Key knowledge
Cell size, structure and function

1.1.3 ***the key events in the phases (G1, S, G2, M and C) of the eukaryotic cell cycle, including the characteristics of the sub-phases of mitosis (prophase, metaphase, anaphase and telophase) and cytokinesis in plant and animal cells.***

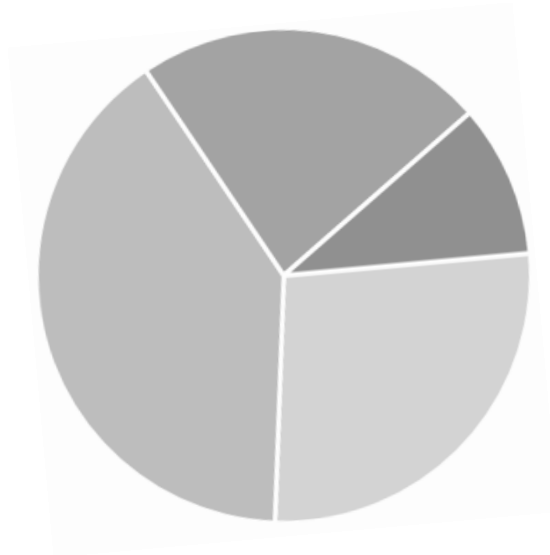1.1.3.1 What is the name describing the process of cell reproduction in eukaryotes?

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1.1.3.1
1.1.3.2 What is the end product of mitosis?

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1.1.3.3 What is the genetic significance of mitosis?

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1.1.3.4 What is the time frame for the cell cycle?

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1.1.3.5 Outline the 3 main phases of the cell cycle?

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1.1.3.6   Use an annotated diagram to outline the stages of the cell cycle.

1.1.3.7   What are cell cycle checkpoints (aka control points)?

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1.1.3.8   Identify the type of compound that regulate the cell cycle check points?

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1.1.3.9　　　Complete the table summarizing the role of each cell cycle checkpoint.

Check point	role
G_1	
G_0	
G_2	
M	

1.1.3.10　　　Give an example why a cell might require regulation?

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1.1.3.11　　　Use a diagram to explain the terms chromosome, chromatid and centromere.

1.1.3.12   Complete the table summarizing the four phases of mitosis.
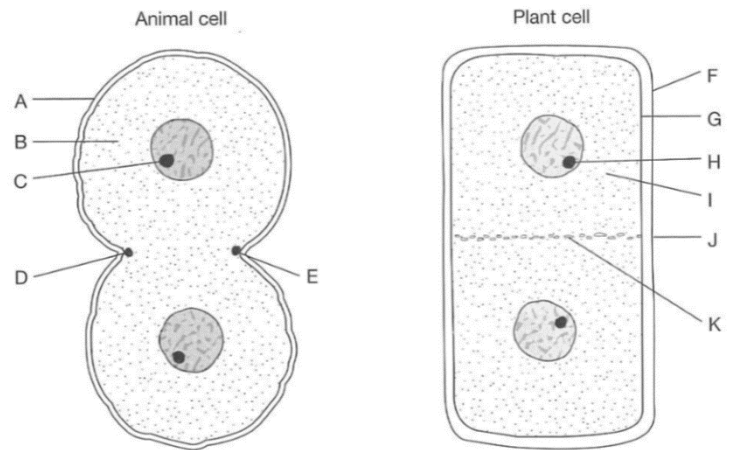
Phase	Processes
Prophase	
Metaphase	
Anaphase	
Telophase	

1.1.3.13   Define cytokinesis and explain its significance.

1.1.3.14   Describe how mitosis is different in plant and animal cells

1.1.3.15   Identify the labels differentiating plant cell and animal cell mitosis

A - ....

B - ....

C - ....

D - ....

E - ....

F - ....

G - ....

H - ....

I - ....

J - ....

K - ....

Animal cell

Plant cell

A

B

C

D

E

F

G

H

I

J

K

1.1.3.16   A biology student prepared a stained slide of a root tip

a) Name the process occurring in the root tip

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LS root tip, high power (400x)

b) Why did the student choose a root tip?

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c) From the slide image draw one cell that shows the early stage of cell division and describe what is happening inside the cell.

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