Day 3 Worksheet

* Classifying Matter: Elements, Compounds, and Mixtures

\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ are a sample of matter that has definite chemical and physical properties.

\_\_\_\_\_\_\_\_\_\_\_\_\_ are pure substances that cannot be separated into simpler substance by \_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_ means.

A \_\_\_\_\_\_\_\_\_\_\_\_\_ is formed when two or more atoms join together chemically. A \_\_\_\_\_\_\_\_\_\_\_\_\_ is a molecule that contains at least two different elements. All compounds are molecules but not all molecules are compounds.

* Mixtures

A \_\_\_\_\_\_\_\_\_\_\_\_\_ of two or more pure substances that are not chemically combined.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ held together by physical forces, not chemical No chemical change takes place

Each item retains its properties in the \_\_\_\_\_\_\_\_\_\_\_ .

They can be separated physically

* Matter

Anything that has \_\_\_\_\_\_\_\_\_\_\_\_ and takes up space.

* Mass

the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ in an object

measured with a balance

* Volume

the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_an object takes up

measured with a \_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_.

* Physical Properties

Are characteristics or features that describe \_\_\_\_\_\_\_\_\_\_\_\_

Are true only for a certain amount of matter

Examples include:

\_\_\_\_\_\_\_\_\_\_\_ size shape smell texture \_\_\_\_\_\_\_\_\_\_\_ state pH Flammability

\_\_\_\_\_ \_\_\_\_\_ melting point solubility \_\_\_\_\_\_\_\_\_\_\_\_\_ hardness density

* States of Matter

\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Solids

Have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ shape and definite volume

Particles are tightly packed

* Liquids

Do not have definite shape but do have definite \_\_\_\_\_\_\_\_\_\_\_\_

Particles are loosely packed.

* Gases

\_\_\_\_\_ \_\_\_\_\_\_\_\_ have definite shape or definite volume

Particles are very far \_\_\_\_\_\_\_\_\_.

* Phase Changes of Water

\_\_\_\_\_\_\_\_\_ ( ice ) > Liquid ( \_\_\_\_\_\_\_\_\_\_ ) > Gas ( \_\_\_\_\_\_\_\_\_\_\_ )

* Properties of Matter include:

How it looks (shiny, dull, \_\_\_\_\_\_\_\_)

How it feels (hard, soft, \_\_\_\_\_\_\_\_\_\_\_\_, smooth)

How it smells (\_\_\_\_\_\_\_\_\_\_, salty, flowery)

How it sounds (loud, soft, \_\_\_\_\_\_\_\_)

How it tastes (sweet salty, \_\_\_\_\_\_\_\_\_\_\_\_, sour)

What it does (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, bubble, tear)

* Examples of Physical Properties/Changes

Mass \_\_\_\_\_\_\_\_\_\_\_\_ Shape \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ State

Mixture \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Odor

* Examples of Chemical Properties/Changes

\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Processing

Any change that causes \_\_\_\_\_\_\_\_\_ matter to be formed

* What is Energy?

Energy is the ability to do \_\_\_\_\_\_\_\_\_.

Energy is the ability to cause a \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Energy can change an object’s:

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

* Energy is all around us

You can \_\_\_\_\_\_\_\_\_\_\_ energy as \_\_\_\_\_\_\_\_\_\_\_ when someone talks.

You can \_\_\_\_\_\_\_\_\_\_ mechanical energy every time you \_\_\_\_\_\_\_\_\_\_\_.

You can \_\_\_\_\_\_\_\_\_\_\_ energy as \_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the sun or a lamp.

You can \_\_\_\_\_\_\_\_\_\_\_ it as \_\_\_\_\_\_\_\_\_\_ warms things up.

* What are the Forms of Energy

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_

Mechanical: kinetic / potential

* Kinetic Energy

Energy due to \_\_\_\_\_\_\_\_\_.

Types of kinetic energy

Kinetic energy can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into other forms of energy.

* Potential Energy

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy that could cause change in the \_\_\_\_\_\_\_\_\_\_\_\_\_.

Potential energy is stored energy--energy \_\_\_\_\_\_\_\_ \_\_\_ \_\_\_\_.  A lawn mower filled with gasoline, a car on top of a hill, and students waiting to go home from school are all examples of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy.

* Types of potential energy

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Mechanical Energy

Mechanical energy is the energy that is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by an object due to its \_\_\_\_\_\_\_\_\_\_\_\_ or due to its position. Mechanical energy can be either kinetic energy (energy of \_\_\_\_\_\_\_\_\_\_\_) or potential energy (stored energy of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

All energy can be in one of two states:  potential energy or kinetic energy.

The amount of mechanical energy depends on the object’s \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Mechanical energy can change into other forms of energy

* Chemical Energy

Chemical energy is made when substances \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ new substances.

\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_\_such as oil and gasoline are stored chemical energy.

Chemical energy can change to:

\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Sound

Sound is a form of energy produced by a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or a \_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ movement of an object.

Sound is a wave of vibrations that \_\_\_\_\_\_\_\_\_\_\_ from its \_\_\_\_\_\_\_\_\_\_\_ of its matter.

The \_\_\_\_\_\_\_\_\_\_\_ vibrations the waves have, the more energy, the \_\_\_\_\_\_\_\_\_\_\_\_ the sound.

The \_\_\_\_\_\_\_\_\_\_\_\_\_ the vibrations or the frequency, the higher the sound.

How high or low a sound is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* Light

Light is something that allows us to \_\_\_\_\_\_\_\_\_ objects.

Light is a form of \_\_\_\_\_\_\_\_\_\_\_.

Light is produced by the \_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_ charged particles.

* Properties of Light

Light travels in a \_\_\_\_\_\_\_\_\_\_\_\_\_ path.

Light doesn’t travel \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ all objects.

These are defined as \_\_\_\_\_\_\_\_\_\_\_\_\_.

Light can be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to heat.

Light \_\_\_\_\_\_\_\_\_\_\_\_ off or is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from some kinds of opaque objects.

Some objects let all light pass through them are known as:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Some objects let some light pass through them are known as:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Light Changes Direction

Light bends or refracts as it passes from one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (form of matter: solid, liquid or gas) to another.

* What is Thermal Energy?

Thermal energy is the \_\_\_\_\_\_\_\_\_ of all the \_\_\_\_\_\_\_\_

and \_\_\_\_\_\_\_\_\_\_\_\_\_ energy of the atoms in an object.

When any form of matter gets \_\_\_\_\_\_\_\_\_\_\_\_\_, the kinetic energy of its atoms \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The object’s particles move faster, so its thermal energy \_\_\_\_\_\_\_\_\_\_\_\_\_.

A change in thermal energy can lead to a change in \_\_\_\_\_\_\_\_\_\_ or state of matter.

Temperature is a measure of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy.

* What is the Transformation of Energy?

Energy can change and move from one object to another.

\_\_\_\_\_\_\_\_\_\_\_\_\_ > \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ > \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Where does the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a lit light bulb transfer to

after the flashlight has been on for a while?

Heat energy transfers into the \_\_\_\_\_\_\_\_\_\_\_.