

KEY FACTS

- Stem cell: undifferentiated cell that can divide and differentiate into specialised types
- Embryonic stem cells: totipotent — can become ANY cell type
- Adult stem cells: limited range (e.g. bone marrow → blood cells only)
- Plant meristem cells (root/shoot tips) = plant equivalent of stem cells
- Medical uses: leukaemia (bone marrow transplant), potential for Parkinson's, diabetes
- Ethical concern: obtaining embryonic stem cells destroys a human embryo

KEY TERMS

Stem cell	Undifferentiated cell — can divide and become specialised cells
Totipotent	Able to differentiate into any cell type (embryonic stem cells)
Therapeutic cloning	Creating a cloned embryo to obtain matching stem cells for a patient

■ EXAM TIP: When evaluating stem cells: give BENEFITS (treat diseases) AND CONCERNS (embryo destruction, tumour risk). Both sides needed.