**Scientist\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**NEWTON’S LAWS REVIEW**

1. A force is a: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Units are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Inertia is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 -It depends on how much mass is in an object.

3. Net force is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Does your mass change if you go to the moon? Does your weight change? Explain.

5. Calculate the weight of a 0.5 kg flower pot sitting on a table.

6. Draw and find the net force of a rope if Ashley is pulling with 16 N to the right, and Chris is pulling with 14 N to the left.

7. Rewrite Newton’s Second Law to solve for acceleration, then for mass.

8. A 10 Newton force to the right and a 15 Newton force to the left are acting on a single point. What additional force must be added to be in equilibrium?

Use inertia and Newton’s First Law to explain each scenario:

9.An astronaut throws an object in outer space. What will happen to the rock *after* it leaves the astronaut’s hand? Why?

10. What does it mean if an object is in static equilibrium? Dynamic Equilibrium?

11. If you are playing hockey, why does the puck move across the ice after you already hit it?

12. If you are driving in a car, and the driver makes a sharp left turn, why does your body get pushed to the right?

13. I have a 1 N rock on earth, and an alien has a 1 N rock on the moon, since the moon has less gravity, which rock is bigger?

14.Determine the acceleration of a skateboard if a physics student applies a 12.5 N force and the board has a mass of 2.5 kg.

15. How much force are you putting on a pencil if it has a mass of .1kg and it accelerates at 2 m/s2?