

Foundation Separate version — Higher Tier (★) questions removed.

**Q1. Describe the cell cycle. Explain what happens at each stage.**

[4 marks]

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**Q2. Compare embryonic and adult stem cells. Evaluate the use of embryonic stem cells in medicine.**

[4 marks]

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**Total: 8 marks**

**Q1 (4 marks)**

*Describe the cell cycle. Explain what happens at each stage.*

- G1 (interphase): cell grows, new organelles made [1]
- S phase: DNA replicates [1]
- G2: cell checks DNA, prepares for division [1]
- M (mitosis): chromosomes separate; cytokinesis → 2 identical diploid daughter cells [1]

**Q2 (4 marks)**

*Compare embryonic and adult stem cells. Evaluate the use of embryonic stem cells in medici...*

- Embryonic: totipotent; adult: limited range [1]
- Embryonic: could treat many diseases by providing any cell type [1]
- Concern: destroying embryo raises ethical issues [1]
- Risks: immune rejection, possible tumour formation [1]