ST. PAUL' S CATHOLIC SCHOOL

Color Changing Flowers

Materials:

- White flowers (like daisies, carnations, white roses, etc)
- Glass jars
- Scissors
- Food coloring
- Water

Activity:

- Cut the stems diagonally across the bottom so they can drink up the colored water easily. Measure them against your jars and cut the flowers at a good height and just slightly taller than your jar. Try to make each flower the same size.
- Extension: if you have access to multiple types of white flowers, use a selection of them and chart which flowers got color the quickest and which got the deepest pigment of color!
- If your jars are the same size: fill each glass jar about ¾ of the way with water and add a few drops of food coloring to each.
    - If your jars are not the same size, measure out ¾ C of water for each jar.
- Use the same number of drops for each jar and for each color to keep the experiment true. (10 drops in each jar seems to be a good number, but it also depends on how large your jars are!)
- Or, if you're just doing it for fun, add as much food coloring until you have the color you want 😊
- Place one flower in each jar of colored water and watch.

Explanation:

- The flowers won't change color instantly, but after an hour or so you will start to see a little color appearing on the petals. After a few hours the petals will all begin changing color and if you leave the flowers in the colored water overnight the color will continue to get deeper.
- The colored water used in this experiment demonstrates how water is sucked up through a plants stem and then makes it's way to the different parts of the plant including the flower.
- The water travels up the stem of the plant into the leaves and flowers where it makes food and helps keep the plant rigid. When a flower is cut off the plant, it no longer has its roots but the stem of the flower still "drinks" up the water and provides it to the leaves and flowers.
- There are two things that combine to move water through plants — transpiration and cohesion.
- Water evaporating from the leaves, buds, and petals (transpiration) pulls water up the stem of the plant. This works sort of like you sucking on a straw.

- Water that evaporates from the leaves “pulls up” other water molecules behind it to fill the space it left. Instead of a mouth providing the suction, it is due to the evaporating water. This can happen because water sticks to itself (cohesion) and because the tubes in the plant stem are very tiny. This water movement process through tiny tubes is called capillary action. Coloring the water with food coloring does not harm the plant but it allows you to see the movement of water into the flower.
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