Year 7 Science: Term 3

Atoms, Elements, Compounds and Reproduction

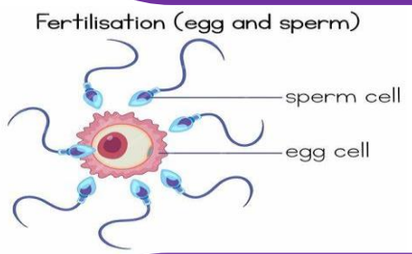
Week 1

Big Picture: Reproduction

Two process, are needed in sexual reproduction . During this process the nuclei of the male and female. Gametes are fused in order to create a zygote.

Sexual Reproduction happens in both plants and animals. The gametes sex cells in animals are sperm and eggs in plants are pollen and ova. Two parents means there will be variation.

Asexual reproduction only needs one parent and makes and identical copy with no variation.



Week 2

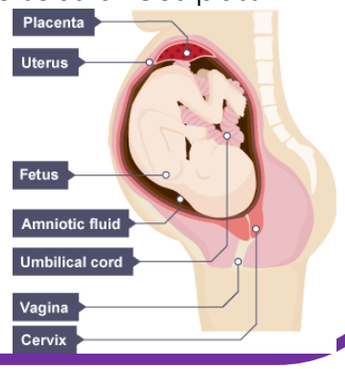
Big Picture: Reproduction

Human Pregnancy lasts for 40 weeks. This process is where the fertilised egg becomes and embryo, then a foetus.

Placenta- Organ where substances pass between the mother and foetus

Umbilical cord this connects the foetus to the placenta.

Amniotic fluid acts as a shock absorber



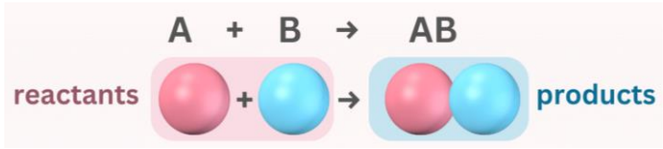
Week 3

Big Picture: Reproduction

Seed dispersal is the transport of seeds from the plant to another area to grow. Seeds need to be transported away from the plant that produced them to have the best chance of growing. There are several ways in which seeds can be dispersed:

Animals
Explosion
Wind
Water

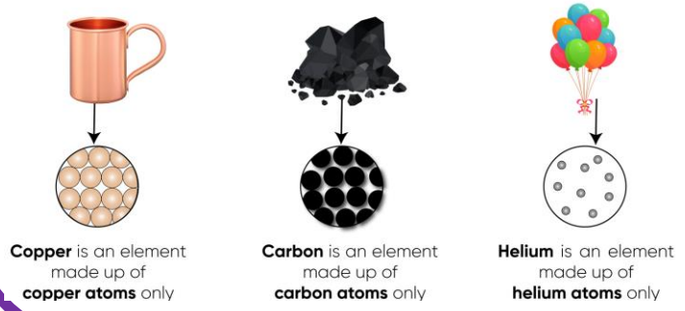
When the pollen reaches another flower, it fertilises the egg cells to make seeds. These seeds are scattered by animals or the wind



Week 4

Big Picture: Atoms, Elements and Compounds

An element is a pure substance that cannot be broken down into any other substances. An element is made from just one type of atom. There are over 100 different types of elements. These are on the periodic table.

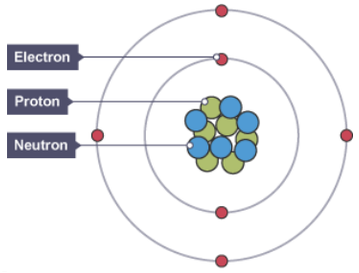


Week 5

Big Picture: Atoms, Elements and Compounds

An atom has a central nucleus containing protons and neutrons. This is surrounded by electrons arranged in shells.

Protons have a positive charge. Neutrons have no charge and electrons have a negative charge



Protons have a mass of 1
Neutrons have a mass of 1
Electrons have a mass of very small

Key words:

Asexual Reproduction – When an organism makes an identical copy of itself

Gametes – The male and female sex cell which fuse during fertilization

Hormone – Chemical substances which act as messengers carried in the blood.

Atoms – The Smallest Particle of an atom which can exist

Flammable – Will set on fire easily

Molecule - A small group of non-metal atoms chemically joined together

Year 7 Science: Term 3 Reproduction and Chemical Reactions

Week 1

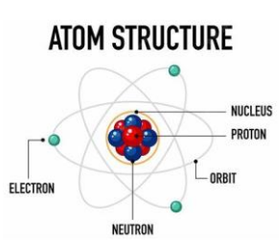
Questions	Answers
Define the word gamete	Gametes are the sex cells used in sexual reproduction.
Name the plant gametes	The plant gametes are called pollen and ova
How many parents are needed?	2 parents for sexual reproduction and 1 for asexual reproduction.
Name the animal gametes	The animal gametes are called sperm and egg
What is benefit of variation?	Variation means that species can adapt.

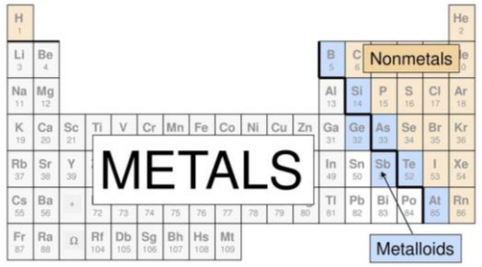
Week 2

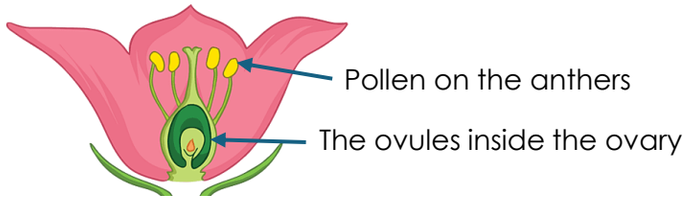
Questions	Answers
How long does human pregneancy last?	40 weeks
What is the role of the placent?	To pass substances between the mother and foetus and to stop infections going from mother to feotus.
How is the foetus protected from shocks?	The amniotic fluid protects from shocks.
What is the role of the umblical cord?	The umbilical cord connects the feotus to the placenta.
Give some useful substances the feotus need?	Nutrients and oxygen

Week 3

Questions	Answers
Why do flowers have petals?	To attract insect pollintators
Where is pollen made?	The anther produces pollen, the male sex cells in plants
State 3 ways pollen can be transferred between plants.	Insects like bees The wind Other animals
What is nectar?	A sweet sugary fluid in the flower, bees use this to make honey
What is the function of the stigma?	It is sticky to 'catch' grains of pollen







Week 4

Questions	Answers
What is the difference between an element and a compound?	In an element all the atoms are the same. In a compound there are different elements joined together.
Where do you find all the elements?	All the elements are found in the periodic table
How do you know something is a mixture	You can separate it
What states of matter are elements?	Elements can be solids, liquids and gases
Are all elements the same size	No different elements are different sizes.

Week 5

Questions	Answers
Name 3 elements in a smartphone	Gold used in SIM cards Lithium used in batteries Indium used in touch screens
What are the chemical symbols of hydrogen, aluminium, magnesium and sodium?	H, Al, Mg, Na
What's the charge of a proton	Positive
What's the charge of a neutron	No charge
Where do you find negative electrons?	Orbiting the nucleus in shells

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