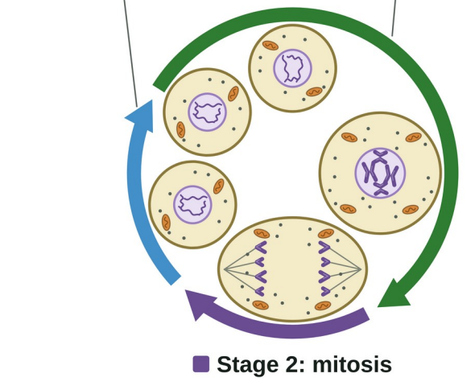
B1 L6 Alternative worksheet: Cell division: mitosis

Name: _____ Class: _____

Key facts

- The **nucleus** contains **chromosomes**. Chromosomes are made of **DNA**.
- A **gene** is a small section of DNA on a chromosome.
- A human body cell has **46** chromosomes, in pairs.
- Cells divide in a series of stages called the **cell cycle**.
- Stage 1: the cell **grows** and **copies its DNA**.
- Stage 2: **mitosis**. One set of chromosomes is pulled to each end. The nucleus divides.
- Stage 3: the cytoplasm and cell membrane divide. Now there are **two** new cells.
- The two new cells are **genetically identical**: they have exactly the same genetic material.
- Mitosis is for **growth**, **repair** and **replacement**.



The cell cycle: one cell makes two identical cells.

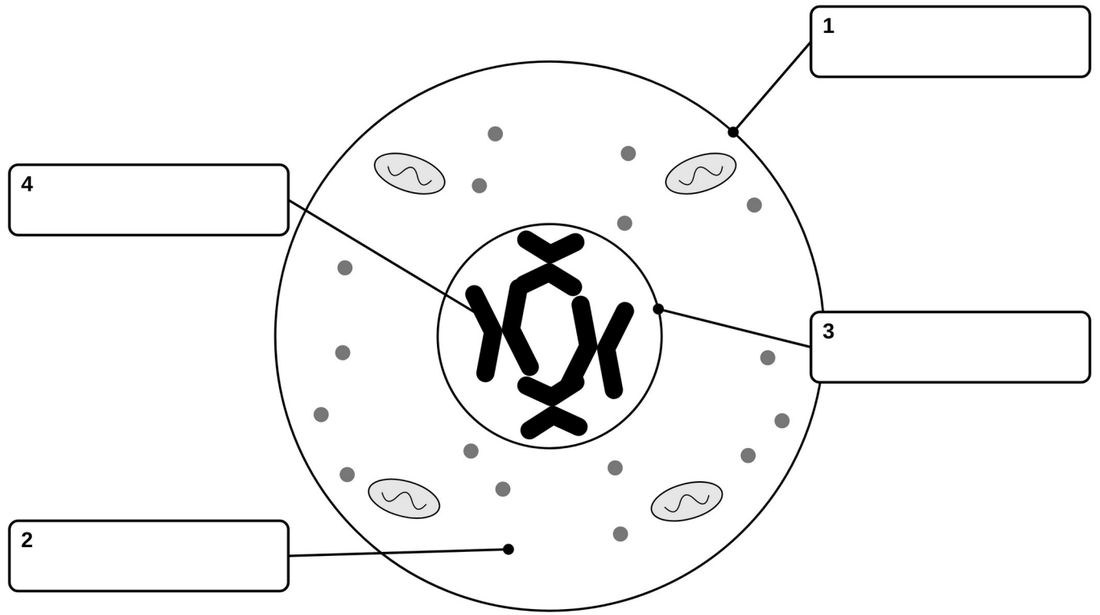
A diagram is simplified: this model cell has only 4 chromosomes. A human body cell has 46.

A. Label the cell

Help: online screens 3 and 4 [4]

This cell is getting ready to divide. Write a word from the box in each label box.

cell membrane	**chromosome**	**cytoplasm**	**nucleus**



Tip: the chromosomes are inside the nucleus.

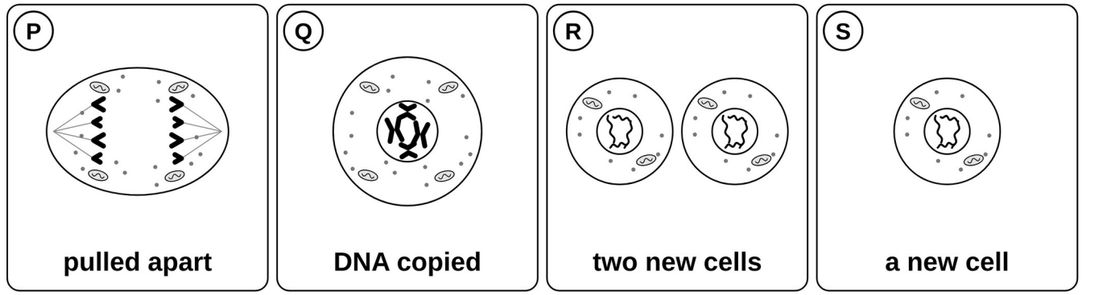
B1 L6 Alternative worksheet: Cell division: mitosis

Name: _____ Class: _____

B. Put the pictures in order

Help: online screen 4 [4]

The pictures show one cell going round the cell cycle. Write the letters in order. The first one is a new cell.



1st ☐ → 2nd ☐ → 3rd ☐ → 4th ☐

C. Match the word to its meaning

Help: online screens 3 and 4 [4]

Draw a line from each word to its meaning.

chromosome	a small section of DNA on a chromosome
gene	the stage of the cell cycle in which one set of chromosomes is pulled to each end of the cell and the nucleus divides
DNA	a structure in the nucleus, made of DNA, that carries a large number of genes
mitosis	the chemical that carries the genetic instructions for a cell

D. Fill the gaps

Help: online screens 4, 6 and 10 [6]

Use the words in the box. Use each word once.

copies	grows	identical	repair	two	46

1. Before a cell divides, it _____ and makes more ribosomes and mitochondria.
2. The cell _____ its DNA.
3. Mitosis makes _____ new cells.
4. The new cells are genetically _____.
5. A human body cell has _____ chromosomes.
6. Mitosis makes new cells to _____ a cut in the skin.

E. True or false?

Help: online screens 1, 3, 4, 6 and 9 [7]

Tick (✓) True or False for each sentence.

Sentence	True	False
1. Chromosomes are made of DNA.		
2. A gene is a small section of DNA.		
3. Mitosis makes four new cells.		
4. The new cells have half the number of chromosomes.		
5. A cell copies its DNA before it divides.		
6. Mitosis helps you to grow.		
7. Most cells in a root tip are dividing.		