



“Keeping Our Oceans Clean”

Explaining to children that they must help keep our oceans clean without defining pollution would leave the children without understanding the reasoning behind environmental conservation. This experiment will give a hands-on experience that will help children understand an abstract concept from a very concrete viewpoint.

Experiment – Students will use the mixture of the 3:1 water and sand in a large pan or tub to demonstrate how the earth would be affected by pollution. Instruct the students to add small amounts of three types of **pollutants**: one that will be impossible to remove from the water, one that can be taken out but will leave traces and one that can be removed without leaving a trace behind.

Examples of the first one can be **white vinegar or lemon juice**, which cannot be seen but is present and can be tasted but not recovered. **Coffee grounds or vegetable oil** will stain the water but cannot be fully removed and finally **Styrofoam or cardboard pieces, pieces of string (plastic or fabric)** can be recovered without leaving trace or residue behind.

As each type of pollutant is added to the pretend ocean, ask students to predict which pollutants can be recovered to clean the “ocean” and which ones cannot be recovered. After their predictions are discussed, ask the students how they can know if they are right or not, and once they provide their ideas, they experiment on cleaning their pretend ocean. They should then attempt to recover the pollutant to verify their hypothesis.

The children will be asked how they think that the pollution would affect the ocean creatures. What might harm them? Are only ocean creatures at risk (birds eating plastic, tangled in rope)? Can they think of other items that would not be good for our earth? How do they think that we can all clean up and/or prevent these pollutants?

After the discussion, the teacher can place a **strainer or colander** on top of another **pan or bowl**. The water’s cleanliness can then be evaluated by the students. Did we get all of the pollutants out of the water? Are some things harder to remove?

Optional activity – This activity is good if students are interested in learning more details about what substances are found as pollutants in water. Teachers can make a table explaining that the most prevalent ones are: petroleum products, acid rain, detergents/soaps, chemical substances, litter, organic waste. Each one can be simulated in class to understand what happens and how it can be corrected, whenever possible. The following table has the simulated pollutants and what each would represent:

Type of Pollutant	Simulated Pollutant
<i>Petroleum Products</i>	<i>(Corn or vegetable oil)</i>
<i>Acid Rain</i>	<i>(Vinegar)</i>
<i>Detergents/Soaps</i>	<i>(Liquid detergent/dish soap)</i>
<i>Chemical</i>	<i>(Food coloring)</i>
<i>Litter</i>	<i>(Various biodegradable and non-biodegradable pieces of litter)</i>
<i>Organic Wastes</i>	<i>(Plant materials washed ashore)</i>