

4 The cell cycle and its control – Part 2 —Answers

Answers

Work through these after you have tried the questions yourself.

2.1 interphase (the cell grows and copies its DNA) and mitosis (the cell divides into two).

2.2 during the S phase of interphase, before division; this ensures each daughter cell receives a complete, identical copy of the DNA.

2.3 they check that conditions are right (e.g. DNA undamaged, chromosomes ready) before allowing the cell to continue, pausing the cycle if something is wrong.

2.4 if a checkpoint fails (often from a mutation), a cell can divide uncontrollably, and this uncontrolled division forms a tumour.

2.5 two daughter cells, and they are identical.