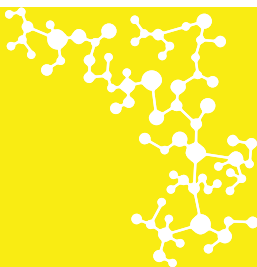




BALLOON SKEWERS

MATERIALS:

- BALLOON
- BAMBOO SKEWER
- COOKING OR MINERAL OIL
- SAFETY GLASSES



PROCEDURE:

1. Put on the safety glasses.
2. Blow up a balloon and tie it off. If you let a little air out of the balloon, it will be easier to skewer.
3. Dip the tip of the wooden skewer into the cooking or mineral oil.
4. Use a gentle twisting motion to insert the skewer into the thick nipple end of the balloon, opposite the knot. Continue pushing on the skewer until it emerges from the other side. The balloon should not burst.
5. Pull the skewer out slowly through the end. Place your hand over the holes to feel any air leaking out.
6. To show that this is a real balloon, jab the skewer through the side and it will pop.

WHAT THIS MEANS:

Balloons are made out of thin sheets of rubber or latex, which in turn are made from many long intertwined strands of polymer molecule. The rubber is stretchy because of the elasticity of the polymer chain. When the balloon is blown up, the polymer strands are stretched. The middle area of the balloon stretches more than the tie end or the nipple end (opposite the tie). A sharp, lubricated point can be pushed through the strands at the tie and nipple ends because the polymer strands will stretch around it. A sharp, lubricated point pushed through the strands at the side of the balloon will pop the balloon because the strands are already stretched and will break. Once a tear begins, it enlarges quickly as the air rushes out of the balloon.

GLOSSARY:

Lubricant: A substance, such as oil or grease, used for minimizing friction.

Molecule: The simplest unit of a chemical compound that can exist, consisting of two or more atoms held together by chemical bonds.

Polymers: Natural and/or synthetic substance that has a molecular structure consisting of a large number of similar units bonded together; used in making plastics, concrete, glass and rubber.

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