

Science 8 Motion Test Outline

Name: _____

Part A – Matching (Must know the following definitions)

Direction – is the path an object moves.

Distance- space between objects

Time – is the duration between events.

Motion – is when an object moves from place to place

Force – is a push or a pull

Pull- movement of an object toward you.

Push- the movement of an object away from you.

Inertia- property to do nothing (stay unchanged)

Friction – resistance to motion.

Speed – amount of distance an object travels in a set time

Velocity- speed with a direction

Gravity – invisible force that pulls objects to the center of the earth.

Acceleration- rate at which velocity changes

Part 2- Short Response

- 1) Know the difference between contact & noncontact force with 1 example for each.

Contact force – requires direct touching. Ex) Friction

Noncontact Force – requires no touching. Ex) Gravity & Magnetism

- 2) Given an example of a hypothesis, theory & law be able to label them (Apply knowledge)

Hypothesis is an educated guess that can be tested. Written in a “If.....Then...” statement.

Theory is a belief based on observations but hasn't been proven to be 100% true Ex) Big Bang

Law – Proven to be true through observations Ex) communitive law in math $a + b = b + a$

- 3) What happens to gravity if mass changes?

An object with a larger mass has more gravity.

- 4) How does distance between objects affect gravity?

If you increase the distance between objects increase, then gravity force decreases.

- 5) If you increase mass, then what happens to acceleration? Increase in mass causes acceleration to decrease.

6) If you decrease mass, then what happens to acceleration? Decrease in mass causes acceleration to increase.

7) Given an example of a scenario can you determine which of Newton's laws are being illustrated

- a. Soccer ball being kicked will continue to roll (only stops because of friction or net) -1st
- b. Object(ball on table) will stay still unless someone moves it - 1st
- c. Deals with force & acceleration -2nd
 - i. If you hit a ball with more force it will travel farther
- d. When you jump off a boat onto dock and the boat moves away from you - 3rd
- e. If you let go of a balloon and it pushes up as air blows out – 3rd
- f. If you one ball bumps into another ball on a pool table and it moves it – 3rd