

### **MATTER AND ITS PROPERTIES**

Everything around us is made out **matter**.

Matter is anything that takes up space and has mass.

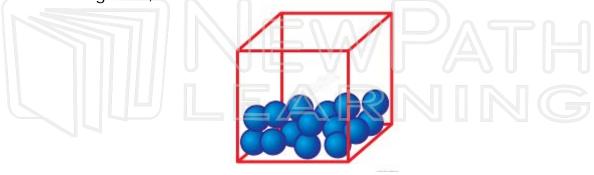
All **matter** is made up of many different kinds of particles that are combined together in different ways.

# Lesson Checkpoint: What is matter?

An **atom** is the basic building block of matter that make up all objects. It is the tiniest particle of any element. An **element** is matter that is made up of one type of particle. Scientists have identified over 100 elements in nature, which are labeled on the Periodic Table of Elements. Some elements are



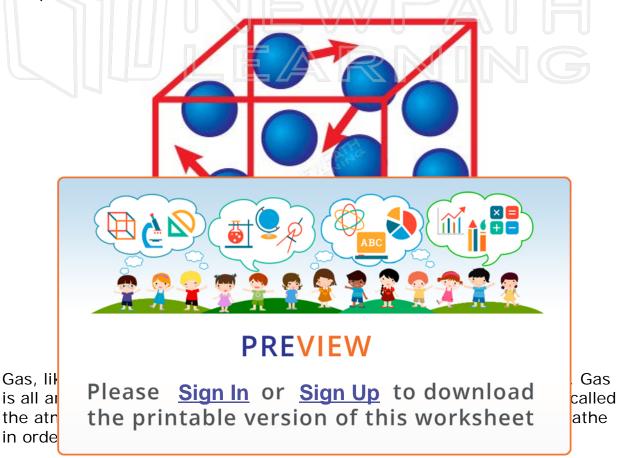
A second state of matter is **liquid**. A liquid is matter in which the particles are close together, but not as close as in a solid.





Liquids do NOT keep the same shape. Liquids take the shape of whatever container holds it. An example of a liquid is water.

A third state of matter is **gas**. A gas is matter in which its particles are very far apart.



# Lesson Checkpoint: What are the three states of matter?

# **Properties of Matter**

A **property** of **matter** is a feature, trait, or characteristic. Matter can have many different properties. **Properties** are used to describe an object.

Some properties of matter can be measured using tools such as a balance to measure an object's **mass** and a graduated cylinder to measure the **volume** of liquids. Scientists most often use **metric** measurements when measuring matter.



**Density** is a property of **matter** that tells how much matter fits into a certain space. **Buoyancy** is also a property of matter. **Buoyancy** is whether an object sinks or floats in water.

A **property** of an item may also be its hardness, like a brick. Size is also a property of **matter**. The size of something has to do with how big, small, wide, or thin something is. The size of an object can be measured using the **metric units** millimeters (mm), centimeters (cm), and meters (m). For long distances the metric unit of kilometers (km) can be used.

# Lesson Checkpoint: What is one property of matter?

Volume is the amount of space matter takes up.



Lesson Checkpoint: What is mass?

