Force, Motion, Energy Resources and Transformation

Bassett Test Review II

Question 1

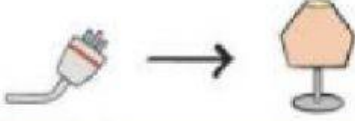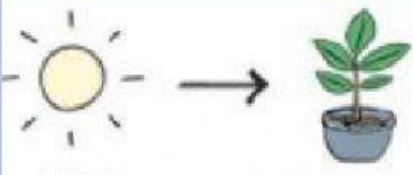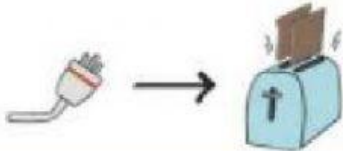**Instructions:** Join with the line the picture with correct energy transformation

Picture	Energy Transformation
	>Chemical to mechanical
	>Radiant Light to chemical
	>Electrical to heat
	>Mechanical to light
Electric Generator	>Electrical to light

Question 2

Definition:

The law of Conservation of energy:
The law of conservation of energy states <u>energy</u> cannot be created or destroyed but may be changed from one form to another.

Instructions: Use the above statement to complete the missing parts of the following text

The law of _____ of _____ states _____ _____ be created or _____ but may be _____ from one _____ to _____.

Question 3

Potential Energy:	Kinetic Energy:
▪ Stored energy ▪ The higher an object is at, the more Potential energy	▪ Released energy ▪ The faster an object is going, the more Kinetic energy

Question 4

Hint:

>The higher the more PE

> the faster the more KE

Instructions: Use the labels A, B, C and D to label the correct Potential and kinetic energy "amount" on the picture

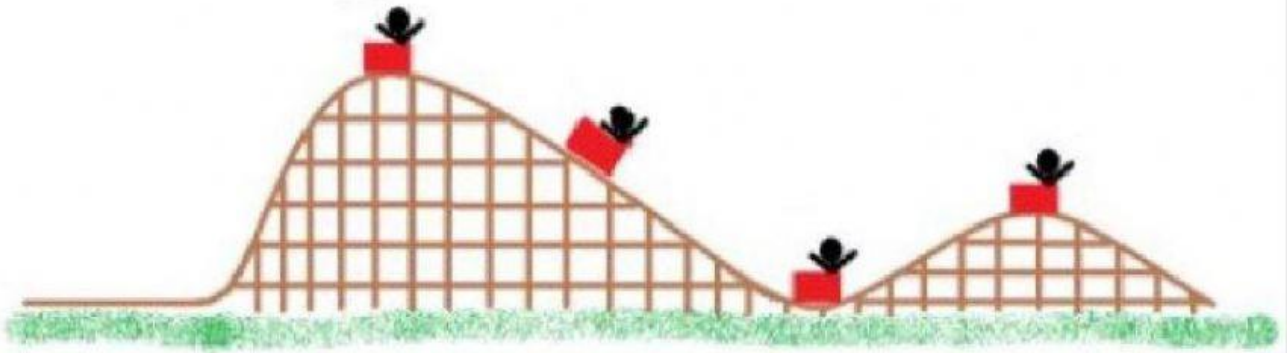| A	B	C	D
KE=100 max PE = none	KE = none PE=100 max	KE= 50% PE=50 %	KE= 75% or ¾ PE= 25% or 1/4

Use the formula **Speed** = distance/time $Speed = \frac{d}{t}$

Example

Instructions: Plug in the numbers inside the boxes and divide to find the answer

Find the Speed (S) ----- **Scalar quantity** (It has **no** direction)

S (Speed) = ?

d (distance) = 40 meters

t (time) = 5 seconds

$$S = \frac{d}{t} = \frac{40 \text{ meters}}{5 \text{ seconds}} = 8 \text{ meters/second}$$

Question 5

Plug in the numbers inside the boxes and divide to find the answer

Evaluate the Speed (S)

S (Speed) =?

d (distance) = 800 miles

t (time) = 5 hours

$$S = \frac{\boxed{d}}{\boxed{t}} = \frac{\boxed{}}{\boxed{}} = \boxed{}$$

Question 6

Plug in the numbers inside the boxes and divide to find the answer
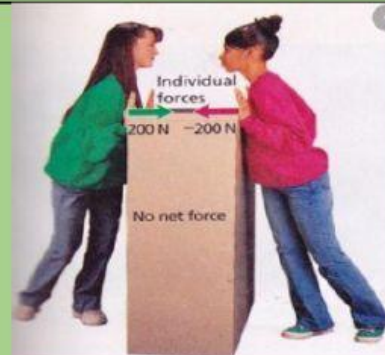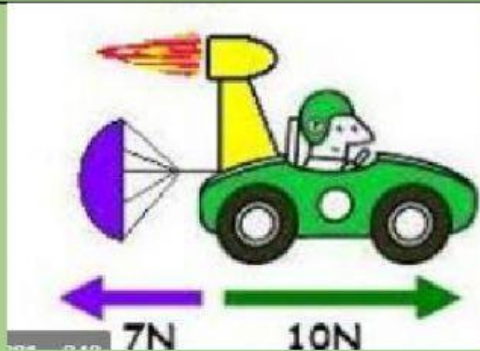
Evaluate the Speed (S)

S (Speed) = ?

d (distance) = 48 meters

t (time) = 8 seconds

$$S = \frac{\boxed{}}{\boxed{}} = \frac{\boxed{}}{\boxed{}} = \boxed{}$$

Question 7

Write "*balance*" or "*unbalance*" forces

300N ← MYSTERY THE MACHINE → 1000N	← 1000N MYSTERY THE MACHINE 1000N →
← 7N 10N →	Individual forces 200 N −200 N No net force

Question 8

Use graphs to find the distance, the time, and the speed

Distance-Time Graph of a Car
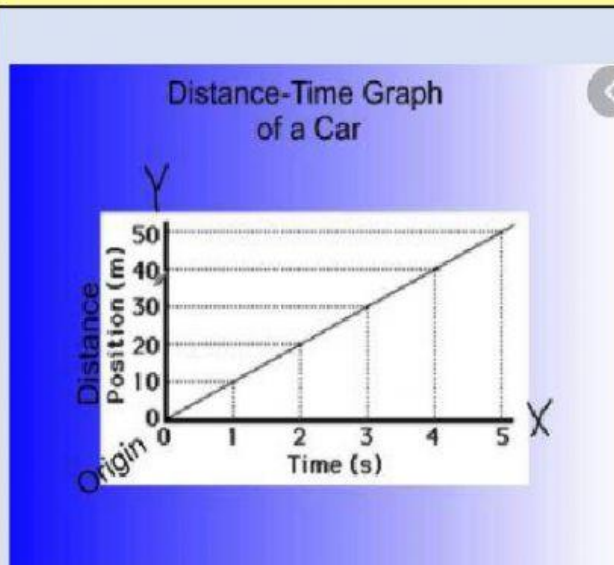
Find the average speed

Step 1 : Distance at 5 sec

Step 2: Time at 50 meters

Step 3:

$$\text{speed} = \frac{\text{distance} \boxed{}}{\text{time} \boxed{}}$$

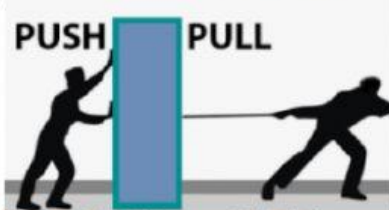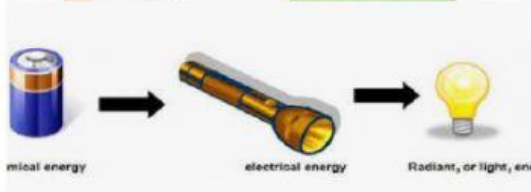## Question 9

Vocabulary
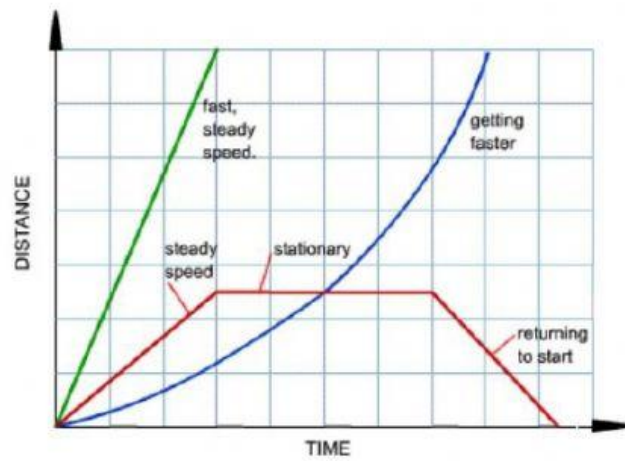Match the word with the definition by writing the correct letter

Word	Definition
1. X-axis	Vertical Line
2. Force	Energy stored
3. Y axis	Energy of motion
4. Unbalanced	
5. Friction	Horizontal line
6. Energy transformation	$Speed = \dfrac{d}{t}$
7. Potential Energy	
8. Kinetic Energy	PUSH PULL
9. Inclined plane	
10. Speed formula	

Question 10

Practice: Understanding the distance vs time graph

Instructions: Use the graph on top to label the missing parts