Make a Water Fountain With a Balloon!

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Create a manually controlled small fountain using just a balloon and a water bottle. What's the magical principle behind this? Through this experiment, children will directly experience the mysterious power of atmospheric pressure. Kids can take it outdoors to play, making it especially suitable for summer exploration.

- Age: 3-8
- Time: Less than 30 minutes
- Mess Level: Messy
- Adult supervision required

Materials Needed:

Water bottle
Drawing pin
Balloon
Water

Step-by-Step Instructions:

1. Use a drawing pin to make a small hole at the bottom of the water bottle.

2. Use the drawing pin to make several small holes in the bottle cap, as many as possible.

3. Insert the balloon into the water bottle, stretching its edge over the bottle's mouth.

4. Blow air into the balloon to inflate it, and as soon as you finish, cover the small hole at the bottom of the water bottle with your finger. You can also try filling the balloon with water directly (you can place it under a tap if the water pressure is sufficient).

5. Fill the balloon with water, then screw on the prepared bottle cap. Make sure to keep the small hole at the bottom of the water bottle covered throughout this process.

6. Release your finger, and you'll witness the birth of a small fountain.

The Science Behind It:

While blowing air into the balloon, since the bottle only has one small hole, the air in the bottle is squeezed out, causing the air pressure inside the balloon to be greater than inside the bottle. At this point, if you cover the small hole with your hand, the balloon won't deflate. After adding water, when we release the small hole, the air pressure inside the bottle instantly increases, squeezing the water out and creating a fountain effect.