



## COLORFUL COFFEE FILTER

### SCIENCE SAFETY

PLEASE follow these safety precautions when doing any science experiment.

- **ALWAYS** have an adult present.
- **ALWAYS** wear the correct safety gear while doing any experiment.
- **NEVER** eat or drink anything while doing any experiment.
- **REMEMBER** experiments may require marbles, small balls, balloons, and other small parts. Those objects could become a **CHOKING HAZARD**. Adults are to perform those experiments using these objects. Any child can choke or suffocate on uninflated or broken balloons. Keep uninflated or broken balloons away from children.

### INGREDIENTS

- 2 Rubber Bands
- Colorful Assortment of Permanent Markers
- 90% Isopropyl Alcohol
- Water
- 2 Coffee Filters
- 2 Transparent Cups

### INSTRUCTIONS

**STEP 1:** Using the rubber bands secure one coffee filter to the opening of each transparent cup.

**STEP 2:** Using the colorful assortment of permanent markers create multiple circles on the coffee filters.

**STEP 3:** Add drops of water to one of the coffee filters and observe. Remove your creation from the transparent cup once the creation completely dries. Describe and classify what you observe by its observable properties.

**STEP 4:** Add drops of isopropyl alcohol to the other coffee filter and observe. Remove your creation from the transparent cup once the creation completely dries. Describe and classify what you observe by its observable properties.

### EXPLANATION

The ink used to engineer a permanent marker does not dissolve, or is insoluble, in water, which is why, when you added water on the coffee filter, the ink stayed in place. When you add isopropyl alcohol to the coffee filter the colors spread out creating a colorful creation. The reason, the isopropyl alcohol dissolves the ink in the permanent marker. The ink is soluble when exposed to isopropyl alcohol.

## WATCH NOW



### SCIENCE BACKGROUND

Matter is anything that has mass and takes up space. Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties. Different properties are suited to different purposes. Measurements of a variety of properties can be used to identify materials.

### I CAN STATEMENTS

- ✓ I can plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- ✓ Make observations and measurements to identify materials based on their properties.

### NEXT GENERATION SCIENCE STANDARDS CONNECTION

2 – Structure and Properties of Matter | Patterns

5 – Structure and Properties of Matter | Scale, Proportion, and Quantity