



TEACHER GUIDE

SOLIDS, LIQUIDS AND GASES GRADES K-2

COMMON MISCONCEPTION

Young children (and even older ones) don't believe that gas takes up space. Since many gases can't be seen, it's hard to know they are there until they are put inside a container such as a balloon. Giving young students concrete experiences of "seeing gas" can help with this concept.

The main difference between the definition of a liquid and a gas, is that liquids take the shape of their container, but gases fill up all the space in their container. These definitions are similar and could be easily confused. This is especially true with liquids, since technically they could also fill their container if there was enough of the liquid. Gas molecules will spread out or come closer together, depending on the size of the container they are in.

Some students also may not understand that gas also has mass (weight), which is one of the criteria for all matter.

MATTER

Matter is defined as anything that has mass (weight) and takes up space. At this level, mass and weight are not differentiated. Everything your students see can fit into one of the three categories of matter. Technically speaking there are more than 3 kinds of matter. Students may learn about a 4th type of matter called plasma when they reach higher grade levels, but it is not discussed at the elementary level.

WHAT IS NOT MATTER:

Since matter appears to be just about everything around students, they may think that everything is matter. Things like ideas, thoughts, feelings and dreams are not matter because they don't take up space and they don't have weight. Use these two criteria to help students make decisions on what is matter, and what is not.