Name	Date	Physical Science Period
	Chapter 11 & 12 Study Guide: Motion &	Forces Answer Key
Chapter 11: Motio		

- acceleration):
 - a. Distance: The length between two objects or the length of the path traveled.
 - b. Speed: distance traveled by the time it took to travel. speed = distance/time
 - c. Velocity: distance traveled by the time it took to travel and the direction that you traveled in. velocity = distance/time
 - d. Acceleration: change in velocity or velocity over time. acceleration = personity rimal-velocity animal
- What is the speed of an object at rest? 0 m/s
- The difference between speed and velocity is that velocity includes direction.
- The SI unit for distance is meter (m).
- The SI unit for speed or velocity is meter per second (m/s).
- The SI unit for acceleration is meter per second squared (m/s²).
- On a distance-time graph, what does the slope tell you? Speed or Velocity.
- 8. On a speed-time graph, what does the slope tell you? Acceleration

Chapter 12: Forces

- Describe (what does it say and what is it commonly called)
 - a. Newton's First law of Motion: Also known as "Law of Inertia". Object in motion stays in motion and an object at rest stays at rest UNLESS acted upon by a NET FORCE.
 - b. Newton's Second law of Motion: F = m x a. Force equals the product of an object's mass and acceleration. (Acceleration is equal to the force and inversely proportional to mass)
 - c. Newton's Third law of Motion: Also known as "Action/Reaction Law". For every action there is an equal and opposite reaction.
- Give an example for each of Newton's laws.
 - a. Newton's First law of Motion: boulder won't move unless something pushes on it, and the moon won't stop rotating unless a force acts on it.
 - Newton's Second law of Motion it takes more force to accelerate a school bus than a toy car.
 - c. Newton's Third law of Motion: my foot pushed on the ball (action force), the ball pushes back (reaction force) and fly's forward (resulting net force). OR when you sit in the desk you push down on the desk and the desk pushes on you but they are balanced so there is NO CHANGE in motion.
- 1.1

Definition	Example
 a. Friction: force that opposes motion. b. Static Friction: friction that prevents object from moving. c. Sliding Friction: friction that occurs between objects sliding past each other. 	a. Friction: beat when rubbing hands together. b. Static Friction: pushing against a dresser that won't move. c. Sliding Friction: going down a slide;
 d. Rolling Friction: friction that occurs between object rolling against another object. e. Fluid Friction: friction that occurs in a fluid (Examples of Fluid: water, quicksand, air.) 	dresser sliding across the floor. d. Rolling Friction: roller skates on pavement; car driving on the road e. Fluid Friction: falling leaves; fish swimming in water

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JL Elias

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