



Living 'Links' to the Scottish Curriculum

Lesson : Chimpanzee and Human Chromosomes

Higher Biology - UNIT 2 – Genetics and Adaptation

Content

a) Variation

1. Meiosis and the dihybrid cross.
 - (i) Sexual reproduction as a means of enabling genetic variation to be maintained in the population and its importance in long-term evolutionary change.

3. Mutation.
 - (i) Characteristics of mutant alleles, to include random occurrence and low frequency.

 - (v) Change in the structure of one chromosome (duplication, translocation, deletion, inversion).

 - (vi) Alteration of base type or sequence (substitution, insertion, deletion, inversion).

Revised Higher Biology

Content

1 The structure and replication of DNA

- (a) DNA
 - (i) Structure of DNA

3 Genome

- (a) The structure of the genome
- (b) Mutation
 - (i) Point mutations: nucleotide substitution, insertion and deletion

 - (ii) Chromosome structure mutations



Higher Human Biology – Unit 1 – Cell Function and Inheritance

Content

f) Inheritance

1. Chromosomes as vehicles of inheritance.
 - (i) Genes as regions of chromosomal DNA.
 - (ii) DNA replication, its importance, and its relationship to nuclear division.
 - (iii) The normal chromosome complement, homologous pairs, autosomes and sex chromosomes.

3. Mutations and chromosome abnormalities
 - (i) Alteration of base type or sequence.

Revised Higher Human Biology

Content

2. Structure and function of DNA

- (a) Structure and replication of DNA
 - (i) Structure of DNA
 - (ii) Arrangement of DNA in chromosomes

- c) Genes and proteins in health and disease
 - (ii) Mutations and genetic disorders. Single gene mutations (point mutations/DNA sequence variations)

Revised Advanced Higher Biology – Unit 2 - Organisms & Evolution

Content

2. Organisms

- (a) Evolution
 - (ii) Rate of evolution