name: absent/class:

INTERACTIVE STUDENT WORKSHEET (LKPD)
"ENERGY"

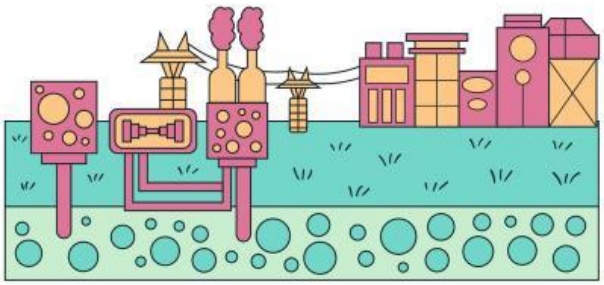
Learning Objectives

- Explain the difference between renewable and non-renewable energy.
- Identify and give examples of different types of energy.
- Calculate kinetic, potential, and mechanical energy.

UNDERSTANDING ENERGY

watch this video to understand the definition of energy

What is energy??



Part 1: Multiple Choice

Instructions: For each question, choose the correct answer and circle the letter next to it.

1.Which of the following is a renewable energy source?

A. Coal B. Solar energy C. Oil D. Natural gas

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2.What does wind energy generate?

A. Heat B. Light C. Electricity D. Food

3.Which energy source is non-renewable?

A. Biomass B. Geothermal C. Wind D. Nuclear energy

4. Energy that can be replaced naturally over time is called:

A. Non-renewable energy
B. Renewable energy
C. Chemical energy
D. Kinetic Energy

5.The main disadvantage of non-renewable energy is:

A. It produces less energy
B. It causes pollution and will run out
C. It is too expensive to use
D. It depends on sunlight

Part 2: Short Answer

Instructions: Answer the questions in the space provided.

4.Give one example of a non-renewable energy source!

_____

5.Why is it important to use renewable energy?

_____

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TYPES OF ENERGY

Refer to this chart below to understand the different types of energy that exist in our world.

Energy	What is it?	Example
Kinetic		
Potential		
Thermal		
Electrical		
Chemical		
Light		
Sound		
Nuclear		
Renewable		
Non-renewable		

drag the picture below to fill the example

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TYPES OF ENERGY

What is difference between Renewable and Non-Renewable Energy?

Renewable sources are Mother Nature's magic trick—they keep coming back for an encore! Non-renewable ones, though, are like a magician's disappearing act—they vanish and leave us hanging!

Sort the Energy

Instructions: Sort these enegy sources into renewable and non-renewable.

- Solar Power
- Coal
- Wind
- Natural Gas
- Biomass
- Hydropower
- Oil
- Geothermal
- Nuclear (from uranium)
- Propane

Renewable	NonRenewable

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LAW OF CONSERVATION ENERGY

Instructions: Read the statements below and mark ✅ True or ❌ False.

statement	true/false
Energy can be created by machines.	
Energy cannot be destroyed, only transformed.	
A stove converts electrical energy into heat energy.	
In a car, chemical energy is converted into kinetic energy.	

Instructions: Fill in the blanks with the correct type of energy.

1. A fan converts _____ energy into _____ energy.
2. A solar panel converts _____ energy into _____ energy.
3. When you eat food, your body converts _____ energy into _____ energy.
4. A light bulb converts _____ energy into _____ and _____ energy.

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KINETIC, POTENTIAL, AND MECHANICAL ENERGY

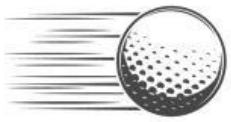
watch this video to understand this topic

CALCULATION ZONE

Instructions: copy/write this part in your book or paper too

Formula:

1. Kinetic Energy



A 4 kg ball moves at 10 m/s.

KE = ... J

$$KE = \frac{1}{2}mv^2$$

m = mass (kg)
v = velocity (m/s)
KE = Kinetic energy (J)

2. Potential Energy

A 6 kg stone is on a 15 m-high hill.

PE = ... J

$$E_p = mgh$$

m = mass (kg)
g = gravitational field strength (N/kg)
h = height (m)
E_p = gravitational potential energy (J)

3. Mechanical Energy

An object has m = 3 kg, v = 5 m/s, h = 10 m.

ME = ... J

$$E_M = E_P + E_K$$
$$E_M = mgh + \frac{1}{2}mv^2$$

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