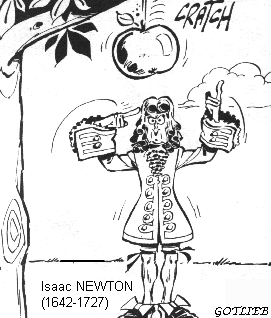
**Teacher’s Sheet**

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

https://www.youtube.com/watch?v=M6iI5T3Yzbo



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

The bigger the force, the greater the acceleration by doubling the size of the force, it doubles the acceleration.

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

The relationship between these variables can be shown by the equation : F equal m time a, where F is the resultant force in newton, m is the mass in kilograms and a is the acceleration of the object in meters per second squared.

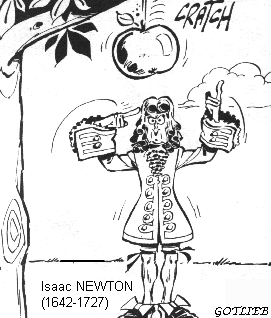
For example, if a car has a car of seven hundreds kilograms and the driver pushes the car with an acceleration of zero point zero five meters per second squared, the force applied was thirty five newtons.

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

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

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1. *Listen and fill in the blanks with appropriate words or tick the right answe*r.

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 ………………… m ………………… 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 car 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.*