The acceleration of an object is directly proportional to the net force and is inversely proportional to the mass of the object. The acceleration and net force always act in the same direction.

- When Fnet increases, the acceleration will also increase
- When the mass of the object increases, the acceleration will decrease
    - This makes logical sense because heavier objects tend to take more force to increase their speed
- If you double the force, the acceleration will also increase two-fold
- If you triple the mass, the acceleration will decrease by a factor of ⅓

Example 1

Increase the force by a factor of four
Increase the mass by a factor of two
A = Fnet/m
A = 4/2 = 2