Science 8 Name: _____

Newton's 2nd Law of Motion Date: _____

Newton's 2nd Law of Motion

1. Write the word equation for Newton's 2nd Law of Motion:

2. Write the symbol equation for Newton's 2nd Law of Motion:

3. Write the correct units for:

   mass: _____

   acceleration: _____

   force: _____

4. What three quantities are related in Newton's 2nd Law of Motion? _____

   How are force and mass related? _____

   How are force and acceleration related? _____

   How are mass and acceleration related? _____

5. If the net force on an object increases, how does the acceleration change? _____

6. If the net force on an object is doubled, how must the mass change to keep the acceleration the same?

   _____

   _____

7. What is the acceleration due to gravity near the surface of Earth if a 100 kg rock has a weight (force) of 981 newtons? Remember to show the shopping list, the equation used, the substitutions and cancellation with units, and the final answer.

8. Objects dropped near the surface of the earth experience an acceleration of 9.81 m/s^2. What force will be required to hold a 37 kg rock steady? Remember to show the shopping list, the equation used, the substitutions and cancellation with units, and the final answer.