**D.I.Y.**

**Stormwater Experiments**



**Georgetown County**

**Department of Public Services**

**Stormwater Division**

**EXPERIMENT #1: Test the effect of detergent on plant growth.​​​**

**RESEARCH**: Plants grow by using water and the sun to make food. We are trying to find out if different types of detergents will affect the growth on a plant. This experiment, if done properly, will give us the answers we're looking for.

**HYPOTHESIS**: We think that the detergents will affect the plant growth and kill the plant since the detergents' material is poisonous to most living things.

**PROCEDURE**: First of all, make sure that the plants are all the same and are all fresh and not withered. Take the first plant and put it in the area where you are doing your experiment. Water it and let it stay. Next, take the 3 detergents and mix half a cup of detergent with half a cup of water and pour the mixtures in each of the remaining 3 plants. Do this for the next 7 days and record your results below after the 7th day.

**OBSERVATIONS** After testing for 7 days, the experiment showed that the three plants that had detergent material in them died. The toxins killed the plants just like we thought in our hypothesis. The plant that didn't have detergent in it lived and was in good condition.​

**EXPERIMENT #2: Grow a terrarium to illustrate the water cycle.**

1. Place a 1/2 inch layer of small gravel in bottom.
2. You may choose to sprinkle activated charcoal on top of the gravel, but this is optional. It will help to filter the water as it drains through the layers.
3. Test your potting soil before using it by squeezing a handful. If it clumps easily, add some Perlite or Vermiculite to help with drainage. Add about a 2-inch layer of potting soil.
4. Add your plants, again taking into account the size of the space you have to work with inside the terrarium. Be careful not to over plant - you need to leave plenty of room for your plants to grow. Push the soil aside, place a plant in the depression, and gently replace the soil around the roots of each plant. Water lightly.

## EXPERIMENT #3: A WATER CYCLE ACTIVITY

You can pull water out of thin air!
Water can be a gas (water vapor) that’s part of the air around us. You can’t see it, so how do you know it's there? Try this.

1. Fill a dry glass with ice cubes and water.
2. Go and do something else for about 15 minutes.
3. When you come back, look at the outside of the glass.
4. Run your finger over the outside of the glass. What do you feel?

The tiny drops on the outside of the glass are water that has condensed from the air. Some of the water vapor in the air changed to liquid when it touched the cold glass. What do you think will happen if you empty the glass and let it stand? Where does the water in a puddle go when the sun comes out?​