

KEY FACTS

- Cell cycle: G1 (growth) → S (DNA replication) → G2 (preparation) → M (mitosis)
- Mitosis: 2 identical diploid cells → growth, repair
- Embryonic stem cells: totipotent. Adult stem cells: limited range.
- Cancer: mutations in checkpoint genes → uncontrolled division

KEY TERMS

Totipotent	Can become any cell type — embryonic stem cells
Cell cycle	Sequence of growth, DNA replication and division
Checkpoint	Control point in cell cycle — mutations cause cancer

■ EXAM TIP: Embryonic SC = totipotent (any cell). Adult SC = limited range. Evaluate: benefits vs ethical concerns.