



QUESTION WORKBOOK

The cell cycle: growth, copying, and one division that changes nothing

Cell cycles, reproduction and development · Unit B06

AQA 3.2.2 · OCR A 2.1.6 · Edexcel A Topic 3.7–3.9 · CAIE 5.1, 5.2

5 questions · 17 marks

NAVY SCREEN EDITION

SECTION B · Standard, 3 to 5 marks

B1 Describe what happens to the chromosomes during each of the four stages of mitosis, in the order the stages occur. [4]

B2 Explain how a mutation in a tumour suppressor gene can lead to the formation of a tumour. [4]

B3 A cell from a mouse has 40 chromosomes. Explain why the cell still has 40 chromosomes at the end of G2, even though the quantity of DNA in it has doubled. [3]

- B4** A student counts 240 cells in a stained root tip squash and finds 36 of them are visibly in mitosis. Calculate the mitotic index, and give your answer as a proportion. [3]

- B5** A drug being tested as a cancer treatment binds to tubulin and prevents spindle fibres from forming. Suggest why this stops a tumour growing, and why the patient loses their hair. [3]