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Think Outside The Box

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Magic Balloon Experiment

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Have you ever heard of magic balloons? In this experiment, you will witness a balloon inflating without you blowing it up!



Magic Balloon Experiment, Jerry Downs

Instead, we will make use of yeast and allow it to inflate the balloon. How is this possible? Here is how!

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Materials

Observe the magic balloons inflate! In this experiment, you will need the following materials:

- A pack of dried yeast (you can get this from any grocery store)
- Clear plastic soda bottle (must be clean and small)
- Teaspoon
- Sugar
- Party balloon
- Warm water

Procedure

Begin the experiment by taking the packet of dried yeast and pour its contents into your small, clear plastic bottle. Next step is to add a bit of warm water into the bottle filling a quarter of it. Next, take your teaspoon and measure one teaspoon of sugar and then put it into the mixture. Shake and swirl the bottle to mix its contents smoothly. Before this, when the yeast was still dry, it was said to be resting. But now that it is wet and has already dissolved in warm water, it becomes active.

After this, take one balloon and place its opening around the mouth of the bottle. Take the bottle and place it in a warm area, such as a windowsill. If you cannot find any area that is warmer than room temperature, you can place it in a bowl of warm water. What happens to the balloon?

Discussion

This experiment illustrates how yeast can inflate a balloon by activating it. Yeast is actually a fungus organism but its movement can only be seen under a microscope. However, you can tell that it is active and moving in so many ways.

There are more than hundreds of species of yeast all belonging to the Fungi Kingdom. The

yeast that we use for baking and fermenting of alcohol is the *Saccharomyces cerevisiae*, more commonly known as the S minor or the baker's yeast. Aside from baking and fermentation, yeast nowadays can also be used to generate electricity and also to produce biofuel in the form of ethanol.

As mentioned before, letting the yeast dissolve in water makes it active. Just like any other living thing, it needs a source of energy or food to stay active. This is why we added sugar. Sugar served as its food, letting the yeast eat it.

Now, as soon as you place the bottle in a warm area, you notice that the balloon starts to inflate itself. This is because during the whole process, a gas is produced in the form of carbon dioxide. Since the balloon restricts the release of this gas, it is then trapped inside the bottle. Its build up inside the bottle causes it to fill the balloon and eventually inflate it! Now you have just created a magic balloon!

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