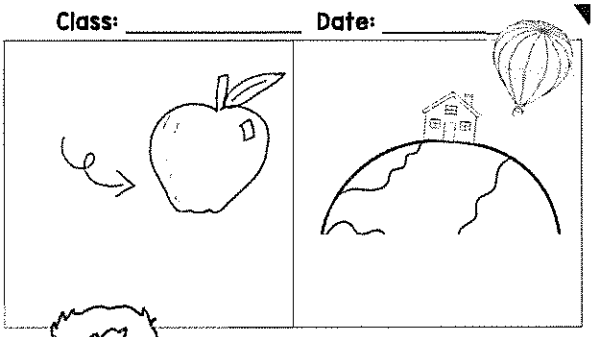
Name: _____ Class: _____ Date: _____

ENERGY FORMS & TRANSFORMATIONS

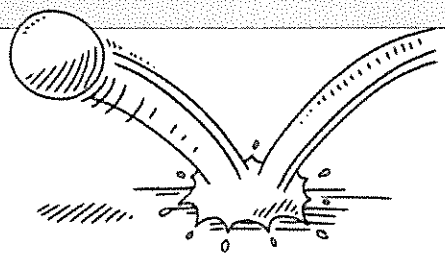
ESSENTIAL QUESTION:

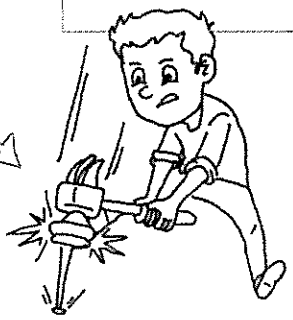
VOCAB

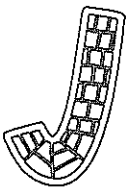


TOPIC QUESTIONS:

1





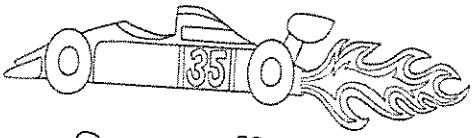


2

MECHANICAL ENERGY

=

POTENTIAL ENERGY



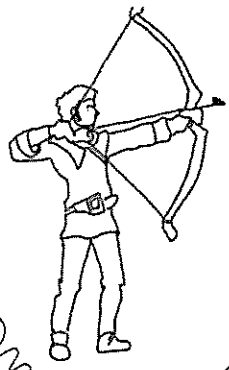
+

KINETIC ENERGY

OPTIC QUESTIONS:

3

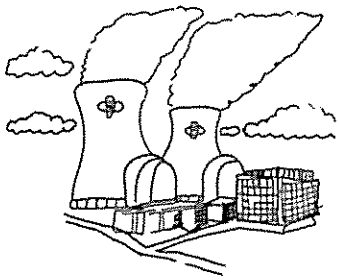
GRAVITATIONAL POTENTIAL

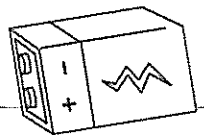


ELASTIC POTENTIAL

NUCLEAR POTENTIAL

CHEMICAL POTENTIAL





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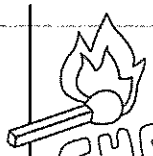
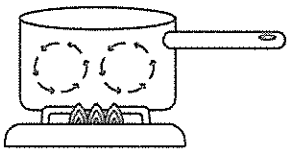
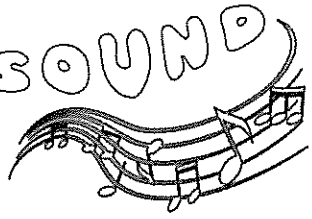
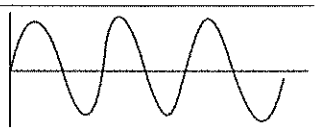


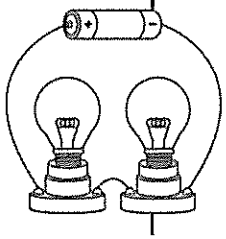
THERMAL



SOUND

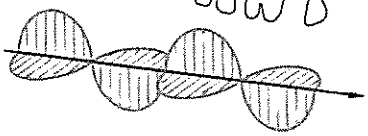






ELECTRICAL

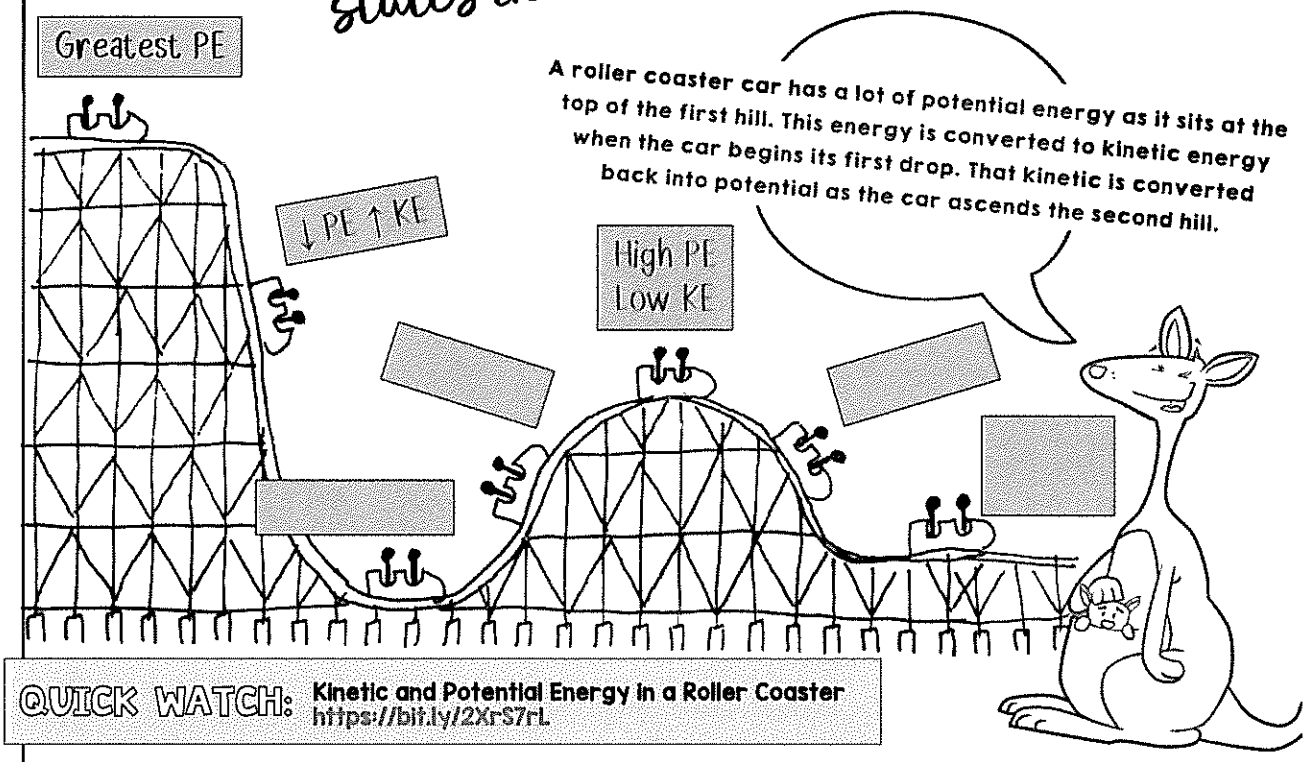
RADIANT



5

the LAW OF CONSERVATION OF ENERGY states that...

Greatest PE



QUICK WATCH: Kinetic and Potential Energy in a Roller Coaster
https://bit.ly/2XrS7rL

Do Label the empty boxes along the roller coaster track where potential energy (PE) and kinetic energy (KE) are increasing and decreasing.

Then Do Eventually the roller coaster car will not be able to rise up another hill ... Why is this? What happens to the energy of the car?

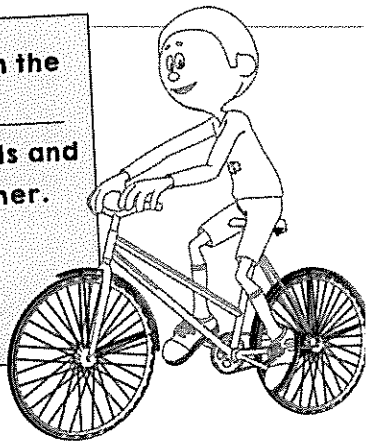
ENERGY

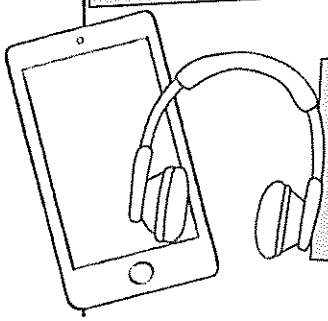
6

ENERGY TRANSFORMATION

7

Riding a bike: The _____ potential energy stored in the food that the boy ate this morning is transferred to _____ energy as he applies _____ (does work) to the bike's pedals and to _____ energy (heat) as his body begins to get warmer. The bike itself then has _____ energy. The force of _____ between the tires and the ground _____ the motion into _____ energy (heat) and into _____ energy.





Do Fill in the missing types of energy in the description of energy transformation below.

Listening to a Podcast: The ---------- energy stored in the battery is transferred to ---------- energy when the device is used. This energy is transferred to ---------- energy as you hear the recording play and to ---------- energy as the device gets warm.

Name: _____ Class: _____ Date: _____

ENERGY FORMS & TRANSFORMATIONS: SUM IT UP!

1. Match each word with its correct definition by writing the letter on the line.

_____ energy	A. the standard unit for measuring the amount of energy something has
_____ work	B. how much matter there is in something
_____ joule	C. where an object is relative to a point of reference
_____ position	D. when a force is used to move an object through a distance
_____ mass	E. the ability to do work

2. Write "PE" next to the types of potential energy and "KE" next to the types of kinetic energy.

_____ gravitational	_____ sound
_____ chemical	_____ nuclear
_____ radiant	_____ thermal
_____ elastic	_____ electrical

3. Write MECHANICAL, POTENTIAL, or KINETIC on the line next to each description below:

_____ : depends on an object's mass and position (height)

_____ : depends on an object's motion (speed) and position (height)

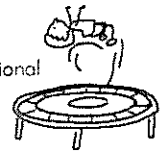
_____ : depends on an object's mass and speed

4. Complete each sentence below by circling the correct word.

- If two objects of different masses are about to be dropped from the same height, the heavier one has (GREATER / LESS) gravitational potential energy.
- If two marbles are rolled down a ramp from the same height toward a container, the (LIGHTER / HEAVIER) marble will move the container farther because it has more (POTENTIAL / KINETIC) energy as it reaches the bottom of the ramp.
- If one water balloon is held 1 meter above the ground and another water balloon of the same size is held 3 meters above the ground, the (HIGHER / LOWER) balloon has the greater amount of gravitational potential energy. When the balloons are dropped, the (HIGHER / LOWER) balloon will hit the ground with more force because it will have (MORE / LESS) kinetic energy.

5. Choose the correct energy transformation sequence from the word bank for the action happening in each example below. Write the letter on the line.

A. Gravitational Potential → Sound → Thermal
B. Chemical Potential → Mechanical → Elastic Potential → Gravitational
C. Electrical → Sound → Thermal → Radiant
D. Chemical Potential → Radiant → Thermal



_____ _____ _____

How are you feeling about the basics of Energy Forms and Transformations? Circle one: