



# Smelly Balloons

How can we detect things too small to see?

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Try this!



Smell the balloons. Can you figure out what scent is hidden in each balloon?



Now, match them up! Color in the balloons, and next to each one, write the scent that's hidden inside.

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

## What's going on?

Scent molecules are so small that they can travel through the balloon. In fact, they're so tiny that they're measured in nanometers!

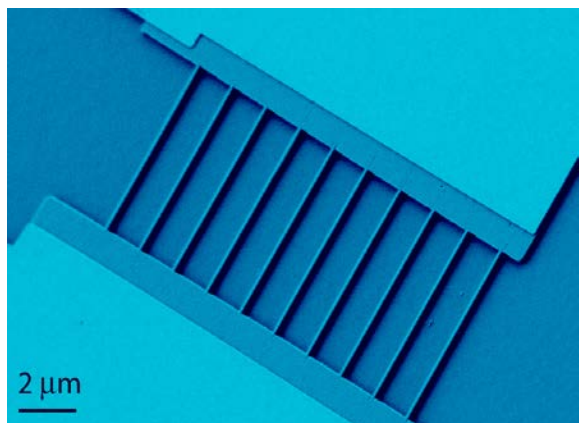
A nanometer is a billionth of a meter. That's very, very small—too small to see with just your eyes. We can use our sense of smell to explore the world on the nanoscale, because we can smell some things that are too small to see.



Your sense of smell works by identifying the shape of scent molecules. Molecules are made of atoms bonded together. Everything in the world is made of atoms, including the balloons and the scented air inside them.

## How is this nano?

Nanotechnologies include new materials and tiny devices so small they're sometimes built from individual atoms and molecules!



**Nano-sized biosensor**

For example, researchers are creating nano-sized sensors that can sniff out very small amounts of chemicals in the air. Some of them work the way your nose does, by detecting the different shapes of molecules in the air.