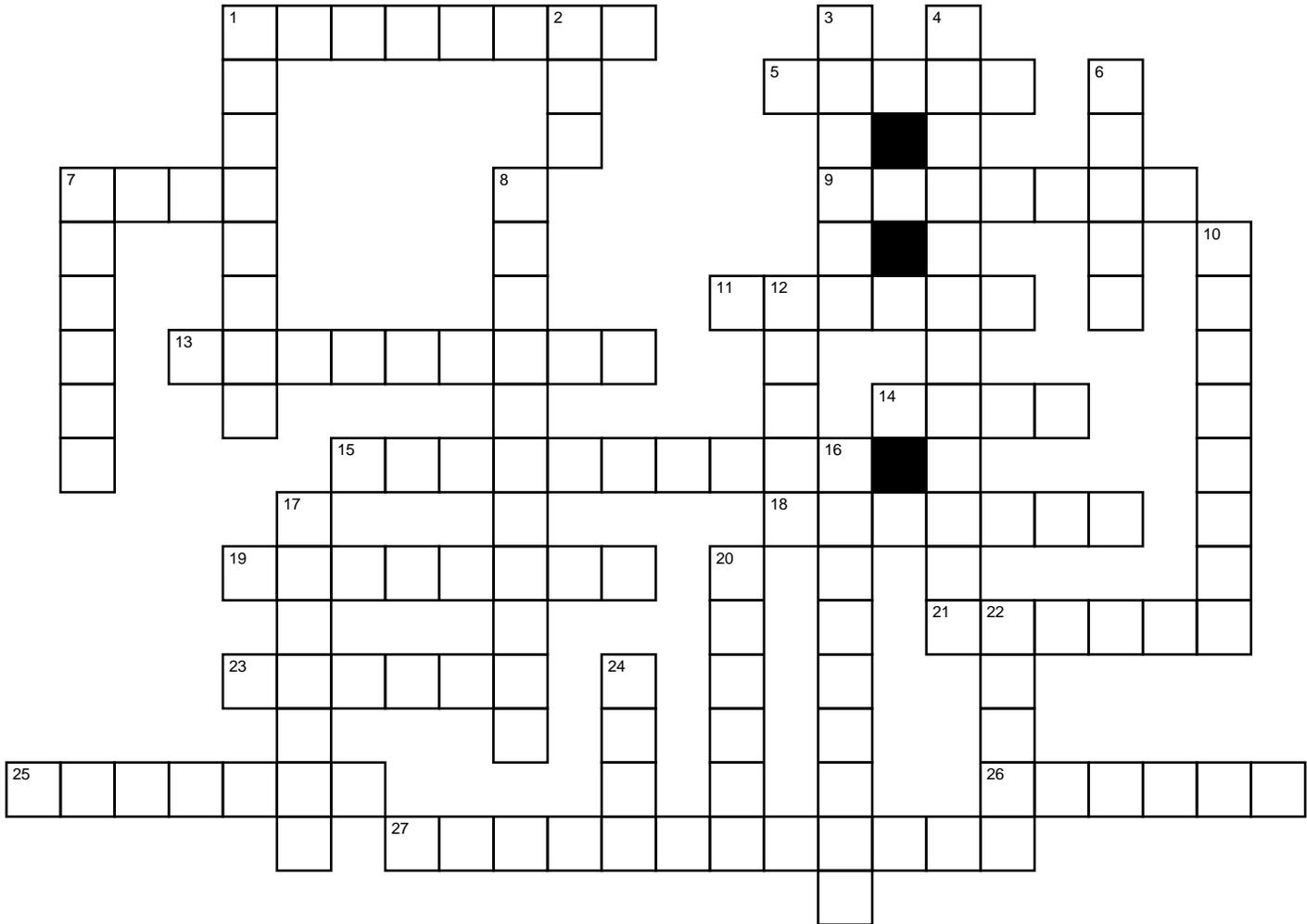


Chapter 6: Newton's Laws of Motion

Integrated Science: Physics & Engineering Design

Name _____ Period _____



Across

1. The Law of Conservation of Momentum states that, as long as interacting objects are not influenced by outside forces, the total amount of momentum is ____.
5. ____ has the ability to change motion.
7. The same force acting on more mass causes ____ acceleration.
9. Property of an object that resists motion.
11. Because action and reaction forces act on different objects, they don't ____ each other out.
13. Acceleration is ____ proportional to mass.
14. If a bowling ball has 100 times more ____ than a golf ball, it will have 100 times more inertia (resistance to changes in motion).
15. Changes in motion come from ____ forces.
18. The mathematical relationship between force, mass and acceleration in Newton's Second Law is "acceleration equals force ____ by mass."
19. the mass of an object times its velocity is the ____.

Down

1. For a long time, scientists thought that ____ motion required constant force. They were wrong.
2. The ____ force determines how an object will move.
3. You must have a force to change ____.
4. ____ is the result of unbalanced forces.
6. Forces always come in ____.
7. A ____ force makes for a larger acceleration (change in motion).
8. Newton's Third Law applies to forces between ____ objects.
10. Usually, moving objects come to rest because ____ acts in the direction opposite of motion until there is no longer any motion.
12. Newton's First Law is states that objects will continue the motion they already have unless they are ____ upon by a net force greater than zero.

Across

21. Lived from 1642 to 1727
23. SI unit of force
25. If force ____, acceleration doubles.
26. Every ____ force creates a reaction force that is equal in strength and opposite in direction.
27. Acceleration is ____ to net force.

Down

16. Acceleration is always in the same ____ as the net force.
17. If there were no friction, a golf ball that had been struck would keep moving in a straight line ____.
20. When 2 objects collide, they exert equal and opposite forces on each other. However, the ____ of the forces may not be the same.
22. Rockets push mass at high speed out the end of the engine in the form of exhaust gases from burning fuel. The forward momentum of the rocket is __ to, but opposite in direction from, the momentum of the escaping mass ejected from the end of its engine.
24. When the net force is ____, objects at rest stay at rest and objects in motion keep moving with the same speed and direction.