

AQA GCSE COMBINED SCIENCE - BIOLOGY

Year 11 – Autumn Term

CONTENT:

B13 - Reproduction

In this section we will discover how the number of chromosomes are halved during meiosis and then combined with new genes from the sexual partner to produce unique offspring. Gene mutations occur continuously and on rare occasions can affect the functioning of the animal or plant. These mutations may be damaging and lead to a number of genetic disorders or death. Very rarely a new mutation can be beneficial and consequently, lead to increased fitness in the individual. Variation generated by mutations and sexual reproduction is the basis for natural selection; this is how species evolve.

13.1 Types of reproduction; 13.2 Cell division in sexual reproduction; 13.4 DNA and the genome; 13.7 Inheritance; 13.8 More about genetics; 13.9 inherited disorders; 13.10 Screening for inherited disorders;

B14 Variation and Evolution

An understanding of these processes has allowed scientists to intervene through selective breeding to produce livestock with favoured characteristics. Once new varieties of plants or animals have been produced it is possible to clone individuals to produce larger numbers of identical individuals all carrying the favourable characteristic. Scientists have now discovered how to take genes from one species and introduce them in to the genome of another by a process called genetic engineering. In spite of the huge potential benefits that this technology can offer, genetic modification still remains highly controversial.

14.1 Variation; 14.2 Evolution by natural selection; 14.3 Selective breeding; 14.4 Genetic engineering; 14.7 Ethics of genetic technologies;

Recommended online resources:

Kerboodle- Digital Textbook – w:kerboodle.com u:initialsurname
p:initialsurname inst.code:yh7 – the individual lesson breakdown is here.

BBC Bitesize: KS4 Science AQA – then find the relevant topics

YOUTUBE: 'GCSESCIENCELESSONS' then search for the topic of interest

Oak National Academy: Lessons available linked to above topics.

Google Classroom: class code details will be released using Class Charts