Experiments for the Environment

Making your own rainbow

Everyone loves rainbows and the colors it has to show. Help your children make their very own rainbow. You will need a glass filled to the top with water, a clear sheet of white paper and a window facing the bright yellow sun. Place the glass so that it is half on and half off the edge of a table, and so that the sun shines directly through the water, onto a sheet of white paper on the floor. Adjust the paper and the glass until a rainbow forms on the paper. Teach your children that light is made up of many colors, and when it passes through water, it is broken up into the other colors seen in a rainbow.

Cleaning up your oil spill

When oil tankers accidentally spill their cargo of oil into the ocean, they cause a huge environmental danger. Oil is extremely hard to remove from the water and the beaches, and the whole environment is damaged. In this experiment, you can see how hard it is to remove oil from sand.

(This experiment can be messy, so you might want to do it outdoors.)

You will need a large plastic cup, Sand, 2 tablespoons of vegetable oil and some spoons, tissue papers etc.) Fill a plastic cup with sand and oil and mix it well. Pick some "tools" to work with. You could use a spoon, a straw, paper towel, an old toothbrush - anything! You could try to use soap and water to get the oil off the sand. Use your tools to try and clean the oil off of the sand.

Recycling paper at home

A more complicated activity, this one requires the guidance of an adult and usage of various kinds of material including a wooden frame, a sieve with holes of about 1 mm, Formica sheets, a large rectangular bowl/container large enough to fit the frame, mortar with pestle, a jug, a hairdryer, a newspaper, green and dried grass (optional), flowers (optional), a flat sponge and some water.

With wooden boards, make a rectangular frame. Mount the sieve underneath the frame, with strips of wood and nails enclosing it. Soak some of the newspaper in water (it's better if you let it to set for a day or two). Squeeze out the excess water. With the mortar and pestle, crush a little bit of paper at a time until you get a paste like form, consisting of fibers isolated from each other. Repeat this until you have enough paste. Fill the bowl halfway with water. Put the paper paste in the bowl and stir it to separate the fibers. Remove any resulting clumps (a dense suspension of fibers must remain in the water). Immerse the frame in the watery suspension in your large rectangular bowl (the sieve should be facing the bottom of the bowl). Slowly remove the frame from the suspension keeping it steadily horizontal; eventually move the frame to even out the layer of fibers. Wait for the water to drain.

Place the smooth side of a sheet of Formica on top of the sheet of paper still soaked with water. Press on the Formica a little to drain the water, taking care not to deform the sieve. With a sponge, collect water from underneath and squeeze it away every so often. Carefully remove the sheet of Formica so that the sheet of paper remains attached to it. Let the sheet of paper dry. To do this more quickly, you can dry it with a hairdryer.

The paper you make using this procedure will be bright on one side and opaque on the other. The bright side is more suitable for writing. Use a ballpoint pen to write a letter on your very own paper.