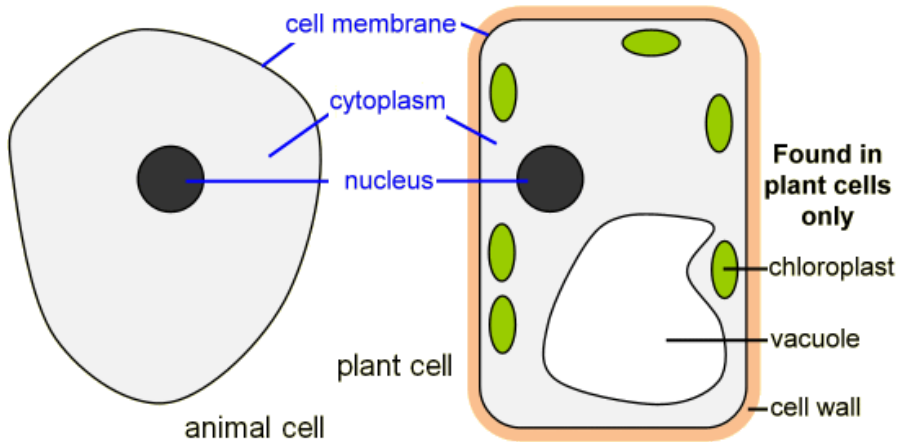


Topic 1 Biology Year 7

Knowledge organiser

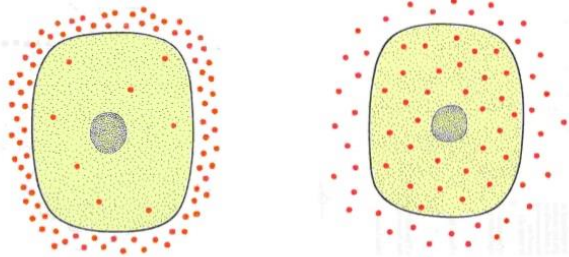


Key word	Definition
Cell	Smallest unit of a living thing
Gamete	Sperm or egg cell
Tissue	A group of cells all doing the same job
Organ	Any part of an animal or plant that has a specific job
Diffusion	Movement of a substance from a high to a low concentration
Fertilisation	Fusion of a sperm and an egg cell
Ovary	Female organ where eggs are released from
Testes/Testicles	Male organ where sperm are produced
Amnion	A bag of liquid that protects a growing foetus
Placenta	Attached to the uterus wall and takes oxygen and food from the mothers blood
Umbilical Cord	Carries oxygen and food between the placenta and the foetus.

Diffusion of oxygen into a cell

The concentration of oxygen molecules is greater outside the cell than inside

So the oxygen molecules diffuse into the cell



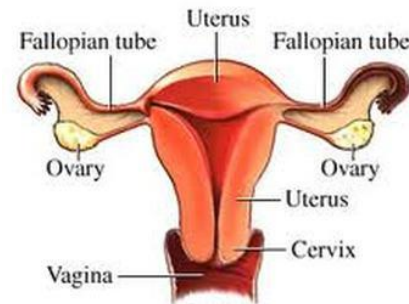
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Fertilisation can occur internally (mammals)

or outside of the female's body (fish)

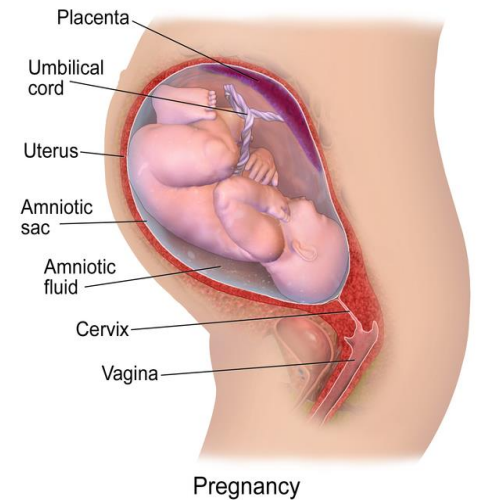
Female Reproductive System



Male Reproductive system



Pregnancy The fertilised egg develops into an embryo and then a foetus. It is protected by the amniotic fluid and obtains food from the mother's blood via the placenta. Pregnancy lasts 9 months and then the muscles of the uterus push the baby out through the vagina.



Respiration

Release of energy in cells



Energy

Key Questions

1. What are the 3 key differences between animal and plant cells?
2. What is the job of the nucleus?
3. What is the job of the cell wall?
4. What is the job of chloroplasts?
5. Which specialised cell doesn't have a nucleus?
6. Why does oxygen move into cells?
7. What is the difference between internal and external fertilisation?
8. Why do fish produce lots of eggs whereas humans only produce 1?
9. What are the 2 sex cells/gametes in animals?
10. Where are sperm cells made?
11. Where are the egg cells made?
12. Where does fertilisation take place in humans?
13. How does a foetus obtain oxygen and nutrients?
14. What is respiration?

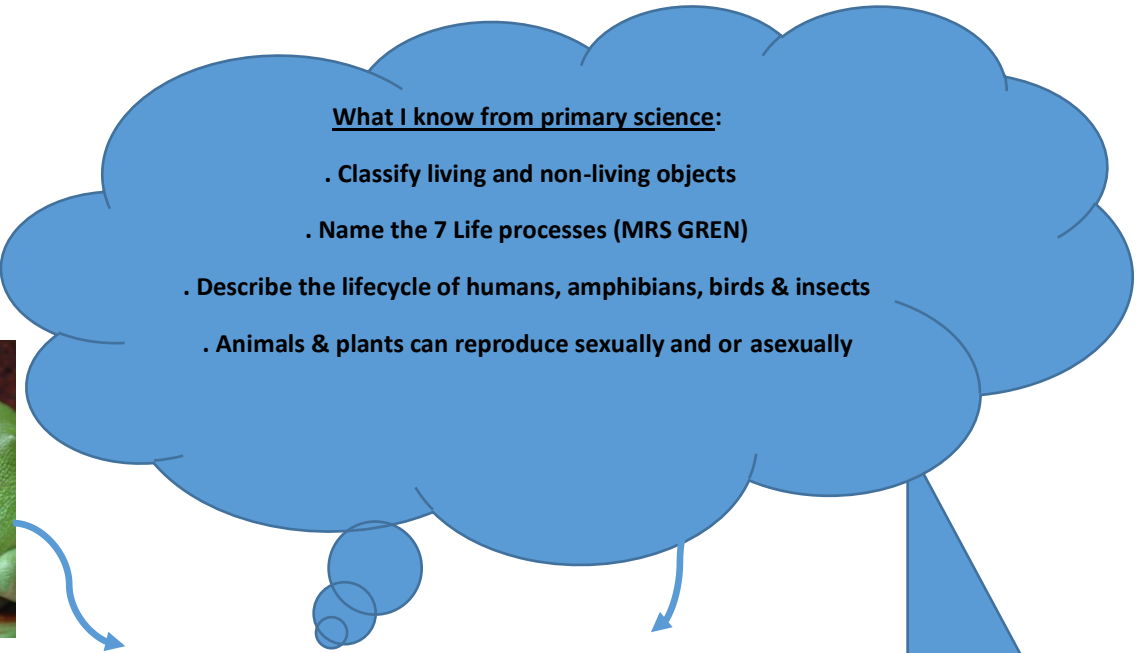
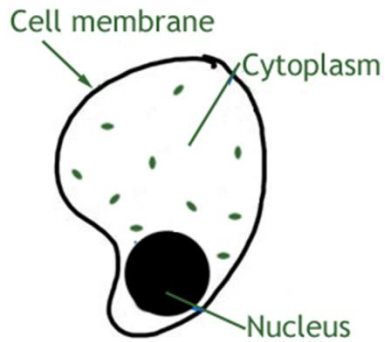
Key Questions

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Answers

Plant cells have a cell wall, vacuole and chloroplasts but animal cells don't
To control the cell/to store genetic information.
Support
Carry out photosynthesis
Red blood cells
Due to diffusion because there is more oxygen outside the cells than inside.
Internal is inside the body whereas external is outside the body
Fish lay eggs in water and they can get washed away or eaten by predators
Sperm and egg cells
Testes
Ovaries
Oviducts
Through the placenta
Release of energy in cells

Unit 1: Cells & Reproduction



Know that animals & plants are made of cells.
 Be able to safely use a microscope to view cells
 Be able to Label the parts of animal & plant cells

Know that cells obtain oxygen and nutrients by diffusion
 Cells divide for animals & plants to grow
 Cells make up the tissues, organs and systems of the body

Cells release energy using respiration.
 The energy is used for growth & movement

Sexual reproduction in animals
 Label the parts of the human male & female reproductive systems.
 Describe features of internal & external fertilisation

Describe the female menstrual cycle.
 Describe pregnancy & birth in humans

Future Learning

- Structure of prokaryotic cells
- Osmosis & Active transport in cells
- Stem cells & meiosis
- Anaerobic respiration
- Hormonal control of the menstrual cycle & IVF

Vocabulary:

Cell, nucleus, cell membrane, cytoplasm, cell wall, vacuole, chloroplast, diffusion, mitosis, tissue, organ, respiration, uterus, ovary, testes, penis, sperm, egg, gametes, fertilisation, embryo, placenta, umbilical cord,

