Physical Science Unit 4 - Forces and Motion

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1.	**Acceleration**	The rate at which velocity changes
2.	**Action Force**	The initial push or pull of one object on another object
3.	**Average Speed**	The total distance traveled divided by the time it takes to travel that distance
4.	**Balanced Forces**	Equal forces acting on an object in opposite directions
5.	**Centripetal Force**	A force that continuously changes the direction of an object to make it move in a circle
6.	**Constant Acceleration**	A steady change in velocity
7.	**Displacement**	The direction from the starting point and the length of a straight line from the starting point to the ending point.
8.	**Distance**	The length of a path between two points
9.	**Fluid**	A substance or a mixture that flows and has no shape of its own; can be a liquid or a gas
10.	**Fluid Friction**	A friction force that opposes the motion of an object through a fluid
11.	**Force**	A push or pull that acts on an object
12.	**Frame of Reference**	A system of objects that are not moving with respect to one another
13.	**Free Fall**	The movement of an object toward Earth because of gravity
14.	**Friction**	A force that opposes the motion of objects that touch as they move past each other
15.	**Gravitational Force**	An attractive force that acts between any two objects
16.	**Gravity**	The attraction between any two objects because of their masses
17.	**Inertia**	The tendency of an object to resist a change in motion
18.	**Instantaneous Acceleration**	The change in velocity of an object at an instant of time
19.	**Instantaneous Speed**	The rate at which an object is moving at a given moment in time
20.	**Law of Conservation of Momentum**	If no net force acts on a system, then the total momentum of the system does not change
21.	**Law of Inertia**	Another name for Newton's First Law
22.	**Linear Graph**	A line graph in which the data points yield a straight line
23.	**Momentum**	The product of an object's mass and its velocity
24.	**Motion**	The state in which one object's distance from another is changing
25.	**Net Force**	The overall force on an object when all the individual forces acting on it are added together
26.	**Newton's First Law of Motion**	An object in motion will remain in motion and an object at rest will remain at rest unless acted upon by another force
27.	**Newton's Second Law of Motion**	The acceleration of an object depends on the mass of the object and the amount of force applied (F = ma)
28.	**Newton's Third Law of Motion**	For every action force there is an equal and opposite reaction force
29.	**Nonlinear Graph**	A line graph in which the data points do not fall along a straight line
30.	**Projectile Motion**	The curved path of an object in free fall after it is given an initial forward velocity
31.	**Reaction Force**	The push or pull of a second object back on the object that started the push or pull
32.	**Relative Motion**	Movement in relation to a frame of reference
33.	**Rolling Friction**	A friction force that acts on rolling objects, caused by change in shape at the point of rolling contact
34.	**Scalar Quantity**	A physical measurement that does not contain directional information
35.	**Sliding Friction**	A friction force that opposes the motion of an object as it slides over a surface
36.	**Speed**	The ratio of the distance an object moves to the amount of time the object moves
37.	**Static Friction**	A friction force that acts on objects that are not moving
38.	**Strong Nuclear Force**	The powerful attractive force that binds protons and neutrons together in the nucleus
39.	**Terminal Velocity**	The constant velocity of a falling object when the force of air resistance equals the force of gravity
40.	**Unbalanced Forces**	Forces that produce a nonzero net force, which changes an object's motion
41.	**Vector**	A quantity that has magnitude and direction
42.	**Vector Addition**	Adding or combining quantities that have magnitude and direction; shows the overall magnitude and direction.

43.	**Velocity**	The speed and direction an object is moving, measured relative to a reference point
44.	**Weak Nuclear Force**	A powerful attractive force that acts over a short range
45.	**Weight**	The force of gravity acting on an object