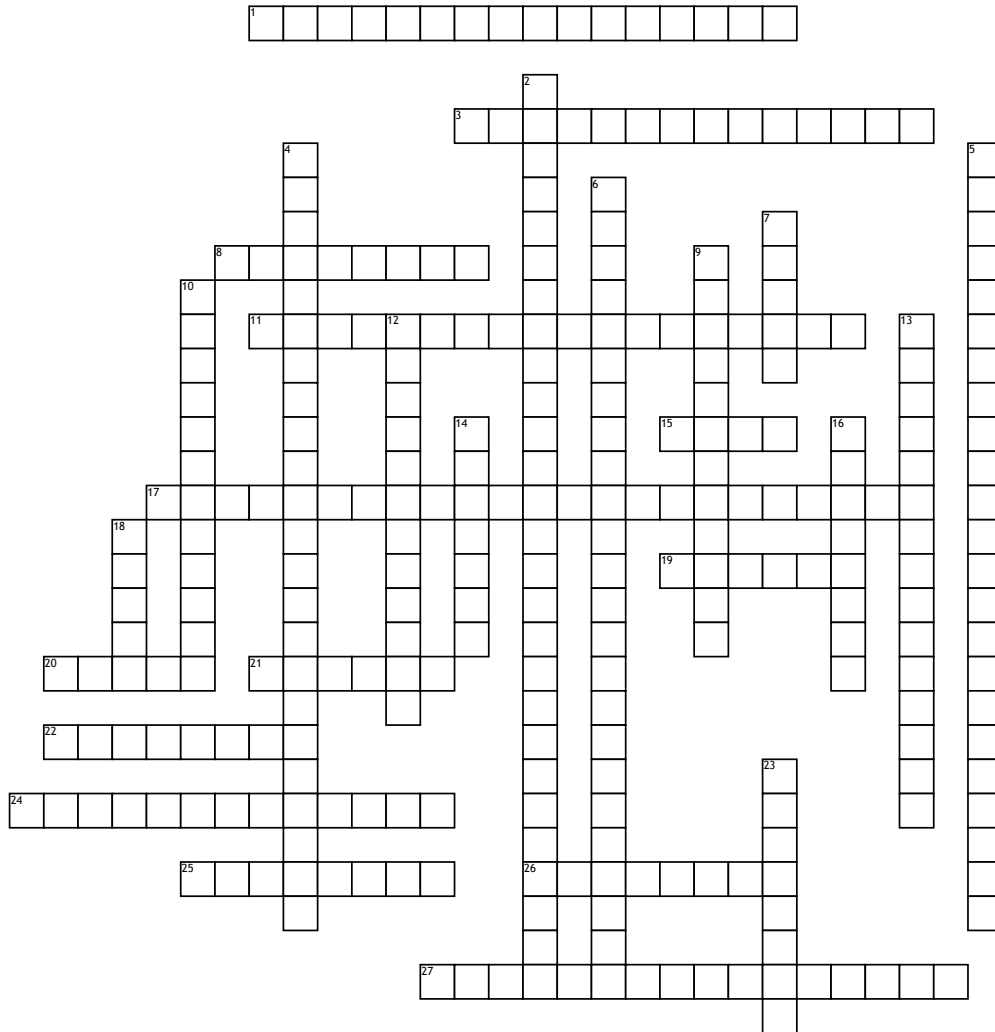


Motion and Stability



- Across**
- 1. a force that is directed toward the center of a curved or circular path.
 - 3. frictional force that prevents two surfaces from sliding past each other
 - 8. tendency of an object to resist any change in its motion.
 - 11. speed of an object at a given point in time; is constant for an object moving with constant speed, and changes with time for an object that is slowing down or speeding up
 - 15. amount of matter in an object.
 - 17. acceleration toward the center of a curved or circular path
 - 19. gravitational force exerted on an object.
 - 20. a region of space in which every point has a physical quantity, such as a force.
 - 21. change in an objects position relative to a reference point.
 - 22. the product of its mass times its velocity.
 - 24. force that opposes the motion of objects that move through the air.
 - 25. the speed of an object and the direction of its motion.
- Down**
- 2. states that if no external forces act on a group of objects, their total momentum does not change.
 - 4. states that when one object exerts a force on a second object, the second object exerts a force on the first object that is equal in strength and in the opposite direction.
 - 5. states that an object moving at a constant velocity keeps moving at that velocity unless an unbalanced force acts on it.
 - 6. states that the acceleration of an object is in the same direction as the net force on the object, and that the acceleration equals the net force divided by its mass.
 - 7. the distance an object travels per unit of time.
 - 9. the distance and direction of the objects change in position.
 - 10. the total distance traveled divided by the total time of travel.
 - 12. rate of change of velocity.
 - 13. frictional force that opposes the motion of two surfaces sliding past each other.
 - 14. attractive force between two objects that depends on the masses of the objects and the distance between them.
 - 16. force that opposes the sliding motion of two surfaces that are touching each other.
 - 18. a push or a pull
 - 23. describes the fall of an object on which only the force of gravity is acting.
- 26.** the sum of all of the forces acting on an object.
27. the maximum speed an object will reach when falling through a substance, such as air.

Word Bank

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|------------------------------|------------------------------|---------------------------------|--------------------------|
| speed | mass | velocity | centripetal acceleration |
| friction | displacement | motion | sliding friction |
| static friction | average speed | force | weight |
| gravity | Newton's First Law of Motion | law of conservation of momentum | instantaneous speed |
| net force | field | acceleration | momentum |
| Newton's Third Law of Motion | free fall | Newton's Second Law of Motion | inertia |
| centripetal force | terminal velocity | air resistance | |