LEARNING JOURNEY

Biology

3.7.1 Inheritance to 3.7.3 Populations and Evolution

This module revisits topics concepts previously studied in GCSE such as genetic crosses. You will build on these topics greatly by developing your ability to predict the genotype of more complicated dihybrid crosses.

This module will introduce the use statistics to calculate the ratio of alleles within a population and predict how these may change over time due to selection pressures.

Inheritance

Genetic terms
You will learn how there are several versions of genes called alleles which determine our characteristics

Monohybrid crosses
You will learn how to use genetic diagrams to predict the results of crosses involving recessive, dominant and codominant alleles

Dihybrid Crosses
You will learn how to use genetic diagrams to predict the results of crosses involving multiple alleles

Linkage
You will learn how to use genetic diagrams to predict the results of sex-linkage or autosomal linkage

Epistasis
You will learn how to fully label genetic diagrams to predict the results of crosses involving epistasis

Chi squared
You will learn how to use the chi-squared test to compare observed phenotypic ratios with expected ratios

VOCABULARY

Genotype
Phenotype
Allele
Gene
dominant
Codominant
recessive
Locus
Homozygous
Heterozygous
Haploid
diploid
sex-linkage
Autosomal linkage
epistasis

Populations and evolution

Hardy-Weinberg
You will learn that species exist as more than one population and how to calculate the frequency of alleles in those populations

Variation and structure
You will learn how genetic and environmental factors can genotype and phenotype

Speciation and genetic drift
You will learn how a separation of two populations can lead to an accumulation of differences in the gene pool