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**MATTER IS ALL AROUND YOU!**

Reading, Writing & Communicating

1 Matter is all around you. Matter is anything that has mass or takes up space. If it’s made up of atoms or molecules, it’s matter! Even though matter is everywhere around the [universe](http://wonderopolis.org/wonder/how-many-stars-are-in-the-sky/%22%20%5Ct%20%22_blank), it usually only comes in just a few forms. Scientists have discovered five states of matter so far: solid, liquid, gas, plasma, and Bose-Einstein condensates. The most common are solids, liquids, and gases.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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2 What’s the difference between these different states of matter? It’s all about the physical state of their atoms and molecules. For example, a water molecule (H2O) consists of two hydrogen (H) atoms and one oxygen (O) atom. Whether its physical state is a solid (ice), a liquid (water), or a gas (vapor), it’s still water made up of H2O molecules.

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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3 Solids have a particular size and shape. The atoms and molecules in a solid are packed together tightly and do not move much. Common examples of solids are an orange, a rock, or a coin.

3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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4 [Liquids](http://wonderopolis.org/wonder/why-do-some-drinks-sweat/%22%20%5Ct%20%22_blank) have a specific size or volume, but no particular shape. Liquids take the shape of whatever container they find themselves in, whether it’s a soda bottle or a creek bed. The particles in a liquid are not packed as tightly as those in a solid. They tend to move around much more freely. Common examples of liquids are water, milk, and juice.

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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5 [Gases](http://wonderopolis.org/wonder/why-are-some-drinks-bubbly/%22%20%5Ct%20%22_blank) tend to be harder to identify, because they have no color, shape, or size. The particles in a gas move quickly and freely and tend to have a lot of space between them. Gases can take the shape of any container. Common gases include oxygen and carbon dioxide.

5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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6 To change from one state of matter to another, the physical properties of the matter must change. This usually happens through changes in temperature, pressure, or other physical properties. For example, when solid water (ice) gets hot, it melts and turns into liquid water. The reverse of this process is [freezing](http://wonderopolis.org/wonder/does-salt-water-freeze/%22%20%5Ct%20%22_blank). When liquid water gets hot enough, it [vaporizes/evaporates](http://wonderopolis.org/wonder/why-do-you-see-your-breath-when-it%E2%80%99s-cold/%22%20%5Ct%20%22_blank)into a gas. When water vapor cools off, it condenses back into liquid water. It’s also possible for a solid to turn directly into a gas without first changing into a liquid. [Dry ice](http://wonderopolis.org/wonder/is-dry-ice-really-dry/%22%20%5Ct%20%22_blank), for example, is frozen carbon dioxide. When it heats up, it changes directly back to carbon dioxide gas in a process called sublimation.

6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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- See more at: http://wonderopolis.org/wonder/does-matter-really-matter/#sthash.fDAGnlY7.dpuf