Orange Peel Spark Lab

IS IT SCIENCE OR MAGIC?

Create sparks using a simple orange peel while exploring combustion, flammable compounds, and citrus oils with this exciting kitchen chemistry activity!

INSTRUCTIONS

⚠️ Safety Warning: This activity uses an open flame and should always be completed with adult supervision.

STEP 1: Carefully peel a small piece of orange peel with adult help.

STEP 2: Place a candle on a safe surface and have an adult light it.

STEP 3: Hold the peel a few inches from the flame with the outer peel facing the candle.

STEP 4: Quickly squeeze or bend the peel toward the flame.

STEP 5: Watch for tiny sparks or flashes above the candle flame.

SUPPLIES

Orange
Candle
Matches or lighter
Knife or peeler
Adult supervision

THE SCIENCE

Orange peels contain a natural oil called limonene. When the peel is squeezed, tiny droplets of oil spray into the air.

Limonene is flammable. When the droplets pass through the flame, they ignite, creating visible sparks.

This activity explores:

- combustion
- flammable compounds
- chemical reactions
- hydrocarbons
- observations

TRY THIS!

- Which citrus fruit creates the biggest spark?
- Does a fresh peel work better than a dry peel?
- Does distance from the flame matter?
- Can lemons or limes create sparks, too?

Orange Peel Spark Observations

As you complete the experiment, carefully observe the flame, sparks, and citrus oil reaction.

Use the included journal pages. Record detailed observations and explain what you think happened during the combustion reaction.

- What happened when the orange peel was squeezed near the flame?
- Did the distance from the flame affect the size of the spark?
- What evidence showed that combustion occurred during the experiment?
- Why do you think the citrus oil ignited near the flame?

Draw and Label What You Observed

Label:

- flame
- citrus oil droplets
- sparks
- orange peel

Concepts Explored

Combustion • Flammable Compounds • Chemical Reactions • Observations