

Checklist

What you should know

After studying this subtopic you should be able to:

- Outline how new cells can be generated by cell division.
- Outline the process of cytokinesis in plant and animal cells.
- Explain that not all cells undergo equal cytoplasmic division.
- Outline the roles of mitosis and meiosis in eukaryotic cells.
- Describe the shared features of mitosis and meiosis.
- Describe the phases of mitosis.
- Identify the stages of mitosis from photomicrographs.
- Explain why meiosis is a reduction division.
- Describe the stages of meiosis.
- Describe the causes and consequences of non-disjunction.
- Explain how meiosis generates genetic diversity.

Higher level (HL)

- Outline the need for cell proliferation.
- Outline the phases of the cell cycle.
- Describe the changes that occur in a cell during interphase.
- Describe how cyclins control the cell cycle.
- Explain the possible consequences of mutations in genes that control the cell cycle.
- Calculate mitotic index and explain the difference in mitotic index between cancerous and non-cancerous tissue.

