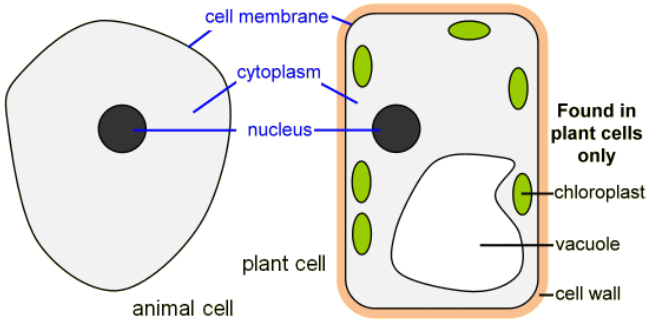
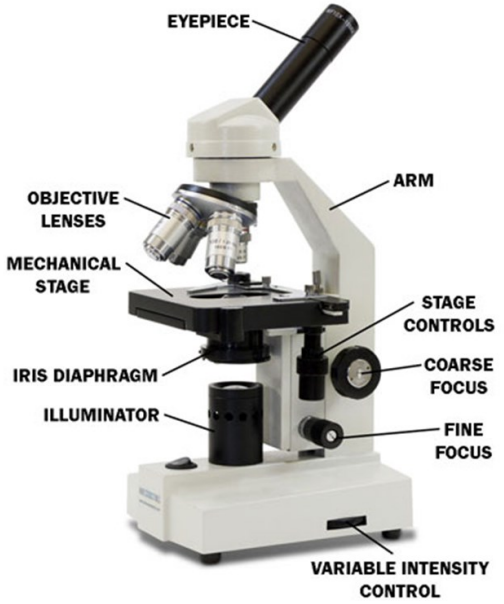
Year 7 Mastery — Building Blocks (part 1)

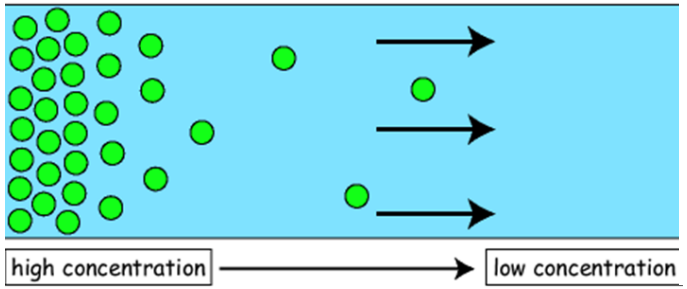
PRIDE THROUGH SUCCESS

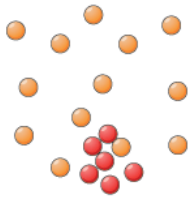
Microscope	An instrument used for viewing very small objects, such as animal or plant cells, typically magnified several hundred times.
Specimen	Is a sample of something that is going to be looked at.
Slide	A thin piece of glass where the specimen is mounted.
Magnification	The process of enlarging the size of something, as an optical image. The specimen does not change size.
Resolution	The smallest distance between two points that can be seen as two points and not blurred into one points.
Magnification calculation	Magnification= eyepiece lens x objective lens. For example an eyepiece lens of 10x and a objective lens of 50x would give a magnification of 500x.
Cell	the smallest structural and functional unit of an organism. The building blocks of life.
Nucleus	Contains genetic material, which controls the activities of the cell
Cell membrane	Controls the movement of substances into and out of the cell.
Cytoplasm	Most chemical processes take place here, controlled by enzymes
Mitochondria	Most energy is released by respiration here
Vacuole	Filled with cell sap to help keep the cell turgid
Cell wall	Strengthens the cell
Chloroplast	Contain chlorophyll, which absorbs light energy for photosynthesis
Photosynthesis	Plants make food using photosynthesis. This needs light, carbon dioxide and water. It produces glucose, and oxygen as a by-product .
Concentration	The measure of the amount of substance contained per unit of volume. If there is lots of salt in a small amount of water we can say it is very concentrated.
Diffusion	Diffusion is the movement of a substance from a region of higher concentration to a region of lower concentration



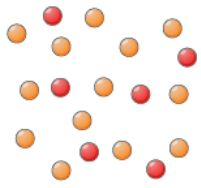


This is the process of diffusion.





Before diffusion



After diffusion

Cells bbc bitesize

Quizlet

Strengthen understanding If you can answer these question you have Mastered the LO.	PQ - Extend understanding If you can answer these you have exceeded the LO.
1.1 I can use a light microscope to view specimens.	
1. What is the slide mounted on? 2. What illuminates the specimen? 3. Which lens does one look through?	4. Which part of the microscope is used for focussing? 5. How is magnification changed on a microscope? 6. What part of the microscope connects the lenses to the stage?
1.2 I can calculate magnification.	
1. Recall the magnification equation. 2. If there is a 10x eyepiece lens and a 30x objective lens what will the magnification be? 3. If the is a 5x eyepiece lens and a 40x objective lens what will the magnification be?	4. If the total magnification is 100x and the objective lens is 50x what must the eyepiece lens be? 5. With an eyepiece lens of 20x and an overall magnification of 600x what must the objective lens magnification be?
1.3 I can recognise a cell. 1.4 I can recall the structure of an animal cell.	
1. Which organelle contains the DNA? 2. Where is energy produced in the cell? 3. What surrounds the cell?	4. What is the function of the cell membrane? 5. What is the purpose of DNA? 6. Which is the most important organelle?
1.5 I can recall the structure of a plant cell.	
1. Which organelle is responsible for photosynthesis? 2. Where is DNA held? 3. What surrounds the cell membrane?	4. What is photosynthesis? 5. Why would there be more chloroplasts in the leaf than the stem? 6. What is the function of the cell wall?
1.6 I can describe diffusion as the movement of particles from high to low concentration. 1.7 I can explain, with examples, why diffusion happens.	
1. Give an example of when diffusion takes place. 2. If deodorant was sprayed in a room where would smell it last?	3. Which organ is reliant on diffusion? 4. How could the rate of diffusion be increased?