



## \* Leakproof Pencil Bag\* Family Activity - Science



### **Description:**

This particular science project involves a bit of mystery and that's exactly why kids will have a blast trying it out, testing it, and figuring out what's going on? You poke a bunch of pencils into a bag of water and nothing leaks out?

### **Materials:**

- Sharpened Pencils
- Zip Top Plastic Gallon Bag
- Water

### **Note/Tip:**

- Just a note that this activity might be best for a warm day outside! If not, make sure you are over a sink or tub and have some towels handy.

## **Instructions:**

- Make sure to start with freshly sharpened pencils if you can!
- Fill your plastic bag with water and seal tightly.
- Take a sharpened pencil and poke through the bag! Don't hesitate or you may find it will leak a bit.
- Try it again! How many pencils can you put through the bag? Make a guess and see what happens!

## **Science Behind the Mystery:**

This leakproof pencil bag science experiment may look a lot like magic, but it's also cool chemistry! What's going on between the water, the plastic bag, and the sharpened pencils.

The plastic bag is made up of polymers which are long strands or chains of molecules. When the sharpened pencil pushes through the plastic bag, it's actually pushing through the polymer chains.

The chains or strands are pushed aside by the pointy pencil but then re-seal themselves around the pencil preventing water from leaking out. See what happens when you try to push a dull or unsharpened pencil through!

Now of course when you remove the pencils the holes will be left and the water will definitely leak out, everywhere. Also, make sure not to push the pencils all the way through or you will have holes and leaks too.

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