



The National  
Orthodox School  
Shmaisani

## The National Orthodox School/ Shmaisani

Subject: Science

Name: .....

Study Sheet 1: Energy

Date: .....

Grade 6 A

### Objectives:

- Recognize what energy is.
- Know the different types of energy.

### What is Energy?

Energy is the **ability to do work**. It is what **makes matter move or change**.

Energy can **transform** from one type to another, but it can **never be destroyed or created**.

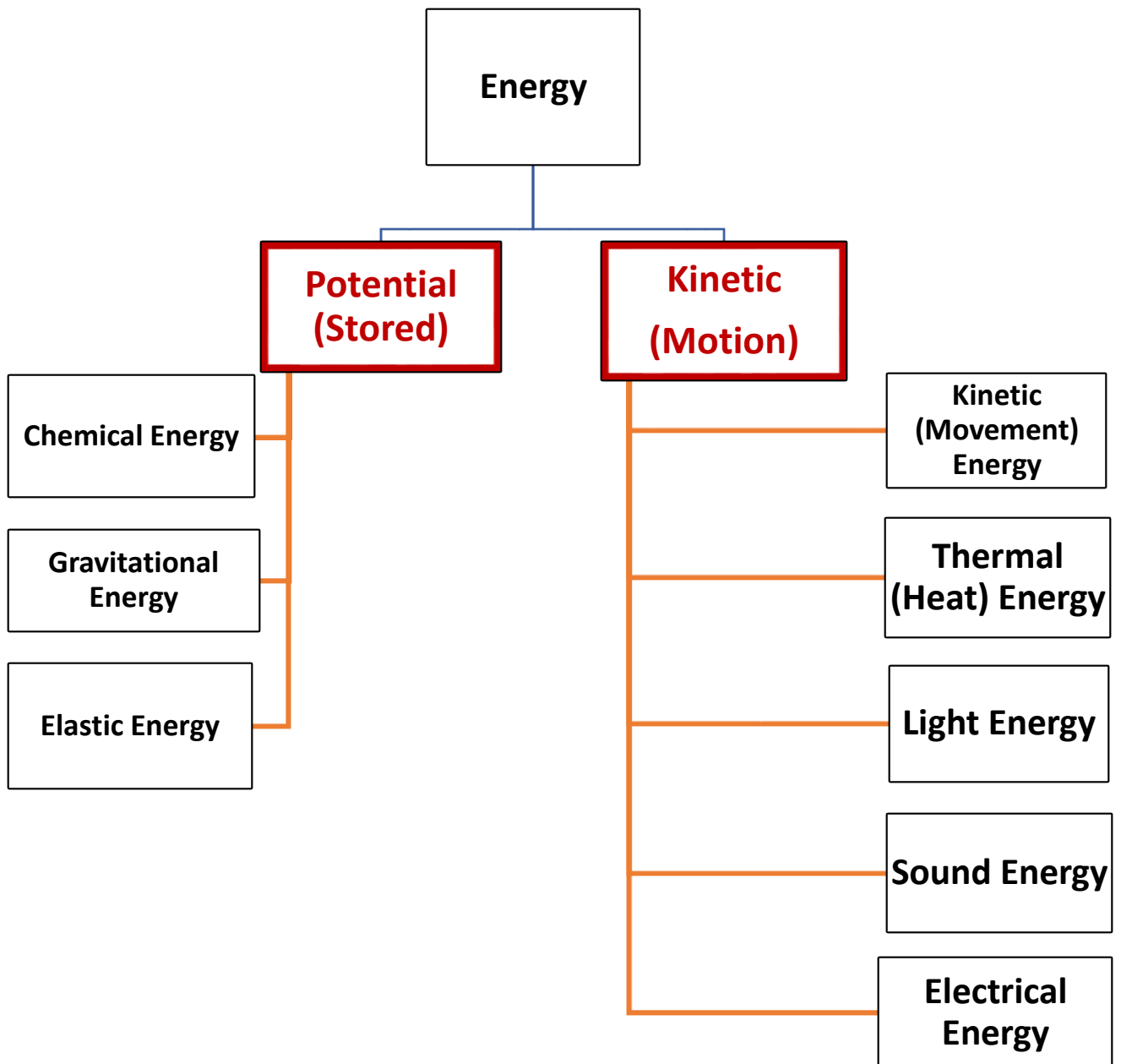
We measure energy in a **unit** called **joule ( J)**

### Types of energy

There are many different types of energy, but they can be classified into two main forms:

- 1- Kinetic energy ( طاقة الحركة ): the energy of a moving object.
- 2- Potential energy ( طاقة الوضع ): energy that is stored in an object.





## Forms of Kinetic Energy:



### 1. Kinetic (Movement) energy:

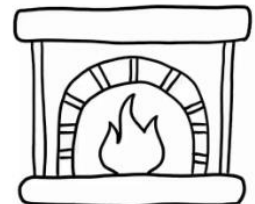
Kinetic energy is the energy an object has because of its motion. A fast-moving object has more movement energy than a slow-moving object.

### 2. Electrical energy:

The energy from the flow of electrons in an electric circuit through a wire.

### 3. Thermal (Heat) energy:

Energy an object has because of the movement of its molecules. The faster they move, the more energy they have and the hotter they become.



### 4. Light energy:

The movement of light in waves and is the only form of energy visible to the human eye.

### 5. Sound energy:

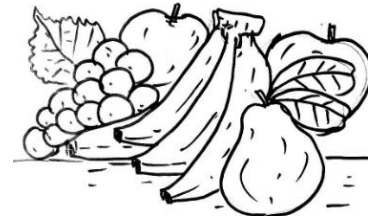
The movement of sound waves through substances, and is produced when a force makes an object or substance vibrate.



## Forms of Potential Energy:

### 1. Chemical energy:

The energy stored in the bonds between atoms that holds them together. Stored chemical energy is found in food, batteries, and fuel.



### 2. Gravitational energy:

The energy an object has when it is in a high position compared to a lower position. An object with a bigger mass has more gravitational potential energy.

### 3. Elastic energy:

It is stored in an **elastic object**; such as a coiled spring or a stretched elastic band.

