socrative

Unit Test Motion and Energy Score: _____

1. **Energy is the ability to cause a change in the_____ of an object.**

(A) mass or weight
(B) density or volume
(C) motion or position

2. **The energy in electromagnetic waves is _____energy.**

(A) radiant
(B) nuclear
(C) chemical

3. **A microwave oven changes_____ energy into radiant energy**

(A) thermal
(B) electrical
(C) mechanical

4. **A gas stove transforms the chemical energy in natural gas into _____energy.**

(A) radiant
(B) nuclear
(C) thermal

5. **When work is performed, energy is**

(A) created
(B) destroyed
(C) transferred

6. **Which example shows a change in the energy of a nail?**

(A) a nail held in someone's hand
(B) a nail being driven into a piece of wood
(C) a nail touched lightly by someone's hand
(D) a nail sitting completely still on a piece of wood

7. Which situation is an example of potential energy?

A) a falling tree limb

B) a boy sledding down a hill

C) a leaf floating down a stream

D) a rock sitting at the edge of a cliff

8. Which energy transformation occurs when a space heater is plugged into the wall and turned on?

A) Kinetic energy transforms into potential energy

B) Electrical energy transforms into kinetic energy

C) Electrical energy transforms into thermal energy.

D) Mechanical energy transforms into potential energy.

9. A car's engine is warm after it runs due to the production of

A) waste energy.

B) electrical energy

C) chemical energy

D) mechanical energy

10. Work is best described as

A) a change in an object's mass when a force is applied.

B) an application of force that does not result in motion.

C) a transfer of energy when force is applied over a distance

D) the creation of additional energy during a transformation.

11. How is the energy of an object affected after work is done on it?

A) Energy is increased.

B) Energy is decreased

C) Energy remains the same

12. Which machine works by changing the direction of a force?

A) a rake

B) a pulley

C) a screwdriver

13. Which statement describes the relationship between input work and output work using a machine?

A) Input work is always equal to output work

B) Input work is always less than output work.

C) Input work is always greater than output work.

14. Which distance do you measure to determine how much work was done on an object that has been moved?

A) vertical distance

B) horizontal distance

C) all distance against gravity

D) distance in the direction of motion

15. A rake makes doing work easier by changing the

A) size of the force

B) distance a force acts.

C) direction of the force

D) amount of work required

16. Which factor always causes the output work of a machine to be less than the input work?

A) gravity

B) fatigue

C) friction

D) distance

17. Which two factors are used to calculate work?

A) speed and time

B) force and speed

C) time and distance

D) distance and force

18. Which option is NOT a way that machines can make work easier?

A) Increase the total energy

B) Change the size of a force.

C) Change the direction of a force

D) Increase the distance a force acts.

19. If the input work to a machine is 100 J and the output work is 75 J, what is the the efficiency of the machine?

A) 25 percent

B) 75 percent

C) 125 percent

D) 175 percent

20. Estimate the power of this machine. (Power= Work/time) (Work= Force x distance)
An object weighs 50 N lifted 5 meters in 10 seconds so what is the power of the machine?

A) 50

B) 25

C) 100

D) 2.5

21. Which phrase describes an electric current?

A) a force that repels

B) a flow of charged particles

C) an unmoving charge on an object

22. Ohm's law describes the relationship between current, voltage, and

A) force

B) distance

C) resistance

23. A circuit that has only one path for electric current to follow is a

A) static circuit

B) series circuit.

C) parallel circuit

24. Which phrase best describes an electric current?

A) a material through which electrons can flow

B) the movement of electrically charged particles

C) a source of energy that causes electrons to flow

D) a transformation of electric energy to another form of energy

25. Which statement correctly describes the relationship shown in Ohm's law?

A. Current is equal to voltage added to resistance.

B. Voltage is equal to resistance divided by current.

C. Voltage is equal to current multiplied by resistance.

D. Resistance is equal to current subtracted from the voltage

26. A string of holiday lights does not light. How can you determine whether the bulbs are in series or parallel circuit?

A. Observe the material they are made of

B. Count the number of wires connecting the bulbs

C. Change the bulbs one at a time to see if they all light

D. Measure the amount of thermal energy produced by the lights

27. Which statement summarizes the relationship between electric charges and electric current?

A. A current forms when electric charges move.

B. All electric charges are part of electric currents.

C. A current is the force exerted by electric charges.

D. A current is the attraction between like electric charges

28. What is the relationship between resistance and voltage in a circuit, if the current stays consistent?

A. As resistance increases, voltage increases

B. As voltage increases, resistance decreases.

C. Resistance remains unchanged when the voltage increases

D. Voltage remains unchanged when resistance increases.

29. The answer to which question would allow a string of holiday lights to be classified as series or parallel?

A. How many lights are in the string?

B. Do the bulbs produce thermal energy?

C. If one bulb is broken, do they all go out?

D. Is a source of electric energy needed to light the bulbs?

30. What is the formula of ohm low?

A. Voltage= resistance x current

B. Voltage= resistance / current

C. Voltage = resistance + current

D. Voltage= resistance - current