

Forces, Motion & Energy Grade 8 Quiz

Teacher's Answer Key

1. _____ is the rate of change of an object's position, and contains both speed and direction. (velocity)
2. A force has both _____ and _____. (direction, magnitude)
3. Average speed is the total distance traveled _____ the total _____ elapsed. (divided by, time)
4. Change in velocity can be a change in _____, direction, or both. (speed)
5. The greater the mass of an object, the _____ force is needed to achieve the same change in motion. (greater)
6. Newton's First Law: _____
(Objects in motion tend to stay in motion unless acted upon by an external force.)
7. Newton's Second Law: _____
(Momentum is conserved. Momentum can be defined as inertia in motion.)
8. Newton's Third Law: _____
(For every action, there is an equal and opposite reaction..)
9. Electric and magnetic forces can be attractive or _____. (repulsive)
10. Motion energy is called _____ energy. (kinetic)
11. Kinetic energy is proportional to the mass of the moving object and grows with the _____ of the speed. (square)
12. _____ energy is the energy stored in a system. (potential)
13. Gravitational forces are always _____. (attractive)
14. Forces that act at a distance can be explained by _____ that extend through space. (fields)
15. When two objects interact, each exerts a _____ on the other than can cause energy to be transferred between the objects. (force)
16. The four fundamental forces are: (strong nuclear force, weak nuclear force, electromagnetism, gravity)
17. The electromagnetic field is caused by either a _____ field or an _____ field moving. (magnetic, electric)
18. Two balls released from the exact same height, one thrown horizontally and one released from rest, _____ hit the ground at the exact same moment. (will)
19. _____ is the force between one object rubbing against another object. (friction)
20. Inertia is an object's _____ to a change in its state of motion. (resistance)
21. A moving magnetic field creates an _____ field. (electric)
22. Acceleration is the rate that an object changes its _____. (velocity)
23. Momentum is mass in motion, and is defined with the equation: _____ ($p = mv$)
24. A _____ is the metric unit of work or energy, and is found using the equation: $\mathbf{F \cdot d}$. (Joule)
25. Power is the _____ that work is done over _____. (rate, time)
26. A lever has three parts: the load, the effort and the _____ (fulcrum)
27. Pendulums have high _____ energy at the base of the arc of its swing. (kinetic)
28. Potential energy stored in a spring or rubber band is called _____ (elastic potential energy)
29. Pendulums have high _____ energy at the base of the arc of its swing. (kinetic)
30. _____ is how hard it is to get something to stop or to change directions. (momentum)

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Student Quiz Sheet

Name _____

Fill in the blank:

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the base of the arc of its swing.

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