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**Chapter 10: Matter and Its Properties ---Study Guide**

These items can be found in your child’s packet in the science section or in their science book. All items have been discussed at length in class. Please refer to the cover of the packet to view which packet pages to study.

**Words to Know:**

matter periodic table mass volume density

property pressure element atom buoyancy

**\*Here is a link to help your child to study the vocabulary for Chapter 10.**

http://quizlet.com/1022501/scott-foresman-science-grade-3-chapter-10-flash-cards/

**(This link and other links are posted on your science teacher’s website.)**

**Ideas to Know:**

* **Matter** is anything that takes up space and has mass.
* Three states of matter are **solids, liquids, and gases**.
* An object’s physical **properties** include its size, shape, texture, smell, taste, and color.
* **Solids** have particles that are packed together firmly and connected. Solids **have** a definite shape and volume.
* **Liquids** have particles that are loosely connected and flow past one another. A liquid does **not** have a definite shape. It takes the shape of its container. Liquids **do** have a definite volume.
* **Gas** particles bounce off one another as they move freely. Gases have **no** definite shape or volume. A gas expands to fill all of the available space.
* The elements on a **periodic table** are organized by their individual properties.
* An **atom** is the smallest particle of an element that has properties of that element.
* **Mass** is the amount of matter an object has. Mass is measured with a balance scale. An object’s mass is the same **EVERYWHERE,** but its weight may be different.
* If an object sinks in the water, it has little **buoyancy.** The object has more **density** than the water.
* **A km (1,000 m)** can be used to measure longer distances (from one place to another) –similar to a mile in customary units.
* **Volume** can be determined by measuring the amount of space an object occupies.
* **Volume** can be measured using a graduated cylinder or measuring cup. To find the volume of a box, you can see how many cubes of a certain size can fit inside the box.
* Scientists measurean object’s **length** by using a ruler with **centimeters (cm)** or a **meter (m)** stick**.**
* **Volume** of a liquid is measured in **milliliters (mL) or liters (L)** by scientists.
* An object’s **mass** is measured by using a balance scale. Scientists use **grams (g)** or **kilograms (kg)** when measuring mass.
* American scientists and doctors use the metric system instead of customary units because:
	+ Scientists and doctors around the world use the metric system. This allows for a common language that everyone can understand
	+ It is easier to use the metric system since the units are based on a system of 10 instead of random numbers like customary units.