



# COLOR CHANGING STRAWBERRY JAM

## 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

- Strawberry Jam
- Vinegar
- Ammonia
- Hot Water
- Clear Plastic Cup

## INSTRUCTIONS

**STEP 1:** Fill the clear plastic cup 3/4 of the way with hot water. Add five tablespoons of strawberry jam to the hot water and mix. Describe and classify the mixture by using its observable properties.

**STEP 2:** Add two tablespoons of ammonia to the clear plastic cup, mix, and observe. Explain how the strawberry jam can be used to help identify the mixture by its properties.

**STEP 3:** Add three tablespoons of vinegar to the clear plastic cup, mix, and observe. Explain how the strawberry jam can be used to help identify the mixture by its properties.

## EXPLANATION

The strawberry jam is a pH indicator, which is a substance that indicates the degree of acidity or basicity through a color change. When the ammonia is added, the color changes to purple, which indicates the ammonia is a base. When the vinegar is added, the color changes to red, which indicates the vinegar is an acid.

## 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. Measurements of a variety of properties can be used to identify matter. Different properties are suited to different purposes. Scientists use a pH scale to measure the strength of acids and bases. A pH indicator is a substance that indicates the degree of acidity or basicity through a color change. The pH scale ranges from 0-14. A substance with a pH of less than 7 is considered an acid, while a substance with a pH of more than 7 is considered a base. An acid has a sour taste and a pH of less than 7. A base has a bitter taste and a pH of more than 7.

### I CAN STATEMENT

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

### NEXT GENERATION SCIENCE STANDARDS CONNECTION

2 – Structure and Properties of Matter I Patterns

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