

Name: \_\_\_\_\_ Science-8, Period \_\_\_\_ Date: \_\_\_\_\_

## **MOTION AND FORCES TEST REVIEW!!**

***Write all answers on your own paper!!***

1. Explain how a parachute slows the rate of a skydivers fall.
2. If a bowling ball and a marble are pushed with the same force, which one will move faster? Why?
3. Describe balanced and unbalanced forces.
4. Define acceleration.
5. Can an object be in motion and not be accelerating? Explain your answer.
6. What is the mass of an object that is accelerated at a rate of  $10 \text{ m/s}^2$  with a force of  $30\text{N}$ ?
7. Draw a distance/time graph that shows an object traveling at a constant speed. How would you know if the object changed speeds?
8. Define velocity. How is velocity different than speed?
9. Define and explain each of Newton's 3 laws.
10. Describe 3 action-reaction pairs that demonstrate Newton's 3<sup>rd</sup> law.
11. Draw a distance-time graph showing an object traveling at a constant speed and then stopping after 2 min.
12. Suppose you are riding on your bike at  $10 \text{ km/hr}$  when you hit a wall. Describe your motion at the moment of impact using Newton's laws.
13. What is the relationship between mass, force and acceleration?
14. How will an object's mass affect its possible acceleration?
15. What force most resists motion?
16. What is the force that a  $10 \text{ kg}$  book exerts on your desk? [Note: Acceleration due to gravity =  $9.8 \text{ m/s}^2$ ]
17. You are driving north on I35E to Oklahoma City at a speed of  $80 \text{ km/hr}$ . It takes you 4 hours to get there. How far is it from here to Oklahoma City?

### NOTES:

- Know the differences between speed, velocity, distance and displacement.
- Be able to interpret a displacement-time graph (like your quiz).
- Be able to calculate speed, velocity and acceleration.
- Know Newton's 3 laws and how they apply to everyday situations.