



QUESTION WORKBOOK

Cloning in plants and animals

Cell cycles, reproduction and development · Unit B06

OCR A 6.2.1 · Edexcel A 8.18 · Edexcel B 2.3 iii

15 questions · 51 marks

NAVY SCREEN EDITION

Every question in this book has a code beside its number.
Type inklearning.co.uk/q/ followed by the code to open that question online.
© 2026 Ink Learning Ltd. All rights reserved.
inklearning.co.uk/biology/ · youtube.com/@InkPhysics

SECTION A · Short, 1 to 2 marks

A1 CPAC-Q7 State two structures by which a plant reproduces asexually in nature, and name a plant that uses each one. [2]

A2 CPAC-Q15 State the species of the first mammal cloned from an adult cell using somatic cell nuclear transfer, and state the general trend in success rates for reproductive cloning since then. [2]

SECTION B · Standard, 3 to 5 marks

B1 CPAC-Q2 Describe how a large number of genetically identical plants can be produced from one parent plant by micropropagation. [5]

B2

CPAC-Q8

Discuss the commercial advantages and disadvantages of using micropropagation to produce a crop, compared with growing the same crop from seed. [5]

B3

CPAC-Q3

Describe how a cloned mammal is produced from an adult body cell by somatic cell nuclear transfer. [4]

B4

CPAC-Q4

One callus is divided into 8 pieces every 4 weeks, and each piece grows into a callus of the same size before the next division. Calculate the number of calluses present after 12 weeks. [3]

B5 CPAC-Q5 A field planted entirely with micropropagated potato plants is more likely to be lost to a new strain of a fungal pathogen than a field grown from seed. Explain why. [3]

B6 CPAC-Q6 A calf produced by nuclear transfer is not identical in every respect to the animal that donated the nucleus. Explain why. [3]

B7 CPAC-Q9 Describe how a cutting is used to produce a new plant that is a clone of its parent. [3]

B8 CPAC-Q10 Compare cuttings with micropropagation as methods of cloning a plant, referring to the scale each can achieve and the cost of each. [3]

B9 Growers who want disease-free stock of a valuable potato variety start their tissue cultures from the extreme tip of a shoot, even though a larger explant would grow away faster. Suggest why the shoot tip is used. [3]

CPAC-Q11

B10 Identical twins arise when an early embryo splits naturally into two. Explain why the resulting twins are clones of each other but not clones of either parent. [3]

CPAC-Q12

B11 Compare artificial embryo splitting with somatic cell nuclear transfer as ways of cloning cattle, referring to whose phenotype is copied and what limitation this creates. [3]

CPAC-Q13

B12 A cat cloned by somatic cell nuclear transfer is found to have a coat pattern unlike the donor cat's, even though its nuclear DNA is identical to the donor's. Suggest why the two cats' coat patterns differ. [3]

CPAC-Q14

SECTION C · Long, 6 marks or more**C1**

CPAC-Q1

Evaluate the use of therapeutic cloning, rather than reproductive cloning, as a way of obtaining stem cells to treat a patient. [6]

THIS BOOK ONLINE

Scan the code, or type the address, to open the questions in this book online:

inklearning.co.uk/biology/practise/questions/cloning-in-plants-and-animals/