Lesson Plan for Water- Our Planet, Our Bodies, Weather systems, Aquatic animals

Word List:

water hail rain waterfall fountain drop river pond lake ocean sea	island Bay gulf amphibian fish frog turtle whale Eel dolphins vapor	ice gills scullers body organs

What we want to learn in this month:

- Understand the cycle of water and its continuous flow around us
- How water affects our lands, oceans and atmosphere
- Learning about animals that live in water, how they move and breathe under water & also Amphibia that live in water and land (This is a good transition from the previous month of soil.)
- The importance of water in our lives and why we must keep our rivers and oceans clean.

Songs for Month of April *(click on link to open related document including lyrics...)*

8. Ahaay dokhtareh darya

9. Dar masseereh aab

10. maahi kodjaast

Model Art for April:

Category	Level	Activity	Material	Procedure	Comments
Art	all	***Painting with Ice Cubes***	• colored ice cubes • paper • For colored ice cubes: food coloring. ice tray	Prepare colored ice cubes a day ahead. This can be done with the participation of the kids (Fill ice tray with water and add food coloring) Next day: give each child watercolor paper and colored ice cubes to draw with	The little kids love this sensory project!!
Art	2-5	***Ice Cube Boats***	• a plastic cup, • bendable straw, • tape, • paper, • scissors, • hole punch	For instructions click here	
Science	2-5	***Capillary Reaction Experiment***	• test tubes • beakers • food coloring • celery stalk and or white daisy or white carnation	set up test tubes and beakers with colored water (food coloring) and place celery stalks and white daisy and/or carnation flowers to observe throughout the week. Test different color saturations and color combinations.	
Science	all	***Walking Water***	• paper towel, • a couple of glasses • some water	For instructions click here	

					
Nature	2-5	***Bodies of Water***	• Shovels & digging equipment • Water	Take children outside with small shovels and digging equipment. Have them experiment making different bodies of water - rivers, brooks, ponds, lakes etc. in the ground. Provide little buckets of water so they can fill their rivers and ponds with water	This exercise is more effective if they learn about rivers, ponds, lakes, etc. in their circle time 
Science	6 and above	***Water's Skin & Surface tension***	• water tray • soap • paper clips/ or needles • Paper towel	Water's Skin & Surface Tension : This experiment demonstrates the surface tension of water (that acts like a skin)The second phase shows how something like liquid soap can break that surface tension See here for experiment	
Science	4-6	***Water evaporation***	• ice cubes	Give children ice cubes - have	

		experiment (ice, water and vapor)	• beakers	them fill their mark the top of each beaker with a rubber band/ or pen - observe later in the day and adjust band to top of water level. Keep checking daily to observe the transformation of ice(solid) to water (liquid) to evaporate into gas.	
Science	2-5	***Floaters & Sinkers***	• bowls • Objects that float or sink: rocks, wood, feather, pasta, marble...	1. Review of animals that live underwater, animals that float on water, and animals that live in water and land 2. Floaters and sinkers: give each child a big bowl of water and have them experiment to see if different objects float or sink (rock, feather, leaves, dry pasta...)	*helpful hint:* Instead of giving the kids all the objects at once, introduce each object separately. Ask them do you think it will sink or float. Then give each child the object to test. Then ask them to tell you what happened  

Science	2-6	***Absorbers and Repellers***	• Foil, wax paper, tissue paper, felt, napkins, coffee filters... • droppers	Gather samples of several materials (foil, wax paper, felt, tissue paper, napkins, sponges, coffee filters, rubber erasers, feathers, etc.) and a few droppers. After discussing the concepts of absorb and repel, have your child select one of your samples and make a prediction as to whether it will absorb or repel water. Then test out that prediction by using the droppers to send down a few raindrops. As you test the materials, sort them out into two piles according to their response to the water. (*Science skills, Small Motor Skills*) http://notjustcute.com/2011/04/13/rainy-day-book-activities	 
Nature	2-5	***Can you undo water pollution?***	• bucket of clean water, • some household trash, • vegetable oil (to stand for toxic oil spills), • tongs, • strainers	In this experiment the kids learn just how hard it is to undo water pollution. Click here.	
Science	4 and above	***Salt Crystals (crystallization of salt water)***	• 1/4 cup table salt. • 1 cup water • t 3 feet of cotton string • a small glass cup or jar • a saucepan • food coloring (this is	Salt is a crystal that can be nurtured to grow in many different directions and shapes. This project from science of cooking gives instructions on how to do this.	

			optional; it will color your salt crystals) • tray or plate to hold the cup	Click here	
Science	4 and above	***Crystal garden (version 2)***	• Epsom Salt • Clean Glass jars or round glass votives like these • Liquid Watercolors or food coloring (optional) • Water • Bowl or glass measuring cup • Fork • Microwave (optional)	Click here for instructions	
Art	all	***Experimenting with different densities and surfaces***	• watercolor • tempura • Several different surfaces for painting on: watercolor paper, coffee filters, cardboard...	The purpose of this art activity is for children to experience the difference between the densities on watercolor with tempera and also to test these colors on different surfaces to see different absorption capacities. Important: don't give all the supplies at once rather introduce them one by one	

Science ? Nature	2-5	***Water mirror reflections***	• storage container or large box which can contain water • small mirrors • water	Place a few mirrors in the bottom of a tub facing up. Then pour water over it. The kids can watch their image in the water, first when it is still then they can play around and make waves and see how their image gets distorted See here	
Science	all	***Differences in liquid densities / oil pollutions***	• water bottles, • food coloring, • cooking oil	Fill water bottles 3/4 th's, have children add food coloring or a drop of tempera color. Then add cooking oil to the bottle. Have the children seal it up. And the fun begins: They get to shake it! Then have them set it down and observe how the oil and water separate...discuss different densities of liquids and also how oceans become polluted when oil spills happen.	
Art / Science	**all**	***Ice Tunnels*** ***(The effect of salt on ice)***	• liquid watercolor or food coloring • eye dropper • salt • containers • water or paint tray • small glass cups	Click here for instructions	

					
Art	all	***Color Changing Milk***	• Milk • dish soap • food coloring • plate • cotton swab	Click here for instruction. Pour enough milk in the dinner plate to completely cover the bottom to the depth of about 1/4 inch. Allow the milk to settle before moving on to the next step. Add one drop of each of the four colors of food coloring—red, yellow, green, and blue—to the milk. Keep the drops close together in the center of the plate of milk. Find a clean cotton swab for the next part of the experiment. Predict what will happen when you touch the tip of the cotton swab to the center of the milk. It's important not to stir the mix—just touch it with the tip of the cotton swab. Go ahead and try it. Now place a drop of liquid dish soap on the other end of the cotton swab. Place the soapy end of the cotton swab back in the middle of the milk and hold it there for 10 to 15 seconds. Look at that burst of	

				color! It's like the Fourth of July in a plate of milk.	
Art	all	***Group watercolor art painting***	• Large paper • tape • tempera water colors	Click here for instructions	
Nature	2-5	***Painting with water & playing with transience***	• wooden panel (gate, table…) or black slates • paint brushes • water + bowl	Kids paint on wooden surfaces using just water. For younger kids this is just a fun exercise that provides opportunities to develop their motor skills and paint. For older kids this can be used as a meditative exercise of letting our creations go.	
Science	2-5	***Making Rain***	• Shaving cream • Water • Clear cups or jars • Blue food coloring or watercolors • Pipettes or droppers	Click here for more information/reference Fill the jars or containers you are using 3/4 of the way with water and then top with shaving cream. Allow a few minutes for the shaving cream to fully settle on top of the water In a bowl mix several drops of blue food coloring with a little bit of water. Add a pipette or	

				two, and the experiment can begin. Have kids fill their pipettes or droppers with blue water and squeeze it onto their cloud. Inserting the tip of the pipette into the cloud helped the cloud to fill. Have them squeeze more and more blue water into the cloud. As the cloud fills with water it will begin to rain	
Art	2 and above	***Coffee Filter Painting***	• Water colors • Paint brush • Small cups • Very large coffee filters	Give each child a large coffee filter, and paint brush and water colors and let them paint away	
Science	2-5	***Density: Floating on salt water***	• Tall drinking glasses • Salt • Water • egg	1. Pour water into the glass until it is about half full. 2. Stir in lots of salt (about 6 tablespoons). 3. Carefully pour in plain water until the glass is nearly full (be careful to not disturb or mix the salty water with the plain water).	 What's happening? Saltwater is denser than ordinary tap

				4. Gently lower the egg into the water and watch what happens.	water, the denser the liquid the easier it is for an object to float in it. When you lower the egg into the liquid it drops through the normal tap water until it reaches the salty water, at this point the water is dense enough for the egg to float. If you were careful when you added the tap water to the salt water, they will not have mixed, enabling the egg to amazingly float in the middle of the glass.
Science /Music	all	***Making Music with water***	• 5 or more drinking glasses or glass bottles • Water • Wooden stick such as a pencil	Instructions: Line the glasses up next to each other and fill them with different amounts of water. The first should have just a little water while the last should almost full, the ones in between should have slightly more than the last. Hit the glass with the least amount of water and observe the sound, then hit the glass with the most water, which makes the higher sound? Hit the other glasses and see what noise they make, see if you can get a tune going by hitting the glasses in a certain order. Click here for source	This project can be done outdoors too. With older kids, have them try to figure out the relationship between the depth of the tone and the amount of the water. (Small vibrations are made when you hit the glass; this creates sound waves which travel through the water. More water means slower vibrations and a deeper tone.)
Science/ Art	4-8	***Invisible Ink***	• Half a lemon • Water • Spoon • Bowl • Cotton bud • White paper • Lamp or other light	Instructions: Squeeze some lemon juice into the bowl and add a few drops of water. Mix the water and lemon juice with the spoon. Dip the cotton bud into the mixture and write a message	What's happening? Lemon juice is an organic substance that oxidizes and turns brown when heated. Diluting the lemon juice in water makes it very hard to notice when you apply it the paper, no one will be aware of its presence until it is heated and the secret message is

			bulb	onto the white paper. Wait for the juice to dry so it becomes completely invisible. When you are ready to read your secret message or show it to someone else, heat the paper by holding it close to a light bulb. Click here for source	revealed. Other substances which work in the same way include orange juice, honey, milk, onion juice, vinegar and wine. Invisible ink can also be made using chemical reactions or by viewing certain liquids under ultraviolet (UV) light. 
Science	?	***Does an Orange float or not?***	• An orange • A deep bowl or container • Water	Instructions: Fill the bowl with water. Put the orange in the water and watch what happens. Peel the rind from the orange and try the experiment again, what happens this time? Click here for source. For older kids have them hypothesize what will happen in both scenarios and then have them guess the reason for it (kids can be paired up for this exercise)	A simple and informative project What's happening? The rind of an orange is full of tiny air pockets which help give it a lower density than water, making it float to the surface. Removing the rind (and all the air pockets) from the orange increases its density higher than that of water, making it sink. Density is the mass of an object relative to its volume. Objects with a lot of matter in a certain volume have a high density, while objects with a small amount of matter in the same volume have a low density.

science	6 and above	***Making Motor boats!*** ***From Sunsar Maya Afterschool in Nepal***	• Old water bottles • Battery • Wire • Tape	Children are provided with necessary material and through trial and error try to make a boat that moves forward when it's propellers spin. See photo