

## Newton's Second Law of Motion ( $F=ma$ ) | GCSE Physics | Doodle Science

<https://www.youtube.com/watch?v=M6il5T3Yzbo>



1. Listen and fill in the blanks with appropriate words or tick the right answer.

An object will ..... in the direction of the result of .....

The bigger the force, the ..... the acceleration by doubling the ..... of the force, it ..... the acceleration.

Also a force acting on a large ..... will accelerate ..... than the same force acting on a ..... mass. By doubling the mass of the object, it ..... its acceleration.

The relationship between these ..... can be shown by the ..... :

$$F \dots\dots\dots m \dots\dots\dots a$$

Where  $F$  is the resultant force in .....,  $m$  is the mass in ..... and  $a$  is the acceleration of the object in ..... per second squared.

For example, if a car has a mass of ..... kilograms and the driver pushes the car with an acceleration of ..... meters per second squared, the force applied was ..... newtons.

You can also use the formula to ..... the acceleration and the mass.

And to leave you with a cool fact, a newton is approximately the weight of an ..... .

2. Using the second law, calculate the acceleration of an apple whose mass is about 100 g. Explain, in English, how you find the result.