Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Science Study Guide

**Vocabulary:**

mass – quantity of matter (weight)

volume – 3 dimensional space (liquid volume – how much liquid in a container)

saturated – a solution where no more material will dissolve

mixture – 2 or more materials put together (properties of each do not change)

solution – special mixture formed when one material dissolves in another

solute – what dissolves in a solution

solvent – what makes the solute dissolve (liquid)/Universal solvent = water

dissolve – when a substance mixes into another and its properties change (the substance “disappears” into the solvent)

**Measuring in Science:**

What system of measurement do we use in science? Customary Metric

Unit for measuring –

 Mass – grams

 Volume – milliliters (mL)

 Temperature – Celcius (C)

**Changing States of Matter:**

We did the experiment with chocolate, butter, and wax in a cup. What was needed to change the solid to the liquid?

Heat

When will sugar dissolve the best? In something hot

We did the experiment where we measured the mass of a liquid in a container and then we put that in the freezer and let it become a solid. Then we measured the mass again. What happened to the mass when it changed from a liquid to a solid? Explain.

The 50mL of ice weighed about the same as the 50 mL of water because nothing changed except the state of matter.

Explain how you would change matter from one state to another. (Example: a solid to a liquid) What is the process needed for this to occur?

Solid to liquid – heat

Liquid to solid – cold

Liquid to gas - heat

Gas to a liquid – cold

What are the three forms of matter found on Earth? Describe the identifying properties of each one.

Solid – has a definite shape

Liquid – takes the shape of the container; flows

Gas – fills all the space in the container; does not have a definite shape; cannot be contained in an open container

Know and describe the water cycle. Be able to identify each step in the cycle.

Evaporation – heat from the sun makes water hot and therefore it becomes water vapor and goes up into the sky.

Condensation – the water vapor in the clouds cools again and becomes a liquid instead of a gas.

Precipitation – the liquid water in the clouds falls back to the earth

**Mixtures and Solutions:**

Describe how to separate mixtures and solutions (with Mrs. Q you had a mixture of all three substances and then were able to separate each one).

Screen the gravel; filtering the powder; evaporating the water from the salt

How do you know when a chemical reaction occurs?

Bubbles

Be able to describe the properties of a solution before and after it is mixed.

Before: Water – solvent – clear; sugar – solid, white grains; tea – solid, dark color

After: water – solvent – orangish/brown color; sugar – dissolved (not seen); tea – dissolved (not seen)

**Review:**

Know the natural agents of change that cause erosion.

Water, wind, ice

Be able to explain which natural agent of change causes soil erosion with different types of weather. Also, be able to tell why the other agents of change are not the ones that caused the soil erosion.

Water – mudslides, floods, tsunamis; wind – sandstorms, hurricanes, blizzards, tornadoes, dustbowl - drought; ice - glaciers

Light – how many different directions can light travel?

ONE

Mirrors – be able to describe how reflections look in a mirror.

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Motion – know the different types of motion and examples:

 Uniform – one direction; constant speed

 Escalator/conveyor belt

 Periodic – period of time

 Second hand on the clock; moon around the Earth; Earth around the sun

 Variable - can change

 A car speeding up to merge into traffic; acceleration/slowing down