

ELECTRONICS DUSTER DILEMMA

Materials

- 1 can of electronics duster (compressed air)
- at least 2 balloons
- a pair of strong lungs

Instructions

One simple test is to measure the density of the air from my lungs and compare it to the density of the gas from a can of electronics duster. Density is basically the amount of stuff or mass that is packed into a volume of space. Every material has its own density.

First, fill up the one balloon with duster. Then, blow up the 2nd balloon to approximately the same size. Here's a pro tip: it's better to blow up the balloon after filling the first balloon with duster because it's easier to adjust the volume. We want the balloons to have the same volume because then we can more easily compare any differences in density. If there is no density difference, then both balloons will feel and behave the same way and, therefore, we can reasonably conclude that both balloons would contain the same gas if this was the case.

There's a few things you can do to compare balloon densities. The simplest way is to hold one in each hand and you'll definitely feel a difference in mass. One balloon definitely has more mass, and therefore, is more dense. For a more precise observation, you could weigh the balloons separately. Finally, you can drop them side by side and compare their fall. Balloons with different densities will hit the ground at different times.

As you can see, different masses at the same volume means a different density and, therefore, different gases. So, I guess duster isn't just regular air that's been bottled after all.