of each material to each glass having cold water and warm water.
2-Look and see if solid dissolves in the hot water and cold water and if one is better than other.
3- You can dsign a chart to record your observation.

SCIENCE LOGIC

Thins like salt, sugar & coffee dissolves in water. They are soluable.They dissolve faster in hot water. Sand is insoluble in water, they will not disolve in even hotwater.

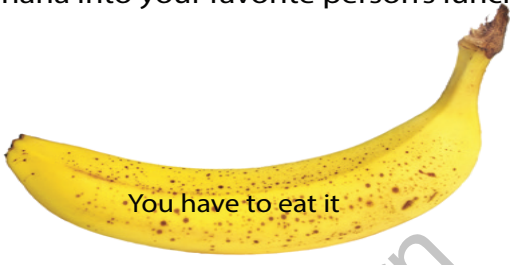


Experiment #43 MESSAGE ON A BANANA

MATERIALS REQUIRED: Banana

INSTRUCTIONS

1. Gently lay a banana on its side to use the broadest surface to write on.
2. Use Stickcarefully scratch a message and/or pictures onto the banana skin. Don't break the skin; pressing on it gently will do the trick.
3. Slip the banana into your favorite person's lunch box for a surprise.



SCIENCE LOGIC

When the cells of the banana skin are damaged (cut, bruised, scuffed, etc.), the cells release a chemical called polyphenol oxidase, which reacts with oxygen to produce brown pigments.

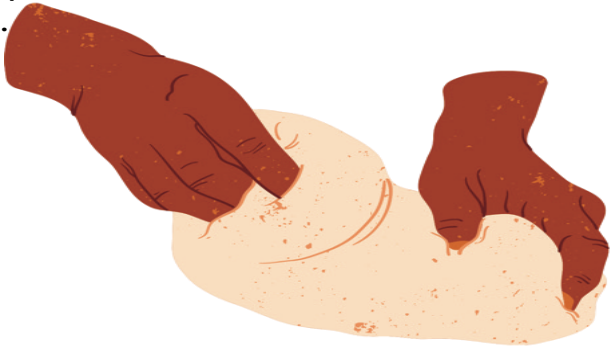
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Experiment #44 PLAY DOUGH

MATERIALS REQUIRED: 3 cups of Corn flour,1 ½ cups of salt, Baking Soda, 3 tbs Oil, 3 Cup Water

INSTRUCTIONS

1. Dissolve salt in the water.Pour all ingredients into a large pot.Stir constantly over medium heat until a ball forms by pulling away from the sides.
2. Knead the dough mixture until the texture matches playdough (1-2 minutes).
3. Store in plastic container. Should last for at least 3 months.



Experiment #45 ICE FISHING

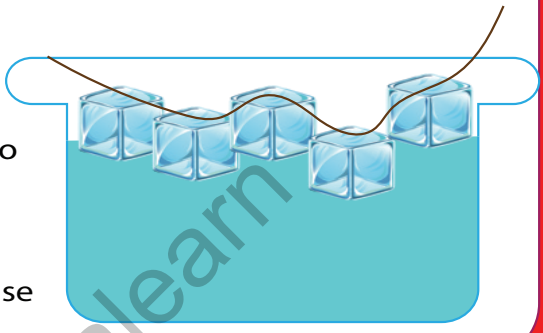
MATERIALS REQUIRED: Ice cubes, Salt, String, Glass, Small Stick

INSTRUCTIONS

1. Put the ice in the glass or bowl of water. The cube will bob up and down in the water and then float on the top.
2. Place one end of the string from the fishing pole on top of the ice cube and sprinkle salt on the ice where the string is touching. Watch as the water melts slightly and refreezes.
3. After about 10 seconds, carefully lift the ice cube out of the water with the fishing pole. You caught a fish (ice)!

SCIENCE LOGIC

As the ice cube melts, it dilutes the salt/water mixture in the little pool; the freezing point starts to go back up again. The ice refreezes, trapping the string. As soon as the ice cube hardens, you can raise it by lifting the string.



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Experiment #46 BLACK LIGHT BLUE BEVERAGE

MATERIALS REQUIRED: Black Light, Tonic Water, Sprite , Ice, Glass

INSTRUCTIONS

1. Pour tonic water, citrus drink (optional), and ice (optional) into glass.
2. Turn on blacklight and shine on drink.
3. Watch it turn blue!
4. Drink, if you want.

SCIENCE LOGIC

There is an ingredient called quinine in tonic water. It is very small amounts of it, but when it interacts with a black light it appears blue.



Experiment #47 FLOATING EGGS

MATERIALS REQUIRED: Egg, Water, Salt, Glass, Spoon

INSTRUCTIONS

1. Pour water into the glass until it is about half full.
2. 2. Place an egg in the glass of water and see if it sinks or floats (it should sink).
3. 2. Stir in lots of salt. Start with 1 tablespoon and stir it until the salt dissolves. Keep adding more salt until the egg floats.
4. 3. Next, carefully pour more fresh water until the glass is nearly full (be careful to not disturb or mix the salty water with the plain water). If you're very careful, you can get the egg to float between the fresh and

SCIENCE LOGIC

The egg is denser than the fresh water (more molecules per square inch), this causes it to sink. When you start dissolving salt in the water, this is increasing the density



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Experiment #48 BUTTER FINGERS

MATERIALS REQUIRED: Fressh Cream, Salt, Screw-top, Spoon

INSTRUCTIONS

1. Pour whipping cream into screw-top plastic container. (make sure not to fill more than halfway)
2. Add Salt, Make sure you screw the top on tight.
3. 4. Shake for 7-9 minutes or until the cream stops sloshing around and you are left with a yellow blob.
4. Shake for a few seconds longer.Congratulations! You have pure butter.

SCIENCE LOGIC

As you churn whipped cream, you beat droplets of butterfat until they collapse and rejoin to form a single blob of butter.



Experiment #49 LIQUID SANDWICH

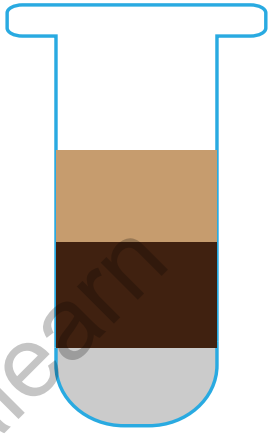
MATERIALS REQUIRED: Oil, Water, Honey, Test-tube

INSTRUCTIONS

1. Add equal amounts of the water, oil, and honey to the test-tube
2. The honey, oil, and water will separate into liquid layers that resemble a stack of items on a sandwich.

SCIENCE LOGIC

the items have different densities so they stack on top of one another to form a liquid sandwich.



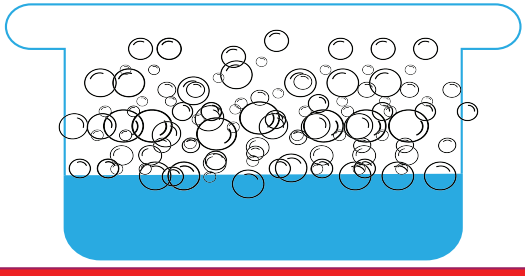
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Experiment #50 SUPER BUBBLE SOLUTION

MATERIALS REQUIRED: Distilled water, Light corn syrup,Empty container with lid, Liquid soap, Measuring Cyilnder

INSTRUCTIONS

1. Put six cups of water into the container.
2. Slowly stir one cup of liquid dish soap into the water. Do so in a way that does not cause bubbles or foam to form.
3. Add ¼ cup of light corn syrup to the soap and water solution. Stir the solution until it is mixed thoroughly, again making sure not to make any bubbles.
4. Allow the solution to sit overnight.



Experiment #51 MAKE MIST

MATERIALS REQUIRED: Straw, Scissors, Glass of Water

INSTRUCTIONS

1. Cut a horizontal slit in a straw about of third of the way from the bottom of the straw. Leave enough of the straw connected so you can bend the straw at the slit without the bottom section breaking off.
2. Put the short end of the straw in the water, keeping the slit about one quarter of an inch above the water level.
3. Blow hard through the long section of the straw.
4. A spray of mist should come out the other end of the straw.

SCIENCE LOGIC

Mist is nothing more than tiny little droplets of water suspended and moving in the air. Mist can cool through evaporation in a way similar to human sweat. Blowing air through the straw creates a low pressure zone that pulls up the water from the glass.



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Experiment #52 DENSITY SCIENCE

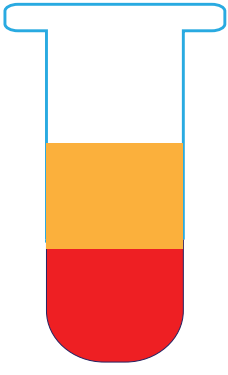
MATERIALS REQUIRED: Oil, Water, Food Colour, test-tube, Washing Liquid

INSTRUCTIONS

1. Add ½ cup of water to the empty plastic bottle.
2. Add a drop or two of food coloring to the water.
3. Add ½ cup of cooking oil to the plastic bottle.
4. Screw the lid onto the bottle and shake vigorously.
5. Set the bottle down and observe what happens.

SCIENCE LOGIC

As the bottle sits undisturbed after shaking, density will quickly take over and the oil will make its way past the more dense water toward the top of the bottle.



Experiment #53 COOL BUBBLE EXPERIMENT

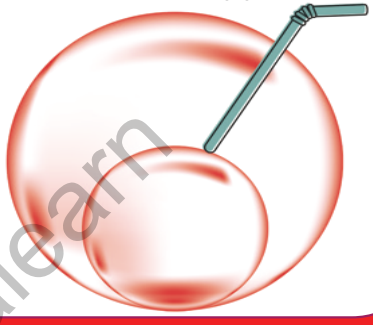
MATERIALS REQUIRED: Water, Liquid soap, Sugar, Straw, Scissors

INSTRUCTIONS

1. Add a tablespoon of sugar to one cup of warm water.- Mix until the sugar is dissolved. Now add 2 tbs of liquid soap.Find a very smooth and flat surface.Dip the end of the pipette into the soap solution
2. Once you have a decent sized bubble, stop blowing and remove the pipette.Dip the pipette into more of the soap solution.Now gently push the pipette through the bubble and blow a new bubble inside the bigger bubble.

SCIENCE LOGIC

When you blow a bubble inside a bubble, this actually forces the outside bubble to stretch to have to accommodate the additional air volume.



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Experiment #54 DANCING LIQUID

MATERIALS REQUIRED: Flour, Water, Food Colouring, Large Speaker

INSTRUCTIONS

1. Mix the water, flour, and some food coloring together
2. Pour mixture on to a thin plate
3. Place plate on top of a large speaker
4. Turn on some music and watch your liquid dance to the beat!

SCIENCE LOGIC

The sound of music is ac
made of vibrations. Thes
vibrations shake the spe
which in turn, vibrates th
liquid in tune with the m

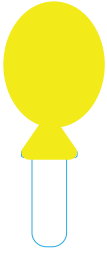


Experiment #55 BLOW UP A BALLON

MATERIALS REQUIRED: Lemon, water, Baking Soda, Cup, Test-tube Lemon, Spatula, Measuring cyilnder

INSTRUCTIONS

1. Add an 5ml of water to the test-tube.
2. Now add a 2-3 scoop of baking soda to the bottle. Swirl the test-tube around to mix the water and baking soda thoroughly.Stretch out the balloon and have it ready to put over the mouth of the bottle.
3. Cut the lemon in half and squeeze the juice into a cup.
4. Pour the lemon juice into the bottle and quickly secure the balloon over the mouth of the bottle.The balloon should inflate.



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Experiment #56 LOST AT SEA

MATERIALS REQUIRED: Compass, Battery (1.5 volts), One piece of insulated wire with both ends bare

INSTRUCTIONS

1. Place the compass on a table so that it is facing north.
2. Place the wire over the top of the compass. Make sure the wire is facing north and that both ends of the bare wires extend out over the compass.
3. Touch each end of the wire to the opposite ends of the battery and observe.

SCIENCE LOGIC

As electricity from the battery flows through the wire it creates a magnetic field. This magnetic field can be used to manipulate and trick the compass.



Experiment #57 PING PONG

MATERIALS REQUIRED: (1) Ping Pong Ball,Hair Dryer

INSTRUCTIONS

1. Set the hair dryer to blow just air instead of heated air, if it has the option to. A heated hair dryer will work if your dryer doesn't have this option.
2. Hold the ping pong ball just above the nozzle of the hair dryer and turn on the air. Let the ping pong ball go, and it should float above the nozzle.
3. Try different settings to see if you can get the ball to float higher.
4. Tilt the hair dryer a little bit from one side to the other. Does the ball still float?
5. How far can you tilt the dryer before the ball falls to the floor?



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Experiment #58 NOISE PAPER SOUND

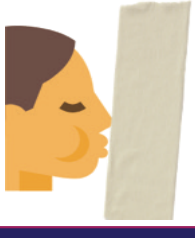
MATERIALS REQUIRED: Two pieces of printer paper

INSTRUCTIONS

1. Hold the two pieces of paper up in front of your mouth.
2. Pull the bottom piece out about a half an inch.
3. Blow strongly toward the middle of the two papers.
4. You may have to adjust your distance from the paper, how hard you are blowing, or how far out the bottom sheet of paper is from the top.
5. You should hear a loud vibrating noise.

SCIENCE LOGIC

As you blow across the paper, a stream of air works its way between the two sheets of paper. The air cause the paper



Experiment #59 BALLON POP! NOT!

MATERIALS REQUIRED: A Balloon, 2 Pieces Tap, Needle or pin

INSTRUCTIONS

1. Blow up balloon.
2. Use the the two pieces of tape to make an "X" on your balloon.
3. Carefully (with parent supervision), push needle through the middle of your "X".
4. Leave needle in and see how long it takes your balloon to pop.

SCIENCE LOGIC

When the balloon's hole gets bigger, it rips and eventually the balloon pops.



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Experiment 60 BUBBLING BUTTON

MATERIALS REQUIRED: Soda Can, Glass, Small Buttons

INSTRUCTIONS

1. Fill the glass with Sprite.Drop the button into the glass.
2. Wait a moment and the button will rise to the top of the glass.
3. Tap the button lightly with your finger to knock off the air bubbles.The button will sink and after several moments it will rise again.

SCIENCE LOGIC

Tiny bubbles of carbon dioxide will stick to the surfaces on the buttons. These bubbles will lift the buttons toward the surface of the soda where they will burst.



Experiment #61 MAKING OXYGEN

MATERIALS REQUIRED: Glass jar, Water, A freshly picked green leaf, Magnifying glass

INSTRUCTIONS

1. Fill the jar with water.
2. Put the leaf in the jar.
3. Sit the jar in a sunny location.
4. Wait until the jar begins to get warm and then look at the leaf with a magnifying glass.
5. Thousands of tiny bubbles will form on the leaf and inside the jar. This is the oxygen being given off by the leaf.

Photosynthesis is the process by which our freshly picked green leaf uses sunlight to make its own food. The leaf used energy from the sunlight to change water and carbon dioxide into oxygen and nutrients called sugars.



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Experiment #62 SUPER SEED JAR

MATERIALS REQUIRED: Glass Jar, Seeds, Water, Paper Tissue

INSTRUCTIONS

1. Fill the jar or vessel with paper towels.
2. Now use the water to moisten the paper towels. Be sure to get them moderately saturated without flooding the jar.
3. Carefully push the seeds down into the jar. Make sure they are positioned against the glass so you can observe them as they begin to grow. Also, make sure they are snuggly in place and will not move.
4. Feel free to use several types of seed to experiment and see which seed grows the best in this unique environment.

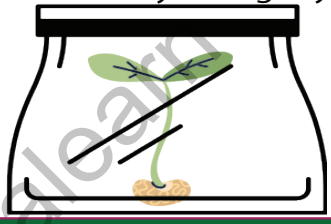


Experiment #63 BEANS IN A BAG

MATERIALS REQUIRED: Black Beans, Pesnuts, 2 Zip Bags, 2 Paper

INSTRUCTIONS

1. Fold each of the paper towels in a way that they will lay flat inside the zip close baggies.
2. Saturate the paper towels with water.
3. Put one of the folded paper towels into each zip close baggie.
4. Put a few beans in each baggie on top of the wet paper towel.
5. Zip the bags closed.
6. Carefully place one bag in a sunny place and the other in a dark place without disturbing the beans.
7. Check each bag daily and record any changes you observe in the beans



Experiment #64 CHECK YOUR PULSE

MATERIALS REQUIRED: Timer

INSTRUCTIONS

1. Sit quietly for several minutes.
2. Put two fingers together and place them on either side of your neck or on your wrist. You may have to feel around for a few seconds to locate your pulse.
3. Count the number of beats for sixty seconds.
4. Try again and this time count the number of beats and multiple the total by two.
5. Now count the number of beats for fifteen seconds and times the total by four.
6. These tests should give you roughly the same number and this number is your resting pulse.
7. Now exercise for sixty seconds.
8. Count the number of beats for 60 seconds and compare it with your resting pulse.





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Experiment #65 GROWING COLONY OF MOLD

MATERIALS REQUIRED: Lemon, Jar, Water, Aluminum foil, Magnifying glass

INSTRUCTIONS

1. Put the lemon in the jar and add a small amount of water.
2. Cover the lid tightly with the aluminum foil and place the container in a warm dark space.
3. Store the container for a week or more.
4. Remove the lemon and examine the mold with the magnifying glass.



Mold grows on dead organic matter but only becomes visible to the naked eye when it forms a colony called mycelium. Mold digests (or eats) the organic material it is growing on. Mold is very important because it helps break down decaying plants and animals.

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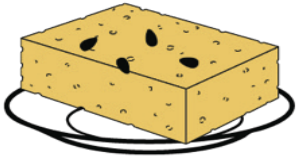
Experiment #66 SPROUTING SEEDS

MATERIALS REQUIRED: Sponge,Shallow dish,Seeds,Magnifying dish

INSTRUCTIONS

1. Place the sponge in the shallow dish.
2. Add water to the dish. Make sure the sponge remains above the water level.
3. Sprinkle seeds on the sponge and push them gently into the sponge.
4. Place the seeds in a sunny location for three or four days.
5. Observe the seeds for cracking and sprouting with your magnifying glass.

By placing the seeds on the sponge instead of in soil, we are able to observe the seeds sprouting. The water in the sponge will trigger the seeds to begin sprouting.



Experiment #67 BLOSSOMING BEANS

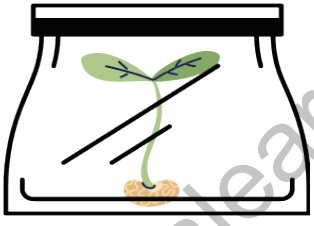
MATERIALS REQUIRED: 1 pinto bean, 1 Ziploc bag, 1 paper towel, Spray bottle

INSTRUCTIONS

1. Dampen paper towel with spray bottle, Place wet paper towel in Ziploc Bag, Place bean on top of wet paper towel, close ziploc bag.
2. Place Ziploc Bag in a warm, sunny spot, Add water to paper towel when it dries out
3. Observe your plant growing in 3-5 days!

SCIENCE LOGIC

Germination! That means the plant is sprouting it's roots.



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Experiment #68 MAGIC BALL

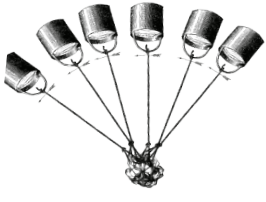
MATERIALS REQUIRED: Small bucket, Ball, Rope

INSTRUCTIONS

1. Securely tie the rope around the handle of the bucket.
2. Place the ball in the pail.
3. Make sure you will not hit anything and then swing the pail in a loop.
4. The centrifugal force will hold the ball in the bucket.

SCIENCE LOGIC

Centrifugal force really isn't a force at all but is the result of inertia. Inertia is the tendency of an object to resist a change in motion. The ball wants to stay in motion and fly



Experiment #69 COIN IN A CUP

MATERIALS REQUIRED: Plastic cup, Coin, Playing Card

INSTRUCTIONS

1. Place the cup upright on a table.
2. Now place the playing card over the opening of the cup.Put the coin on top of the card.
3. Grab the edge of the playing card, and pull it quickly.The coin should fall into the cup as opposed to flying across the room.

SCIENCE LOGIC

The coin wants to remain at rest because it has inertia. If you try to slowly pull the card away, you can not overcome that force and the coin will remain on the card. If you pull the card away quickly, the coin will stay in one place for a split nanosecond before gravity takes over and the coin falls into the cup.



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Experiment #70 COIN FLICK

MATERIALS REQUIRED: 10 coins

INSTRUCTIONS

1. Stack 9 of the coins on top of each other on a smooth table.Place the remaining coin on the table about one inch away from the stack.
2. Use your middle finger to flick the coin at the bottom coin in the stack. If all goes well, the bottom coin should fly out from the stack without knocking the stack of coins over.
3. A body at rest tends to stay at rest.

SCIENCE LOGIC

When the bottom coin was struck, the force overcame inertia and knocked the bottom coin away.





Experiment #71 FINDING A BOAILED EGG

MATERIALS REQUIRED: 2 Two raw eggs, 1 Boiled Egg

INSTRUCTIONS

1. Spin each of the eggs and observe what happens.
2. Two of the eggs will wobble but one will spin. The egg that spins is the hardboiled egg.
3. Now lightly touch each egg as it spins.
4. The hardboiled egg will stop spinning but the raw eggs will continue to move

SCIENCE LOGIC

Inertia will cause the loose yolks and whites of the raw eggs to continue trying to move.



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Experiment #72 UNBREAKABLE THREAD

MATERIALS REQUIRED: Hanger,wooden stick,Two pieces of thread,Metal edged ruler

INSTRUCTIONS

1. Tie one piece of thread to each end of the wooden cloths hanger.Now tie the free end of each thread to each end of the wooden cloths hanger so that the wooden stick is suspended below. Do so in a way that the wooden stick hangs about twelve inches below the hanger.
2. Now hit the stick with the metal edge of the ruler.
3. The stick will break before the threads

SCIENCE LOGIC

Because of inertia, the stick will attempt to remain at rest so much it would rather break than move.



Experiment #73 MAGIC NAPKIN

MATERIALS REQUIRED: Napkin,Plastic cup full of water

INSTRUCTIONS

1. Drape the napkin over the edge of a table.
2. Place the plastic cup of water on the napkin and about one inch from the edge of the table.
3. Quickly jerk the napkin out from under the plastic cup of water.

SCIENCE LOGIC

Inertia explains that an object at rest will tend to stay at rest. Although we yanked the napkin out from under the cup of water, the cup wanted to stay at rest and did not



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Experiment #74 MOVING BOOK WITH STRAW

MATERIALS REQUIRED: Heavy book, straws (10-15)

INSTRUCTIONS

1. Place the book on a flat surface and slide it about a foot.Observe the amount of strength required to move the book.
2. Place several straws under the book.Now observe the amount of strength required to move the book about a foot.The straws roll and reduce the friction..

SCIENCE LOGIC

The straws are smooth and reduce the friction between the book and the flat surface.This reduction of friction will allow the book to move much more easily when placed on top of



Experiment #75 MAGIC TENNIS BALL

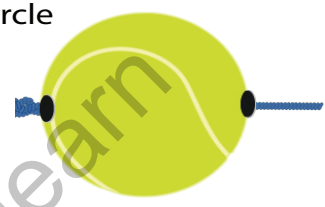
MATERIALS REQUIRED: String,Tennis ball, Knife

INSTRUCTIONS

1. Have an adult cut a hole through a tennis ball.
2. Push the string through the hole and tie a knot on the opposite end to keep the string from pulling back through.
3. Leave about four feet of string hanging from the tennis ball.Go outside.Hold the string by the loose end and swing around in a circle.
4. The centrifugal force will pull the tennis ball up.

SCIENCE LOGIC

Centrifugal force is the energy of an object trying to stay in a straight line while traveling in a circle



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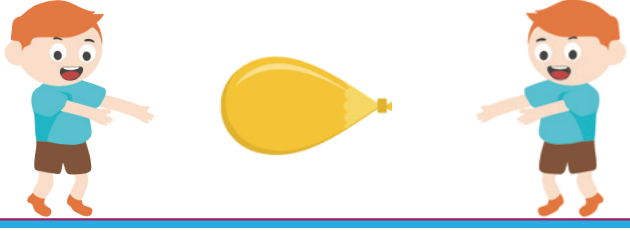
Experiment #76 FUN WITH WATER BALLON

MATERIALS REQUIRED: Water filled balloons, A Friend

INSTRUCTIONS

1. Stand facing each other from a few feet away and toss the water filled balloon to your friend.
2. Once your friend catches the balloon, take one step backwards.As you get further away from one another, take note of how you have to give with your hands to keep the water balloon from bursting.
3. Observe what causes the water balloon to eventually

SCIENCE LOGIC When you lift the balloon to toss it, you give it potential energy. This potential energy become kinetic energy once the balloon is tossed. Eventually the kinetic energy can not be contained by the balloon and the balloon



Experiment #77 ROCKET BLAST BALLON

MATERIALS REQUIRED: Balloon, String,Tape, Straw, Scissors

INSTRUCTIONS

1. Take 6 feet string, tie to equal height (using dining chair). Blow up the balloon. Pinch the end of the balloon closed but do not tie it off.
2. Tape the balloon to the straw.
3. Pull the straw and balloon to one end of the yarn.
4. Release the balloon and watch your Rocket Blast Balloon take off.

SCIENCE LOGIC

When we release the balloon, the pressurized air in the balloon pushes against the air around the balloon sending it in the opposite direction down the yarn.



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Experiment #78 STRENGTH TEST

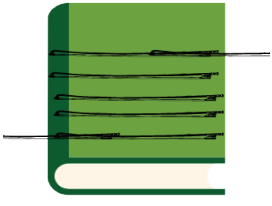
MATERIALS REQUIRED: 30 Inch String, Heavy Book

INSTRUCTIONS

1. Lay the string out on a table.Center the heavy book on the string.Tie the string around the book without making a knot.
2. Take one end of the string and lift the book.Now pull on either end of the string and try to make the string in a straight line.No matter how strong you are you will not be able to pull the string straight.

SCIENCE LOGIC

You may actually notice that the further you pull the string ends apart, the heavier the books seems to weigh. The greater the angle between the two halves of the string, the greater the force will be needed to hold the



Experiment #79 STAB A PATATO

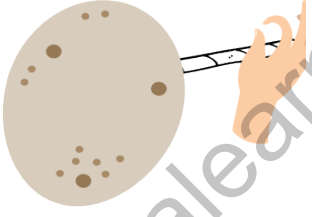
MATERIALS REQUIRED: Patato, Straw

INSTRUCTIONS

1. Hold the straw in your writing hand.Place your thumb over the top end of the straw.
2. Make sure your hand holding the potato is out of the way.Now thrust the straw straight into the potato with one strong push.
3. The straw should stab into the potato without bending.

SCIENCE LOGIC

Your thumb will trap air inside the straw. By trapping the air, the air molecules will compress and give your straw strength that keeps it from bending as you stab it through the potato.



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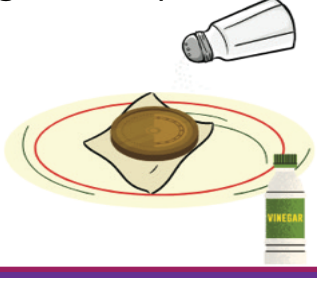
Experiment #80 GREEN COIN

MATERIALS REQUIRED: Copper coin, Vinegar, Salt, Water, Bowl

INSTRUCTIONS

1. Fold Tissue paper and put it in Bowl, now place Copper coin on top of it. Carefully pour vinegar on the coin.
2. Sprinkle salt over the pennies.
3. Make observation for next 3-4 days, Copper will start turning green.

SCIENCE LOGIC The vinegar, which is an acid, will dissolve the copper oxide layer of the pennies. This will allow the copper to easily mix with oxygen in the air. The copper and oxygen, along with chlorine from the salt, will combine to create the blueish-green compound malachite.



Experiment #81 INVISIBLE INK

MATERIALS REQUIRED: Lemon juice, Water, Cotton Swab, Cup, Paper

INSTRUCTIONS

1. Mix two tablespoons of water and two tablespoons of lemon juice in a cup.
2. Dip swab in mixture and write on paper, let it dry for some time.
3. Now to read message, let adult let a candle and hover paper on flame.

SCIENCE LOGIC

Lemon juice will heat up at a slower rate than the paper, which will cause the message to appear





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Experiment #82 DANCING RICE

MATERIALS REQUIRED: Rice, Vinegar, Baking Soda, Glass, Water

INSTRUCTIONS

1. Add a cup of water to the clear glass or container.
2. Add one teaspoon of baking soda to the water and stir.Add some rice to the mixture. It should sink to the bottom.
3. Now add a tablespoon of vinegar to the mixture.
4. Observe what happens to the rice.

SCIENCE LOGIC

As the carbon dioxide rises toward the surface of the cup, the bubbles attach to the sides of the grains of rice. The bubbles carry the rice to the surface of the water where the bubbles pop and the rice sinks back to the bottom of the cup.



Experiment #83 SWEET TOOTH

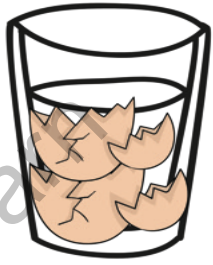
MATERIALS REQUIRED: Tooth 0r Egg shells, Cola, Glass

INSTRUCTIONS

1. If you happen to have a tooth lying around or you are able to get one, this is a great demonstration. Else use Egg Shells
2. Put some cola in the glass.
3. Drop the tooth in the glass for at least one week.
4. Check the tooth after a week and observe any changes.

SCIENCE LOGIC

Soda is high in acid. The acid in soda will dissolve the minerals in teeth which will weaken them and allow them the potential to decay.



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Experiment #84 BURP IN A BAG

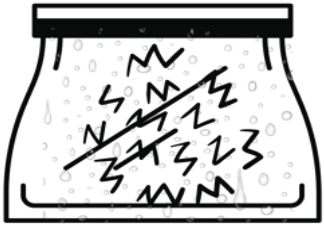
MATERIALS REQUIRED: Tissue, Vinegar, Baking Soda, Zip-Bag, Tap

INSTRUCTIONS

1. Put about one tablespoon of baking soda onto a square of tissue.
2. Fold the tissue into a little bundle and secure with tape.
3. Head outside as the next step can get a little messy.
4. Add about a half cup of vinegar to the ziplock sandwich baggie.
5. Drop your tissue bundle of baking soda into the bag and zip the bag closed quickly.
6. Toss and observe as your burp in a bag grows and eventually pops!

SCIENCE LOGIC

The vinegar and baking soda create a chemical reaction that releases carbon dioxide. The carbon dioxide gas builds up in the ziplock bag until the pressure causes



Experiment #85 INVISIBLE IMAGE

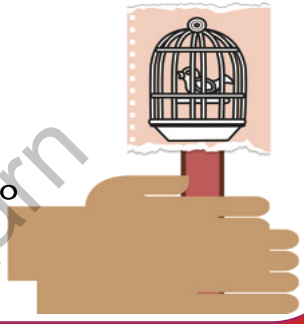
MATERIALS REQUIRED: Scissors, Colored pencils, 3 x 5 index card, Tape, Pencil

INSTRUCTIONS

1. Cut the index card into halves.
2. On one side, draw a bird in the middle of the card.
3. On the other side, draw a bird cage in the middle of the card.
4. Tape the cards back to back of the end of the pencil.
5. Now rub the pencil very quickly between the palms of your hands until the bird seems to appear in the cage

SCIENCE LOGIC

The device we have created is actually called a thaumatrope. As the device spins quickly back and forth from image to image, the image persists as there are no significant interruptions to the light entering the eye. This creates the illusion that the bird is in the cage.



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Experiment #86 WORKING OF EYE

MATERIALS REQUIRED: Wax paper, Paper Cup, Safety Pin, Rubber Band

INSTRUCTIONS

1. Using the safety pin, poke a small hole in the center of the bottom of the paper cup.
2. Place a piece of the wax paper over the mouth of the cup.
3. Use the rubber band to hold the wax paper in place.
4. Point the bottom of the paper cup at a bright light from about two to three feet away.
5. Slowly walk toward the light and you should soon see an image of the light bulb appear upside down on the wax paper.

SCIENCE LOGIC

Light enters our eyes through our pupils after it reflects off of an object. The light then makes it way through the different parts of our eyes and produces an image on our retina that is upside down. The image then travels to our brain through the optic nerve



Experiment #87 GLOWING ROCKS

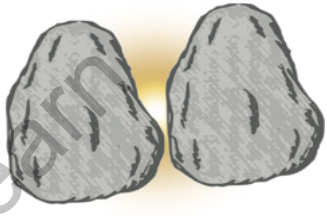
MATERIALS REQUIRED: Two pieces of quartz big enough to hold in your hand

INSTRUCTIONS

1. Find or source two pieces of quartz that are as clear as possible.
2. Make sure you can hold a piece of quartz in each hand in a way that you can rub them together vigorously.
3. Orient the flattest sides of each piece of quartz towards each other.
4. Find a dark room and rub the quartz together to observe the real glowing rocks.
5. Notice the smell coming from the real glowing rocks.

SCIENCE LOGIC

The light produced when rubbing the quartz together is a phenomenon called triboluminescence which make the quartz appear to glow and sparkle.



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Experiment #88 ROCK ACID TEST

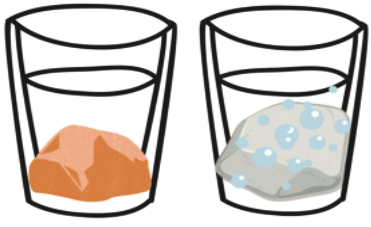
MATERIALS REQUIRED: Several different rocks, A piece of limestone Vinegar, Several glass jars or clear bowls

INSTRUCTIONS

1. Place each different rock in a glass jar. Make sure the limestone is also in a glass jar.
2. Fill each jar with vinegar and try to cover each rock at least half way.
3. Allow several minutes to pass and observe what happens.
4. Does the vinegar react with the limestone or any of the other rocks?

SCIENCE LOGIC

The bubbles are carbon dioxide being released by a chemical reaction between the carbonate material and acid. The rock acid test is used by geologists to identify carbonate minerals.



Experiment #89 MAKE A COMPOST IN A BOTTLE

MATERIALS REQUIRED: Soil, Grass, leaves,any type of organic material, Empty Large Bottle, Scissors

INSTRUCTIONS

1. With adult supervision, cut the top off of the soda bottle.
2. Put an inch or so of soil in the bottom of the bottle.
3. Now add an inch or so layer of organic material.
4. Top with soil and then add another layer of compostable material. Keep doing this until your bottle is nearly full.
5. Now place the bottle in a sunny spot where it will not get knocked over or disturbed.Use your newly created nutrient rich soil to grow a plant!



SCIENCE LOGIC

Microorganisms in the soil eat the organic waste and break it down into smaller parts. The resulting mixture is nutrient rich and very beneficial to plants.

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Experiment #90 ACID RAIN

MATERIALS REQUIRED: Glass, Water, Straw, Phenol red

INSTRUCTIONS

1. Fill the glass about three quarters of the way full with water.
2. Put about fifteen drop of phenol red into the water.
3. Put the straw in the water and blow for about twenty seconds.DO NOT DRINK THE WATER
4. Check the water and observe any changes.
5. Blow into the water again for twenty more seconds and observe any changes.



SCIENCE LOGIC

The carbon dioxide in your breath reacted with the phenol red causing it to change colors and demonstrating that when we put too much carbon dioxide in the air, it can become acidic and pollute the moisture in the air

Experiment #91 STORM IN A GLASS

MATERIALS REQUIRED: Shaving cream, A large glass, Water Food Colour, A spoon

INSTRUCTIONS

1. Fill the glass 1/2 full with water
2. Spray some shaving cream on top of the water to fill the glass to ¾ full.
3. Use your finger or a spoon to spread the shaving cream evenly over the top of the water. The top of the shaving cream should be flat.
4. Mix ½-cup water with 10 drops of food coloring in a separate container. Gently add the colored water, spoonful by spoonful, to the top of the shaving cream. When it gets too heavy, watch it storm!

SCIENCE LOGIC

Clouds in the sky hold onto water. They can hold millions of gallons! The layer of shaving cream is our pretend cloud in this experiment. The shaving cream layer can also hold onto water.



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Experiment #92 WATRE EFFECTS

MATERIALS REQUIRED: Two paper cups, Straight pin, Two small glasses, Ice cubes, Hot wate

INSTRUCTIONS

1. Set the glasses on a table.
2. Poke a small hole in the center of the bottom of each paper cup.
3. Fill one paper cup with cold water and ice cubes. Place the paper cup filled with cold water on top of one of the small glasses.
4. Fill the other paper cup with hot water. Set the paper cup filled with hot water on top of the other small glass.
5. Observe which cup leaks faster.

SCIENCE LOGIC

The hot water molecules are more active and fall through the hole easier. The cold water molecules are moving much slower and do not fall through the hole as easy.

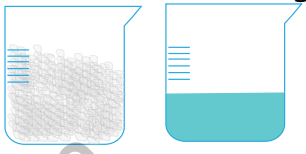


Experiment #93 FROZEN OCEAN

MATERIALS REQUIRED: Dry erase markers, Spoon, Water, Two large plastic bowls, Salt, Freezer

INSTRUCTIONS

1. Use the dry erase marker label the bowls "Bowl 1" and Bowl 2."
2. Pour four cups of water into each bowl.
3. Add two tablespoons of salt slowly into Bowl 1. Stir until dissolved. There may be a little salt remaining in the bottom of the bowl.
4. Put both of the bowls in the freezer and leave overnight.
5. Record your results the next day.



SCIENCE LOGIC

Fresh water freezes at 0 degree celsius. When salt is added to water, it lowers the freezing point of the water by several degrees. The salt water can still freeze, but it will require a temperature lower than 0 degree celsius to do so.

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Experiment #94 SEASHELLS OCEAN SCIENCE

MATERIALS REQUIRED: Seashell, Vinegar, Bowl or cup

INSTRUCTIONS

1. Fill the bowl or cup with vinegar.
2. Put the seashell in the cup.
3. Observe what happens to the seashell after one minute, one day, and three days. You will notice small bubbles begin to form on the seashells.



SCIENCE LOGIC

Seashells are made of calcium carbonate which is a base.Vinegar is an acid. When an acid and a base are combined, a chemical reaction occurs that creates carbon dioxide.

Experiment #95 CRYSTAL GARDEN

MATERIALS REQUIRED: Epsom salt, Hot water, Clear glass jar, Measuring cups,Small pom-poms

INSTRUCTIONS

1. Add one cup of Epsom salts to the jar.
2. Next add one cup of very hot tap water to the jar and mix thoroughly. It is fine if there is some undissolved salt in the bottom of the jar.
3. Drop is some pom-poms and mix them into the mixture.Put the jar in the refrigerator overnight.
4. The next morning, pour off the excess liquid and observe your crystals.
5. You can carefully handle your crystals but be aware they are delicate and may crumble.

SCIENCE LOGIC

The Epsom salts dissolve in the heated water. As the water cools, it becomes less able to hold the Epsom salts. The Epsom salts then clings to the pom-poms and forms crystals.



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Experiment #96 SALT CRYSTALS

MATERIALS REQUIRED: Piece of string, Nail, Jar, Pencil, Salt, Tablespoon,Hot water

INSTRUCTIONS

1. Fill the jar with hot water.
2. Slowly stir in several tablespoons of salt.
3. Tie one end of the string around the nail.
4. Next tie the other end of the string around the pencil in a way that the nail will be suspended just above the bottom of the jar when the pencil is laid across the mouth of the jar.
5. The water will dry up after several days and your string will be covered with salt crystals.



SCIENCE LOGIC

The salt dissolves in the heated water. As the water cools, it becomes less able to hold the salt. The salt then clings to the string and forms crystals.

Experiment #97 POWER OF SUN LIGHT

MATERIALS REQUIRED: A jar with a lid, Tape, Piece of string, Magnifying glass

INSTRUCTIONS

1. Tape the piece of string to the inside center of the lid.
2. Put the lid on the jar so that the strings hangs down inside.
3. Use the magnifying glass to focus the rays of the sun on the string for several minutes.
4. The heat from the sun will become intense enough to burn through the string.

SCIENCE LOGIC

A magnifying glass is a convex lens that is used to magnify (make larger) an object or image.Sun rays carry energy and when the magnifying glass converges the sun rays into one point, its energy becomes concentrated enough to raise the temperature were the energy is focused. This can often raise the temperature of an item, in our case the string, past its ignition point.



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Experiment #98 HEAT RACE

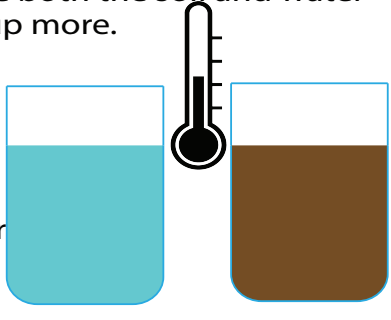
MATERIALS REQUIRED: Two plastic cups, One half cup of water, One half cup of soil, Thermometer

INSTRUCTIONS

1. Pour the water into one cup.
2. Pour the soil into the other cup.
3. Place both cups in the refrigerator for 10 minutes.
4. Next place both cups in the sun for fifteen minutes.
5. Record the temperatures of the both the soil and water and determine which heated up more.

SCIENCE LOGIC

Land has the ability to absorb more solar radiation than water because water will reflect most solar radiation back into the atmosphere. A large body of water has a higher heat capacity than land, meaning it takes more energy to warm and cool the temperature of water.



Experiment #99 GREENHOUSE EFFECT

MATERIALS REQUIRED: Glass jar with a lid, One teaspoon of water, Sunny location outside

INSTRUCTIONS

1. Put the teaspoon of water in the jar.
2. Tighten the lid securely so that no air can escape.
3. Leave the jar in a sunny location for at least one hour.
4. Small drops of water will form and cling to the side of the jar.

SCIENCE LOGIC

The greenhouse effect is a process that occurs when gases in Earth's atmosphere trap the Sun's heat. This process makes Earth much warmer than it would be without an atmosphere, because without an atmosphere all the Earth's heat would dissipate into outer space.



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Experiment #100 REVERSE WATER SPOUT

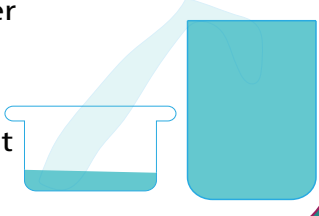
MATERIALS REQUIRED: Water, Drinking glass, Bowl, Paper towels

INSTRUCTIONS

1. Twist two paper towels together.
2. Fill the glass with water.
3. Bend the twisted paper towel in the middle and place one end in the glass and the other in the bowl.
4. Observe as your paper towel wicks water from the glass, up and over the rim, and into the bowl.

SCIENCE LOGIC

In this fun and easy experiment, we used capillary action to move water up and out of the glass and into the bowl. We call this experiment a reverse water spout because contrary to popular belief a water spout does not suck up water. The water that is observable in the main funnel cloud of a water spout is actually water droplets formed through condensation.



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