



SMELLY BALLOONS

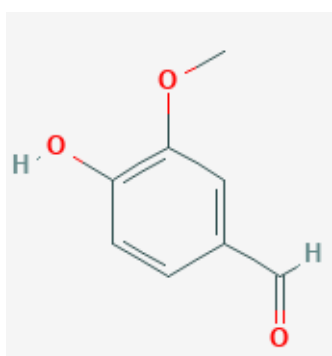
Smells are made of nano-sized molecules.

Materials

Balloons
Scented Extracts

Procedure

- Put about a half teaspoon of extract in each balloon by pouring carefully or using a medicine dropper. Use a different color balloon for each kind of extract.
- Blow up the balloons and tie them securely. Give them a shake.
- Investigate! Try to figure which scent is hidden in each balloon.



Every scent molecule has its own unique shape! This is a model of the molecule Vanillin, which is used to make vanilla extract and give food and beverages that delicious vanilla flavor!

Results

Tiny scent molecules are leaking out of the balloons. They're too small to see, but you can smell them!

Why?

Your sense of smell works by identifying the shape of scent molecules. Molecules are made of particles called atoms that bond together. Everything in the world is made of atoms, including the balloon you're holding and the scented air inside it.

Scent molecules are so small that they can travel through the material of a balloon. In fact, they're so tiny that they're measured in nanometers! A nanometer is a billionth of a meter. So if you can smell, your nose is your very own nano-detector!