

FLYING TEA BAGS

In this fun and easy experiment, we'll turn an ordinary tea bag into a tiny hot air balloon!

INSTRUCTIONS:

STEP 1: Cut the top from the tea bag, creating a straight edge.

STEP 2: Unfold the tea bag and empty the contents.

STEP 3: Draw a face towards the bottom of the tea bag.

STEP 4: Shape the tea bag into a cylinder and stand it on a non-flammable surface in a draft-free location.

STEP 5: Light the top of the tea bag on fire and watch what happens!

Materials

Flat tea bags
Black permanent markers
Lighter
Non-flammable surface



THE SCIENCE

Why does the ghostly tea bag float? As the tea bag burns, the air density on the inside of the tea bag changes, resulting in a lift of the final pieces.

Be aware that some tea bags lift higher and faster than others. Some may burn all the way down before blowing. The humidity in the air may also change the flight of the tea bag.

As the air molecules inside the tea bag heat up, they move around more quickly and spread out, helping to open the tea bag into its ghostly floating shape.

The heated air molecules inside the tea bag are less dense or tightly packed together than the molecules in the cold air outside the tea bag. Hopefully, the difference in density between the warm and cold air causes the tea bag to turn to ash and float upwards, but it may go very quickly!

Flying Tea Bag Observations

Use this worksheet to process and evaluate your work.



What do you predict will happen when you light the top of the tea bag?

What do you observe as the tea bag begins to burn?

How long does it take for the flame to burn down to the bottom of the tea bag?

What happens to the tea bag as it nears the end of burning? Does it stay on the surface, lift off, or fall to the ground?

Why do you think the tea bag behaves this way once the flame goes out?

