Kitchen Science Instructions!

Experiment #1: "Homemade Fire Extinguisher"

WHAT YOU'LL NEED:

- **Baking Soda (at least 4 tbsp.)**
- **Vinegar (at least 1 cup)**
- **Mixing Container (The taller, the better—look for a bottle, if possible)**
- **Candles**
- **Table Covering**

THE EXPERIMENT…

1. **COVER the spot on the table where you're doing your experiment.**
2. **MIX your vinegar and baking soda in your mixing container (enjoy the reaction!).**
3. **LIGHT your candle(s).**
4. **GENTLY "pour" the gas out of the container onto the lit candle. NOTE: don't pour too much, or the liquid will come out of the bottom of the bottle.**
5. **REPEAT the process! You should be able to get two or three good "pours" of CO2 from each reaction.**

FUN THINGS TO TRY:

- **See how many candles you can put out in a row!**
- **See how many times you can "use" your extinguisher before running out of CO2!**
- **Try using different amounts of vinegar or baking soda for the reaction! Does the reaction change? Does the extinguisher work as well?**

Experiment #2: "Vacuum Jar"

WHAT YOU'LL NEED:

- **Jar (or any other round container)**
- **Cheese Cloth**
- **Rubber Band (to hold cheese cloth)**
- **Water**
- **Table Covering**

THE EXPERIMENT…

1. **COVER the spot on the table where you're doing your experiment (or try taking it outside!).**
2. **SECURE the cheese cloth to the top of the jar with a rubber band.**
3. **FILL the jar half-way with water.**
4. **TIP the jar upside down as quickly as you can and hold it steady! Some water will come out, but the rest will be "held" in the jar by air pressure until you tilt the jar.**

FUN THINGS TO TRY:

- **Try the experiment multiple times, see how much water you can keep in the jar!**
- **Hold a competition with family/friends to see who can keep the most water in the jar!**

Experiment #3: "Homemade Lava Lamp"

WHAT YOU'LL NEED:

- **Water**
- **Oil (cooking or vegetable oil work well!)**
- **Alka-Seltzer**
- **Food Coloring**
- **A Tall, Clear Container (A two-liter with the plastic removed works!)**
- **Table Covering**

THE EXPERIMENT…

1. **COVER the spot on the table where you're doing your experiment.**
2. **FILL your container half-way with water.**
3. **ADD 10 drops of food coloring (try mixing different colors!).**
4. **FILL the other half of the container with oil (pour slowly to avoid mixing).**
5. **DROP an Alka-Seltzer tablet into the liquid.**
6. **WATCH the bubbles form!**

FUN THINGS TO TRY:

- **Repeat the experiment! Once the first round of bubbles dies off, you can try it again!**
- **Try using different types of cooking oil! Different oils have different densities and can make more (or fewer) bubbles. Which oil works best? Find out!**
- **Change the water to oil ratio! What happens if you have way more oil than water, or more water than oil?**

Experiment #4: "Alka-Seltzer Rockets"

WHAT YOU'LL NEED:

- **Film Cannister**
- **Water**
- **Alka-Seltzer**
- **Table Covering**

THE EXPERIMENT…

1. **COVER the spot on the table where you're doing your experiment (I highly recommend taking this one OUTSIDE if you can, the rockets can be quite powerful!).**
2. **FILL your cannister JUST UNDER half-way with water.**
3. **ADD a half-tablet of Alka-Seltzer.**
4. **PRESS the lid onto the cannister AS TIGHTLY as possible and turn it upside down.**
5. **STEP about six feet back.**
6. **WATCH the rocket take off!**

FUN THINGS TO TRY:

- **Try launching with more or less water or Alka-Seltzer in the cannister!**
- **Try decorating your cannister to look like a rocket!**