

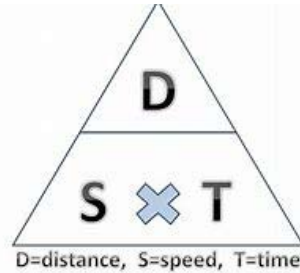
Y7 - Knowledge organiser – 7.4 – Speed & Gravity

Describing Speed 1

- If the force on an object is not zero, its motion will change.
- **Speed**: how much distance is covered in how much time.
- **Acceleration**: how quickly speed increases or decreases.

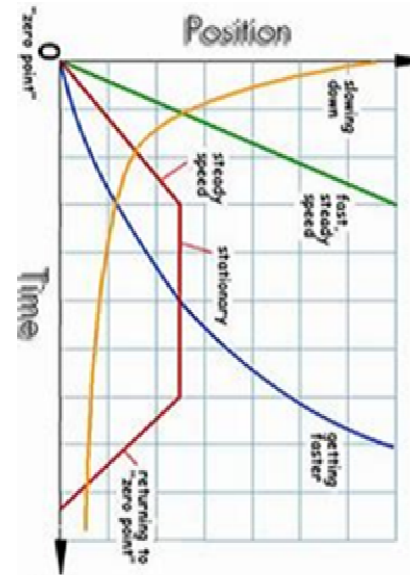
Calculating Speed 2

- Speed is measured in m/s



- Distance is measured in metres
- Time is measured in seconds

Distance-time Graphs 3



Relative motion 4

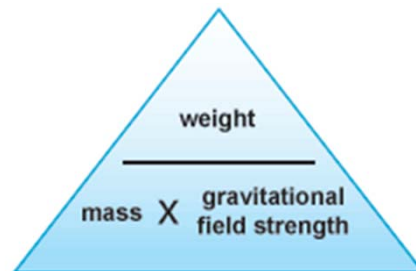
- Different observers judge speeds differently if they are in motion too.
- For example, you will not measure the speed of a car travelling towards you at 10m/s as 10m/s if you are moving too.

Mass & Weight 5

- **Weight**: the force of gravity on an object.
- **Mass**: how much 'stuff' an object is made from.
- Weight can change depending on the **gravitational field strength**.

Mass & Weight Equation 6

- Weight is measured in **Newton**, N
- Mass is measured in Kg
- Gravitational field strength is measured in N/kg



Gravitational Fields 7

- The area around an object in which the force of **gravity** can be felt.
- Depends on the mass of the object and the distance away from it.
- Is equal to **10N/kg on Earth**
- Gravity holds planets and moons in orbit.

Other Forces 8

Non-contact forces: attract or repel, even from a distance



magnetic force



electric force



gravitational force

Knowledge organiser quiz

1. What is speed?
2. What is it called when speed is increasing?
3. What is the equation for speed?
4. What is distance measured in?
5. What are the units of speed?
6. What does a straight line mean on a distance time graph?
7. What do curved lines show on a speed time graph?
8. What do flat lines show on a speed time graph?
9. What happens to an object if there is no force on it?
10. If an object travels 10m in 2 seconds what speed is it going?

Answers

1. A measure of how much distance is covered in how much time.
2. Acceleration
3. $S=d \div t$
4. M
5. m/s
6. The object is travelling at a constant speed
7. An object accelerating
8. An object is stationary
9. It doesn't move
10. 5m/s

KO Quiz 1

1. Draw and animal cell and label it.
2. Are you multicellular or unicellular?
3. Name one organelle a plant has that you do not.
4. What does the cytoplasm do?
5. What are the three states of matter?
6. What is density?
7. Define solvent.
8. Define solution.
9. What unit do we measure speed in?
10. Write down the triangle for calculating speed.

KO Quiz 2

1. What is density?
2. Define solvent.
3. Define solution.
4. What unit do we measure speed in?
5. Write down the triangle for calculating speed.
6. What is relative motion?
7. What does a flat line tell you on a distance time graph?
8. Name two separation techniques?
9. How would you separate inks?
10. Name the three organelles that are in plant cells but not animal cells.