WATER AND LIQUIDS (EVERYDAY MATERIAL SCIENCE EXPERIMENTS) pdf

1: Water Density Science Experiments | Sciencing

*Water And Liquids (Everyday Material Science Experiments) [Robert Mebane/Thomas Rybolt] on www.enganchecubano.com *FREE* shipping on qualifying offers. Provides instructions for a variety of experiments that illustrate the chemical and physical properties of liquids.*

Symposium at the annual meeting of the American Association for the Advancement of Science in Baltimore, Maryland. Balancing Nails on a Nail Pound a large nail far enough into a board so that the nail stands securely upright. Lay a second large nail on a flat surface and place other nails across this nail, head to head as shown above. Finally, place another nail on top of this assembly, head to tail with the second nail. Carefully pick up the assembly and balance it on the upright nail. In a gravitational field, any object is most stable when its center of mass is as low as possible. The center of mass of the nail assembly is below the point of support and at its lowest when the assembly is balanced. If the assembly swings to the side, its center of mass rises. Gravity that exerts a restoring force to bring the assembly back into balance. Rolling Coin in Balloon Place a coin in a large balloon, and then inflate and tie off the balloon. Swirl the balloon rapidly to cause the coin to roll inside the balloon. The coin will roll for a very long time on the smooth balloon surface. Racquet Ball Conserves Energy! With a sharp knife or razor blade caution!!! Trim each half so that it is slightly smaller than a hemisphere. Turn the he hemisphere inside-out and drop it, bulge-side-up, on a hard surface. The ball will snap and rebound to a height much greater than that from which it was dropped. Work is required to turn the hemisphere inside-out and this work is stored as potential energy. As the dropped ball hits the hard surface, this potential energy is released and converted to kinetic energy, allowing the ball to rebound to a greater height. Dropping a Light Ball on Top of a Heavy Ball Simultaneously drop a light ball such as a ping pong ball resting on top of a much heavier ball such as a superball or golf ball. If the balls are properly aligned, ideally the light ball will rebound to nearly nine times its original height. If three stacked balls each considerably heavier than the one above it--are dropped, ideally the lightest ball rebounds to nearly forty-nine times its original height. If two stacked balls with mass ratio of 3: The explanation for these phenomena involve conservation of momentum and kinetic energy. Balancing a Ball with a Hair Dryer A light ball, such as a ping pong ball or Styrofoam ball, can be balanced in the air stream of a hair dryer. If the ball strays from the air stream, the surrounding higher pressure air tends to push it back. Dinner Table Optics Use a filled round-bottom wine goblet as a lens to focus the light from a candle or from the filament of a chandelier bulb onto a wall. How does the image on the wall compare to the original object? Look carefully at the world through the wine goblet. Then look carefully at the world through a beer mug. How are the optics of a wine goblet and beer mug similar? Use a large shiny spoon as a mirror and compare your image in the bowl and back of the spoon. Observe carefully the image of your pointed finger as you move it toward the bowl of the spoon until it touches the spoon. Deli Optics Fill a large test tube or tall narrow pickle or olive jar with water to serve as a cylindrical lens. Hold the jar horizontally in front of your eyes and look at the world through the jar. While holding the jar in this position, have someone else look at your eyes through the jar! Film-Canister Optics Make a small pinhole in the center of the bottom of an opaque film canister. About halfway up the can, push a pin through the side of the can from the inside, so that the head of the pin is on the inside of the can directly above the pinhole in the base. Look into the open end of canister toward any bright source of light and adjust the head of the pin until it is in line with the light coming through the pinhole in the bottom. You should see the pin head inside the canister, but it seems to be pointing in the opposite direction! The view of the pin head is different from ordinary image production by a pinhole, for in that case the object and the image are on opposite sides of the pinhole. What you are seeing here is the shadow of the pin head, which is right side up your retina, superimposed on the scene from beyond the pinhole, which is inverted on your retina. Your brain interprets the messages from your retina by turning them upside down, making the image from beyond the pinhole look right side up and the shadow of the pin seem upside down. Flashlight Fiber Optics Make two small holes in the cap of a small mustard jar, diagonally opposite each other. Attach the jar to a flashlight, bottom end of jar against the flashlight lens, using several layers of duct tape. Make sure that the glass walls of the jar are completely covered with tape so that no light comes through the side of the jar. Fill the jar with water and cap it, turn on the flashlight, and turn out the lights. Allow a thin continuous stream of water to pour out of one of the holes in the cap the other hole allows air into the jar. The light will be captured within the stream due to total internal reflection. The stream will not be visible from the side and the light will only be seen when the stream breaks up or hits something. Lightning in Your Mouth Turn out the lights and allow your eyes to become accustomed to the dark. Then, while looking into a mirror, pop a wintergreen Life Saver into your mouth and chew. Charge separation is produced as the candy fragments, and the discharge produces light. This phenomenon is called triboluminescence and can be observed with other flavors of hard candy--or even sugar cubes, but wintergreen flavor seems to work best. Coat-Hanger Chimes Tie the middle of a 3-foot long piece of thread to the hook of a cost hanger. Wrap the ends of the thread around the second finger of each hand, stick these fingers in your ears, and allow the hanger to bump against a rigid object. Big Ben never sounded this good! Non-Newtonian Fluid Make a thick slurry of cornstarch and water. Unlike ordinary liquids, the slurry will flow easily under a small pressure but resists moving when a sudden or strong force is applied.

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2: Measuring Surface Tension of Water with a Penny | Science Project

Water is a common, everyday material that can be used to demonstrate many useful and interesting lessons about density. Mixing Liquids Water and oil do not mix; this is a well-known phenomenon that is actually a display of how liquids of different densities behave with each other.

Can Water Float on Water? Before you start your experiment skip down to step 8 below and practice the bottle flipping technique. This will make your experiment go much more smoothly! How much salt and water? Here are some things to think about: The salinity map in the Introduction shows that deep ocean salinity ranges from 32 to As an example, 32 ppt would mean 32 g of salt per g 1 liter of seawater. You want your ocean water for this experiment to be somewhere in the 32 - Add tap water to the "fresh" mixing container. Fill the graduated cylinder with water from the "fresh" mixing container. Put the hydrometer in, push it gently and wait until it stops bobbing up and down. Read the number on the hydrometer at the surface of the water. See Figure 1 below for details. Record the density in your lab notebook. Also shake extra water out of the graduated cylinder. Repeat step 4a with the salt solution. The solution may come up the sides of the hydrometer slightly. If so, take the numerical reading where the solution is level across the hydrometer dashed line in this diagram and not where the solution rides up the sides Qlaz, ; Wikimedia Commons. Add 5 drops of food coloring to each container. Note which is which in your lab notebook. Fill a "fresh" bottle completely full of colored fresh water. Now comes the tricky part. You are going to invert turn upside down one bottle and put it on top of the other, without spilling. Hold the bottle near the base with one hand while holding the card against the opening with two fingers of the other hand. Slowly and carefully flip the bottle over, keeping the card pressed tightly against the opening. Try not to squeeze the plastic bottle as you do this, since squeezing will push water out of the bottle. Holding near the bottom of the bottle where it is stiffer will help. Place the inverted bottle on top of the other bottle the card remains in place, so it is between the openings of the two bottles. See Figure 2 below. Line up the two bottles so that the inverted bottle is balanced on top. Note the time, and then carefully slide the card out from between the two bottles. Put the laminated card on top of the bottle you are going to invert left panel. While holding the card tightly in place slowly flip the bottle and place it directly on top of the other bottle right panel. Once the two bottles are lined up carefully slide out the laminated card and start your observations. Observe what happens to the two solutions. Write your observations in your lab notebook. This is where a volunteer is useful. If you find it necessary to hold your bottles stable dictate your observations to the volunteer and he or she can write them down for you. Remember to the note the time as you make your observations. Make an observation every minute for at least 10 minutes. Here are some things to look for: Do you see any evidence of mixing e. Since the two solutions have different densities, they will also have different indices of refraction. Where the two solutions mix, schlieren lines may be apparent. You may have seen schlieren lines before on a hot summer day in the air over hot asphalt pavement. In this case the lines are the result of rising hot air mixing with cooler air above. How does the color of solution in each bottle compare to the original color? Is the color uniform throughout each bottle? Note anything else of interest. Confirm your results by repeating the experiment. You should perform at least three trials with salt water in the top bottle and fresh water in the bottom bottle, and at least three trials with fresh water in the top bottle and salt water in the bottom bottle. Label your mixing containers "hot" and "cold. You can also measure the density of each solution with a hydrometer, if you have one. Add about 5 drops of food coloring to each container. Use one color for "hot" and a contrasting color for "cold. Completely fill a "hot" bottle with colored hot water. Completely fill a "cold" bottle with colored cold water. Follow the instructions above step 8 in Salinity and Mixing for inverting one bottle over the other. As before step 9 in Salinity and Mixing , observe what happens to the two solutions. Measure the density of the solution in each bottle if you have a hydrometer. You should perform at least three trials with hot water in the top bottle and cold water in the bottom bottle, and at least three trials with cold water in the top bottle and hot water in the bottom bottle. For your presentation, think about how your results relate to mixing of ocean water when currents carrying water at different temperatures or salinities meet. Alternatively, you might want to try relating your results to estuaries, where fresh water flowing from streams and rivers meets the ocean and its tides. Troubleshooting For troubleshooting tips, please read our FAQ: If you like this project, you might enjoy exploring these related careers: Chemist Everything in the environment, whether naturally occurring or of human design, is composed of chemicals. Chemists search for and use new knowledge about chemicals to develop new processes or products. Read more Aquarist A summer day at the beach can be very relaxing. The sand is warm and the waves lap gently on the shore. But at a public aquarium, we can take a peek and examine close up the beautiful fish and coral. An aquarist cares for the animal and plant life that you see in those aquarium displays. Aquarists make sure that all of the animals and plants in their displays are well fed and free of disease. Read more Variations Try different colors e. You may notice fluid movements that you missed previously. Try varying the salt concentration. For example, if you cut the amount of added salt in half, is mixing time affected? What do you think will happen? What do you think will happen to mixing time? What do you think would happen if you tried warm salt water over cold fresh water? Try different temperatures of salt water. To make sure that the salt concentration is equal, start with a single salt water solution make enough to more than fill two bottles. Split the solution in half. Add dye to each half. Chill one of the solutions in a tightly-covered container in the refrigerator or freezer. Warm the other solution on the stove using very low heat. The solution should not become too hot to touch. For a different way of looking at the density of salt water, check out the Science Buddies project: Share your story with Science Buddies! Yes, I Did This Project! Please log in or create a free account to let us know how things went. You may find the answer to your question. Flipping one bottle on top of the other seems complicated. Will my results be affected if I just pour the water from one bottle to another using a funnel? If you just pour the water from one bottle to the other you will not be mimicking what happens in the oceans and your experiment will not work as intended. By flipping one fully-filled bottle on top of the other fully-filled bottle, the liquid solutions salty and fresh, or cool and warm can gently mix together. This mixing is done through thermohaline circulation, as discussed in the Introduction. However, if one solution is poured into the other using a funnel, or even by gently pouring, then rapid turbulent mixing will likely occur and make it difficult to observe any mixing caused by thermohaline circulation. The flip technique can be tricky but it is important to do, so it is recommended to keep practicing. Ask an Expert The Ask an Expert Forum is intended to be a place where students can go to find answers to science questions that they have been unable to find using other resources.

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3: Absorbing Experiments | Scholastic

We can all agree that science is awesome. And you can bring that awesomeness into your very own home with these 20 safe DIY experiments you can do right now with ordinary household items.

Can you feel how smooth the powder is? Keep adding more water until the mixture becomes thick and hardens when you tap on it. Add more cornstarch if it gets too runny, and more water if it becomes too thin. Be careful not to get it in your eyes, and wash your hands after handling the Oobleck. Drop your hands quickly into the Oobleck, then slowly lower your hands into it. If you have a large plastic bin or tub, you can make a big batch of Oobleck. Multiply the quantity of each ingredient by 10 or more and mix it up. Take off your shoes and socks and try standing in the Oobleck! Can you walk across it without sinking in? Let you feet sink down and then try wiggling your toes. Read on for observations, results and more resources. Observations and results What is happening when you squeeze the Oobleck? What is happening when you release the pressure? Does the Oobleck remind you of anything else? The cornstarch-and-water mixture creates a fluid that acts more like quicksand than water: If you were trapped in a tub of Oobleck, what would be the best way to escape? Share your Oobleck observations and results! Cleanup Wash hands with water. Add plenty of extra water to the mixture before pouring it down the drain. Wipe up any dried cornstarch with a dry cloth before cleaning up any remaining residue with a damp sponge.

4: 20 Awesome Science Experiments You Can Do Right Now At Home | IFLScience

10 Fun Science Experiments for Kids with Liquids - Water,Colors,Milk,Soap,Oil If Your Kid loves experimenting at home then he/she will love following Science Experiments that can be done at home with Simple Materials with a Mix of water,color,milk,soap, oil and others Found in the Kitchen or nearby Store.

We modified it to work a little easier for us! Set out 6 glasses. Measure 1 cup of water into each glass. This is a great time to explain the importance of all the glasses having the same amount of water! Have your child mix the colors or help with mixing the colors! Now to create the density part of the experiment! Add 2 teaspoons of sugar to the orange water. Double the amount of teaspoons as you work your way through the rainbow water. Stir and stir until the sugar is dissolved as much as possible. Please note our sugar amounts are different than our source. You can also make a crystal rainbow that is perfect for all ages! Density is all about compactness of stuff in a space. For this experiment, the more sugar in the 1 cup of water, the greater the density. Same space, more stuff in it! The denser the substance, the more likely it will sink. This is how our rainbow sugar water density tower works! You can also try salt water density NOTE: This is probably a better experiment for older kindergarten or elementary school or with a very patient kid. My son enjoyed trying to make the tower as well as simply experimenting with mixing colors. This rainbow sugar water density tower does take a slow hand and patience. You could also try a density tower with a variety of liquids or even a homemade lava lamp to learn about density. Release a little of the pressure to suck up some red water. Keeping it squeezed, transfer to orange, release a little more to suck up some orange water. Continue to do this for all the colors. Make sure you leave enough pressure in the baster to get you through all six colors. Have your child try two colors for an easier version! My husband perfected the method! We love using basters for many of our science activities. You can also make a rainbow sugar water density tower. We used a test tube from our favorite science kit! Add the purple to the tube. Next add the blue, but add the blue very, very slowly. Add to just the surface of the purple right in the middle. We practiced a few times before we got a full rainbow. You can experiment with your own methods and challenge your kids to come up with their own plan of action to make a rainbow. Awesome kitchen science you can try today. Pull out sugar, water, and food coloring and get started experimenting!

5: Can Water Float on Water? | Science Project

Most colors are actually made up of several different dyes. As the paper towel draws the liquid out of the bowl, the water molecules bond with the different ink molecules and spread them.

Data table for recording the results of your experiment. Fill one clean glass, cup, or small bowl with tap water. Fill a second clean glass, cup, or small bowl with tap water. Pour in a few drops of dish soap and mix gently with a clean spoon. Insert the tip of a syringe into the glass of plain tap water. Pull up on the plunger of the syringe until the water in the syringe reaches the 1. If you get too much, just squeeze some back into the glass by pushing down on the plunger and try again. A syringe filled to the 1. Place your penny on a flat, level surface where you can easily clean up a small amount of water, like on a kitchen counter. Hold the tip of the syringe over the center of the penny. Slowly press down on the plunger, allowing one drop of water at a time to fall onto the penny. Watch the penny very carefully. The drop of water forming on top of the penny will gradually get larger. Stop pushing on the plunger as soon as the drop spills over the edge of the penny, as shown in Figure 4. From left to right: Eventually it gets big enough to reach the edges of the penny, and finally it spills over the edge. Now, look at how much water is left in your syringe. The syringe in Figure 5 has 0. Record the value left in your syringe in your lab notebook. A syringe with 0. Calculate how much water you pushed out of the syringe by subtracting this value from 1. If you completely emptied the syringe and the water droplet did not break apart, then refill the syringe and continue to add water. You will then need to add 1. For example, if you use one full syringe, then empty the second syringe to 0. Ask an adult for help with these calculations if you need it. Completely dry off your penny and the surrounding surface with a towel. Repeat steps 4â€”11 two more times, for your second and third trials with tap water. Remember to fill in your data table each time. Using a new syringe, repeat steps 4â€”11 three times with the soapy water. Remember to completely dry off the penny between each trial, and record all your results in your data table. Calculate an average of your three trials for the plain water and soapy water. Do this by adding the values for the three trials and then dividing by 3. For example, if your values for the plain tap water were 0. If you need help calculating an average, ask an adult for help. Make a bar graph of your results. Put the type of water plain or soapy on the x-axis horizontal line. Put the average mL of water when the drop broke on the y-axis vertical line. If you need help making a graph, try the Create a Graph website. Based on the size of the droplets, do you think adding soap increased or decreased the surface tension of the water? If you like this project, you might enjoy exploring these related careers: Chemical Engineer Chemical engineers solve the problems that affect our everyday lives by applying the principles of chemistry. If you enjoy working in a chemistry laboratory and are interested in developing useful products for people, then a career as a chemical engineer might be in your future. Read more Chemist Everything in the environment, whether naturally occurring or of human design, is composed of chemicals. Chemists search for and use new knowledge about chemicals to develop new processes or products. Read more Chemical Technician The role that the chemical technician plays is the backbone of every chemical, semiconductor, and pharmaceutical manufacturing operation. Chemical technicians conduct experiments, record data, and help to implement new processes and procedures in the laboratory. If you enjoy hands-on work, then you might be interested in the career of a chemical technician. Read more Variations Do you get different results depending on which side of the penny you use heads or tails? Do your results change if you use an old, dirty penny or a new, shiny penny? If you do not have any shiny new pennies, look up directions online for how you can clean pennies with vinegar. Try mixing other things from your kitchen with water. Does dish soap give different results from hand soap or laundry detergent? What about pouring in something like salt or sugar? What happens if you try the experiment with different liquids, like milk or juice? Share your story with Science Buddies! Yes, I Did This Project! Please log in or create a free account to let us know how things went. Ask an Expert The Ask an Expert Forum is intended to be a place where students can go to find answers to science questions that they have been unable to find using other resources. If you have specific questions about your science fair project or science fair, our team of volunteer scientists can help.

6: It's a Solid It's a Liquid It's Oobleck! - Scientific American

Simple density science experiment that you can try at home to see how liquids and objects with different densities behave. Using three fluids (syrup, water and oil) we can see they clearly have.

Chemistry llike on shutterstock We can all agree that science is awesome. Make Objects Seemingly Disappear Refraction is when light changes direction and speed as it passes from one object to another. Only visible objects reflect light. When two materials with similar reflective properties come into contact, light will pass through both materials at the same speed, rendering the other material invisible. Freeze Water Instantly When purified water is cooled to just below freezing point, a quick nudge or an icecube placed in it is all it takes for the water to instantly freeze. You can finally have the power of Frozone from The Incredibles on a very small scale! And when placed on a sound source, the vibrations causes the mixture to gloopily dance. Create Your Own Hybrid Rocket Engine With a combination of a solid fuel source and a liquid oxidizer, hybrid rocket engines can propel themselves. And on a small scale, you can create your own hybrid rocket engine, using pasta, mouthwash and yeast. Check out this video from NightHawkInLight on how to make this mini engine. Create "Magic Mud" Another non-Newtonian fluid here, this time from the humble potato. Clouds up in the sky are formed when water vapor cools and condenses into visible water droplets. Create your own cloud in a bottle using a few household items with these wikiHow instructions. Create an underwater magical world with this video from NightHawkInLight. Create A Gallium Masterpiece Gallium has a low melting point of By placing a lump of gallium into a warm glass of water, it becomes easily moldable into any shape. More instructions in this video. Make Your Own Lava Lamp Inside a lava lamp are colored bubbles of wax suspended in a clear or colorless liquid, which changes density when warmed by a heating element at the base, allowing them to rise and fall hypnotically. Create your own lava lamp with these video instructions. Create Magnetic Fluid A ferrofluid is a liquid that contains nanoscale particles of metal, which can become magnetized. And with oil, toner and a magnet , you can create your own ferrofluid and harness the power of magnetism! Gif from Ramtco Found as a liquid in hand warmers, sodium acetate turns into hot ice when handled. Create your own instant ice sculptures with this video. Make Waterproof Sand A hydrophobic substance is one that repels water. When sand is combined with a water-resistant chemical, it becomes hydrophobic. So when it comes into contact with water, the sand will remain dry and reusable. Make your own waterproof sand with this video. No instructions needed here, just some bubble mix and chilly weather. Make Moving Liquid Art Mixing dish soap and milk together causes the surface tension of the milk to break down. Throw in different food colorings and create this trippy chemical reaction. Gif composed from video by YouTube user HouseholdHacker. Create Colourful Carnations Flowers absorb water through their stems, and if that water has food coloring in it, the flowers will also absorb that color. Create some wonderfully colored flowers with these wikiHow instructions. Because water has a higher density than wine, they can switch places. Amaze your friends with this fun science trick. Release The Energy In Candy Without Eating It Dropping a gummy bear into a test tube with potassium chlorate releases the chemical energy inside in an intense chemical reaction. Found in disposable diapers, you can make water disappear in seconds with this video. For example, oil is less dense than water and will float on top of its surface. By combining liquids of different densities and adding food coloring, you can make an entire rainbow in a jar with this video. There you have it â€” 20 experiments for you to explore the incredible world of science!

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7: Mixing Liquids - Oil and Water, Science skills online, interactive activity lessons

Pour the same amount of liquid into each beaker. Note the amounts. Set the beakers in a dry location at room temperature. Monitor the levels of the liquids for 1 week and note any differences. www.enganchecubano.com provides the Science Fair Project Ideas for informational purposes only. www.enganchecubano.com does.

All materials have their own specific density, which can sometimes be used to identify the material and predict its properties. Water is a common, everyday material that can be used to demonstrate many useful and interesting lessons about density. Mixing Liquids Water and oil do not mix; this is a well-known phenomenon that is actually a display of how liquids of different densities behave with each other. Liquids with low densities will float on those of higher densities. Put a little food coloring in some water to make it easier to see, then mix it in a beaker with equal volumes of corn syrup and vegetable oil. Wait and watch as the liquids separate. Which one is at the top? What does this tell you about the density of water? Try this with different liquids or chemicals for a more complex experiment. Object Density Since the density of water is well known, one can use it to learn about the densities of other objects. Take three beakers and pour some water into one, corn syrup into another, and vegetable oil into the last. Then take some small objects that are about the same size, like a balled-up piece of paper or foil, a small stone or a cork. Put these objects into each beaker and watch what happens. If the object floats, then its density is less than that of the liquid. This procedure, though different liquids are used, is sometimes used to find the specific gravity of oddly shaped objects with unknown densities, like rough gemstones. Sciencing Video Vault Salt Water Students who have been to the ocean will likely know that it is much easier to float in salt water than fresh water. This is because salt water is much denser than fresh water, and objects float when they are less dense than the substance that they are floating in. The ions in salts dissolve well in water, adding more mass but not affecting the volume very much. Take two small beakers of water and add salt to one. Stir to dissolve the salt, then place an uncooked egg in each beaker. If done correctly, the beakers look identical but the egg in the saltwater beaker floats. Temperature and Density Density is dependent upon several factors, including temperature. Hot water is less dense than cold water, and you can demonstrate this in a very visual way. Take two small jars of water, one hot and one cold, and put food coloring in each so that they can be easily seen. Put a thin piece of cardboard over the mouth of the jar of hot water and flip it upside down. Then put it over the mouth of the jar of cold water and take away the cardboard. For a short period of time, the colors will remain separate because the water on top has a lower density. This experiment can be a bit messy, so take precautions. As an alternative, you can use a dropper to put small amounts of hot water into a beaker of cold water and watch what happens. Cold water is denser than the hot water, but ice floats. Why do you think this is?

8: Sugar Water Density Rainbow Science Experiment

Science Experiments for Kids and Families They're always experimenting with something, whether they're throwing a plate of spaghetti on the wall, blowing bubbles in the bath water or stacking blocks into an intricate tower only to destroy it in one big swipe.

Freezing Faster Explore how fast different liquids freeze. Provide children with a variety of different liquids and ask them which liquid they think will freeze the fastest; write down their predictions. Examples of liquids include pure water, soda, orange juice and lemonade. Set each of the liquids in individual sections of an ice tray and place them in a freezer. Check on the ice tray at different intervals of time to see if any of the liquids have frozen. Make sure you note the amount of time that has passed from when you first put the liquid in the freezer. Once one of the liquids has frozen, remove the tray and test the remaining liquids to see how frozen they are. Out of the four liquids provided, the pure water will be the first to freeze; discuss with children why this is. Ice Melt Test which material melts ice the best. Discuss how during the winter, different materials are used to melt ice to prevent cars and people from slipping. Ask children if they can list some of the materials that are used to melt ice -- salt, sand and kitty litter are some of the most common materials. Set out ice cubes on individual plates and provide students with the three materials listed. Instruct them to sprinkle the materials onto the ice cubes and to watch which one melts the ice the quickest. When the two are combined and frozen the liquids reverse their order in the container. Set out the two liquids and ask children to predict what will happen when they are combined. Instruct them to pour the two liquids into clear containers and watch what happens -- the water will sink to the bottom of the container and the oil will sit on top. Explain that this happens because water molecules are denser than oil. Ask children to predict what will happen if the liquids are frozen. Once frozen, the water will rise to the top of the container because it is less dense than the oil in its frozen form. Have them experiment to see if the same thing happens when oil is mixed with other liquids -- soda, sugar water and juice, for example. Instruct them to mix oil and the mentioned liquids in separate containers, observe if the liquids separate and if they change places when frozen. Create bi-colored ice cubes by filling ice trays half way, adding food coloring to the trays and freezing them; once the colored half cubes are frozen fill the rest of the tray with extremely cold water and set it back in the freezer. Remove the ice cubes and place them in a glass or bowl of warm water. Ask children to observe as the ice cubes flip over as they melt -- the colored side will point up, then the clear side, then the colored side and so forth until the cubes are melted. This continues to happen until the ice is totally melted. After observing with the water ice cubes, experiment with ice cubes made from different liquids. Create half water and half soda, milk and juice ice cubes. Have children predict if the cubes made with different liquids will flip when placed in water, as the water cubes did. Set the different cubes in water and have children prove or disprove their predictions by observing what happens. References The Teachers Corner: She is a certified elementary and literacy educator who has been working in education since Mae is also an avid gardener, decorator and craft maker.

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9: Oil & Water Experiment for Kids | Growing A Jeweled Rose

We collected rocks, grass, sticks, mud (it recently rained), sand, dry grass, flowers, pin cones, leaves and even dead dandelions. Once we had a good assortment of nature objects, I gave the boys a glass of water to fill their muffin tins.

Dry sponges cut into small pieces small plastic blocks Materials that absorb water, including cotton, washcloths, fabric, tissue, dolls with hair, and paper towels Materials that do not absorb water, including Styrofoam, foil, wax paper, plastic toys, and pencils Chart paper During Instruction Directions Step 1: Invite a small group to the water table. On a sheet of chart paper, write the question, "Which materials absorb water? Ask if they know what it means to absorb water. Give each child a piece of dry sponge and ask everyone to place the sponge in the water. Invite children to describe what happens to the sponge. Explain that the sponge absorbed water. Children can place the wet sponge back in the water so it can absorb more. Then give them a piece of dry sponge. Ask them to compare the weight of the dry sponge with that of the wet sponge. Now give each child a plastic block. Ask everyone to place it in the water. Give children a variety of absorbent and nonabsorbent materials and ask them to find materials that absorb water. Suggest that they place the absorbent materials in one pile and the nonabsorbent materials in another pile as they complete their investigations. To develop language and vocabulary skills, encourage children to use the words absorb, absorbent, and nonabsorbent when describing the materials. Invite children to respond to the question, "Which materials absorb water? Create another chart to list the materials that were nonabsorbent. Keep materials available so children have more opportunities to explore the concepts. Lesson Extension Provide a plastic measuring cup and a selection of absorbent materials that vary in size. Ask children to get the materials wet then squeeze the water into a measuring cup to see which absorbed the most. Assist them by reading the measurements and recording the information on a sheet of chart paper. Encourage children to describe what they notice about the different sizes and textures of materials and how much water they absorb. Create a chart to document what they learned.

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