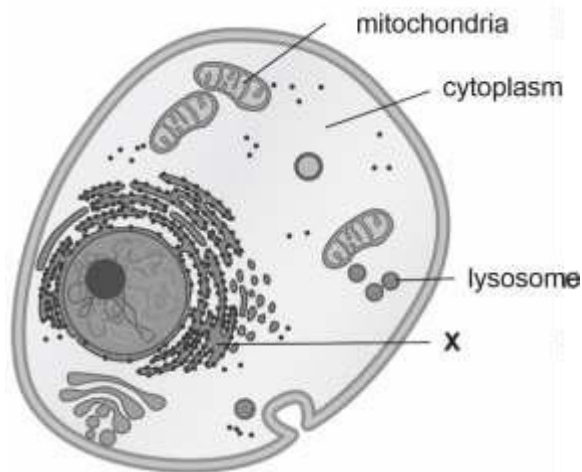


Curriculum Aligned Competency Based Test Items
Science
Class 9 – Chapter 5
Fundamental Unit of Life

The diagram shows an animal cell with some of its organelles. X is also a cell organelle.



SAS21S090501

What does X represent in the diagram?

- A. Nucleus
- B. Chromosomes
- C. Golgi apparatus
- D. Endoplasmic reticulum

SAS21S090502

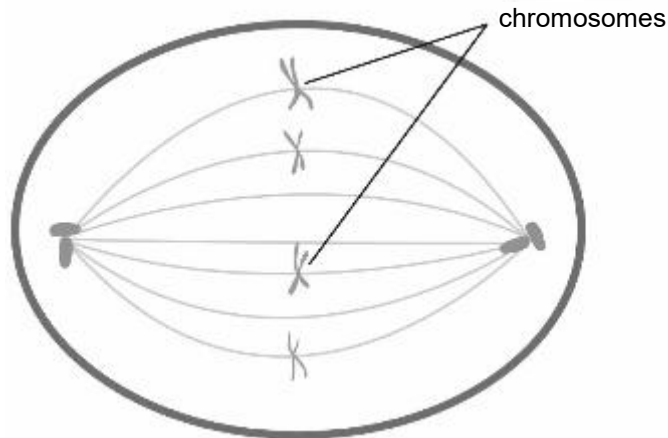
The inner membrane of the mitochondria is folded into many finger-like projections. Explain what would happen if the inner membrane was not folded?

SAS21S090503

Which cell organelles found only in a plant cell are **not** shown in the diagram?
Circle 'Yes' or 'No' for each row.

Features found only in a plant cell	Yes or No
Cell wall	Yes/No
Ribosomes	Yes/No
Chloroplast	Yes/No

Cells grow by dividing. The picture shows one such growing cell ready to divide.



SAS21S090504

How many cells will be formed after the cell divides completely?

SAS21S090505

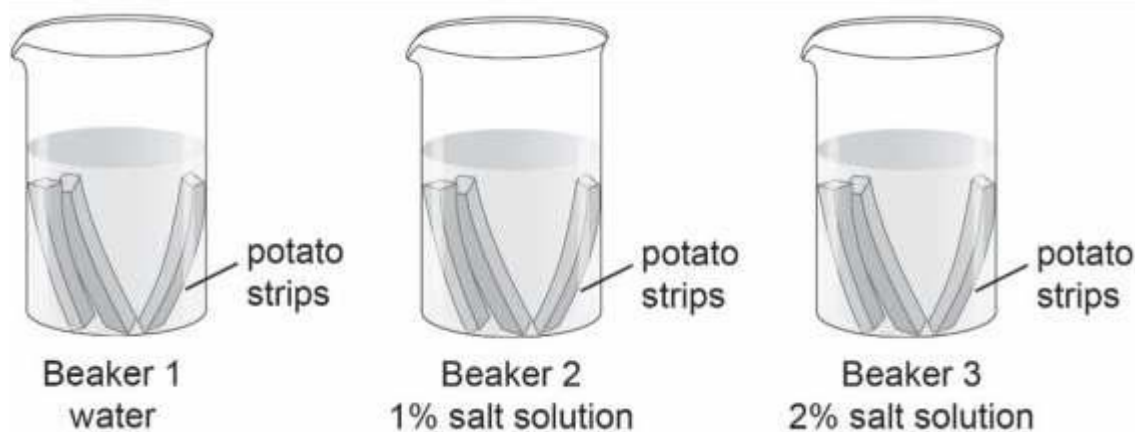
How many chromosomes will each daughter cell receive?

- A.2
- B.4
- C.8
- D. 12

Sania conducts an experiment to know how plant cells lose or gain water through osmosis. She cuts out 5 cm long potato strips. She puts three potato strips in each of the following beakers:

- Beaker 1 containing only water
- Beaker 2 containing 1% salt solution
- Beaker 3 containing 2% salt solution

Sania leaves the potato strips in the beaker for 5 hours.



She records the length of the potato strips in each beaker after 5 hours.

	Length of the potato strip before placing in the beaker (cm)	Length of the potato strip after 5 hours in the beaker (cm)
Beaker 1 water	5.0	5.3
	5.0	5.2
	5.0	5.2
Beaker 2 1% salt solution	5.0	5.0
	5.0	5.0
	5.0	4.9
Beaker 3 2% salt solution	5.0	4.8
	5.0	4.9
	5.0	4.7

SAS21S090506

What can Sania conclude from her experiment?

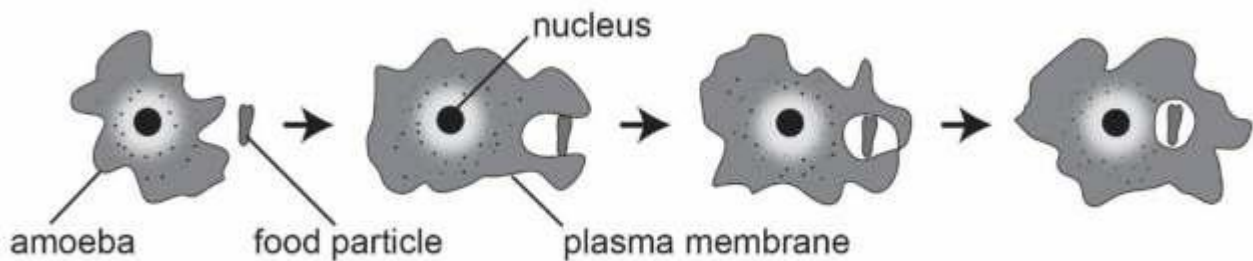
- Salt molecules from the cell move out when kept in water.
- Cells gain water through osmosis when kept in salt solution.
- Cells in salt solution first gain water and then gradually lose water.
- Water molecules move out of the cell based on the amount of salt in the solution.

SAS21S090507

In which beaker was the concentration of water molecules inside and outside the potato cells likely to be the same? Explain your answer.

SAS21S090508

Why did Sania place three potato strips in each beaker?



SAS21S090509

Which of these properties qualifies amoeba as eukaryotes?

- A. It is unicellular.
- B. It needs food for energy.
- C. It has a membrane bound nucleus.
- D. It is surrounded by a plasma membrane.

SAS21S090510

What property of the plasma membrane helps amoeba acquire food?

- A. It is flexible.
- B. It is selectively permeable.
- C. It is made up of proteins and lipids.
- D. It allows diffusion of some substances across it.

