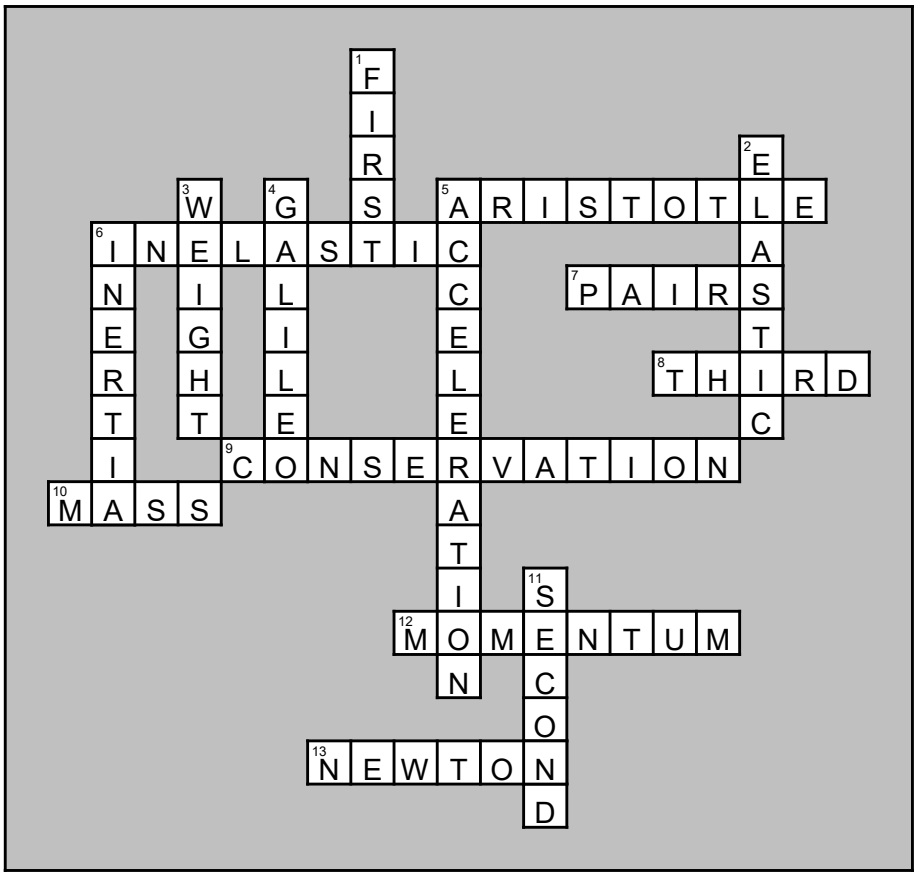
Crossword



Across

5. Philosopher who made scientific discoveries through careful observation and logical reasoning ... but not using scientific evidence.
6. Type of collision in which the colliding objects show significant deformation and generate heat. Collisions are not perfect and energy / momentum is transformed to heat or deformation of objects.
7. Newton's third law states that all forces react in ___; equal and opposite.
8. Newton's law of motion showing that action forces on an object are balanced by reaction forces on the object that are equal and opposite.
9. In a closed system with perfectly elastic collisions, the momentum before a collision equals the momentum after the collision. This is ____ of momentum.
10. The amount of inertia an object possesses, and depends on the amount of matter the object contains.
12. Inertia in motion or the product of the mass of an object times its velocity (mv). A vector quantity involving velocity, angle (direction), and mass.
13. Scientist who proposed 3 laws of motion: inertia, f = ma, action/reaction.

Down

1. Newton's law of motion showing how an object's motion does not change unless a net force acts upon it. e.g. Objects at rest stay at rest, objects in motion stay in motion unless acted upon by a net force.
2. Type of collision in which the colliding objects show minimal to no deformation and there is no generation of heat. Energy / momentum is totally transferred between objects.
3. The force acting on an object related to its mass and the acceleration due to gravity. W = mg.
4. Scientist who experimented (collected and tested data) that gave evidence for phenomenon in nature. Objects fall at the same rate due to gravity (without air resistance).
5. The "a" in f = ma. Force is related to an objects mass and "change in motion", relating to Newton's second law of motion.
6. Tendency of an object to resist a change in motion. Related to mass. e.g. seatbelts and airbags were developed with this in view.
11. Newton's law of motion for unbalanced forces acting on an object. f = ma. The acceleration of an object is equal to the net force acting on it divided by the object's mass (a = f/m).