

Checklist

What you should know

After studying this subtopic you should be able to:

- Explain that gene mutations are structural changes to genes at the molecular level.
- Outline the consequences of base substitutions.
- Outline the consequences of insertions and deletions.
- Recall that gene mutations can be caused by mutagens and by errors in DNA replication or repair.
- Explain that mutations can occur anywhere in the base sequences of a genome.
- Explain the effects of gene mutations occurring in germ cells and somatic cells.
- Recognise that gene mutation is the original source of all genetic variation.

Higher level (HL)

- Outline that gene knockout is a technique for investigating the function of a gene by changing it to make it inoperative.
- Explain the use of the CRISPR sequences and the enzyme Cas9 in gene editing.
- Describe the hypotheses for conserved or highly conserved sequences in genes.

