

LEARNING JOURNEY

Biology

3.8.1 and 3.8.2 Mutations and gene expression

Mutations

Mutations

You will learn how mutations can occur during DNA replication and how this could effect the final polypeptide

Mutagenic agents

You will learn how mutations happen randomly but the rate of mutation can be increased by certain agents



Cancer and data skills

You will understand
how tumours
develop and learn
the characteristics of
benign and
malignant tumours

This module revisits topics concepts previously studied in Year 1 looking at how mutations cause changes to the DNA. You will build on these topics studied in GCSE by evaluating the ethics of using stem cells from different sources.

This module will introduce the develop your use of statistics to analyse the risk factors for developing cancer.

Stem cells in medicine

You will learn how stem cells can be used in medicine as well as evaluating the ethical considerations

Stem cells

You will learn the characteristics of the different stem cells

VOCABULARY

Mutation Methylation Risk factor Totipotent Pluripotent

Promotor Activator Repressor Epigenetic Phenotype

Gene expression

Controlling protein synthesis

You will learn how transcription can be stimulated or inhibited by certain factors that move into the nucleus

Epigenetics

You will learn how gene expression is controlled through epigenetics and how changes can be caused by the environment



Evaluating phenotypes

You will learn how to evaluate appropriate data for the relative influences of genetic and environmental factors on phenotypes.

