



Have 70S (small) ribosomes	Do not contain membrane-bound organelles	Have circular DNA
Have mesosomes	Prokaryotes	May have a slime layer/capsule
Have a cell wall made of peptidoglycan	May have a simple flagellum	Do not have a nucleus



<p>Have 80S (large) ribosomes</p>	<p>Contain membrane-bound organelles</p>	<p>Have linear DNA</p>
<p>May have chloroplasts</p>	<p>Eukaryotes (plants)</p>	<p>Never have a slime layer/capsule</p>
<p>Have a cell wall made of cellulose</p>	<p>May have a large central vacuole</p>	<p>Have a membrane-bound nucleus</p>



Have 80S (large) ribosomes	Contain membrane-bound organelles	Have linear DNA
May have microvilli	Eukaryotes (animals)	Never have a large central vacuole
Never have a cell wall	May have a complex flagellum	Have a membrane-bound nucleus



Uses beams of light	Relatively cheap	Focusing with glass lenses
Slide preparation relatively simple; unlikely to distort specimen	Optical microscope	Specimens may be viewed dead or alive
Usually portable	Maximum magnification of 1500 times (approx)	Resolution approximately 0.2 μm



Uses beams of electrons	Relatively expensive	Focusing with electromagnets
Slide preparation complex and may distort specimen	Electron microscope	Specimens always dead
Not portable – requires large power supply	Maximum magnification of 500 000 times (approx)	Resolution approximately 1 nm

AS Dominoes: Cell structure



A	80S
Q	How many membranes surround the nucleus?

A	Lysosome
Q	What is the main function of the nucleolus?

A	Control of transport into and out of the cell
Q	Which structures increase the surface area of the inner mitochondrial membrane?

A	Exocytosis
Q	What substance is the plant cell wall made of?

A	Chloroplast
Q	What is the function of the plasma membrane?

A	Golgi apparatus
Q	Which organelle is the site of respiration in a prokaryotic cell?



A	Q
Rough ER	Which organelle packages proteins for export from the cell by exocytosis?

A	Q
Ribosome	What is the main function of the mitochondrion?

A	Q
Smooth ER	Which organelle contains hydrolytic enzymes?

A	Q
Mesosome	Prokaryotes contain which type of ribosomes?

A	Q
Eukaryotic	Which organelle contains chromatin?

A	Q
Production of ribosomal RNA	Which organelle is made of stacks of membranes and covered in ribosomes?



A	Peptidoglycan
Q	Which term means 'before the nucleus'?

A	70S
Q	What substance forms the cell wall of prokaryotes?

A	Microvilli
Q	Which pigment makes chloroplasts green?

A	Mitochondrion
Q	Which organelle is never found in prokaryotes or animals cells?

A	Chlorophyll
Q	Which term means 'true nucleus'?

A	Two
Q	Which organelle in animal cells, other than the nucleus, also contains DNA?



A

Q

Which process describes how proteins are exported from cells?

A

Cristae

A

Q

Which organelle is responsible for the synthesis of lipids in the cell?

A

Centriole

A

Q

Which organelle is the site of translation?

A

Nucleus

A

Q

Which type of ribosomes do eukaryotes contain in their cytoplasm?

A

Prokaryotic

A

Q

Which organelle produces the spindle fibres during mitosis?

A

Aerobic respiration

A

Q

Which structures present in some animal cells increase the surface area of the cell membrane?

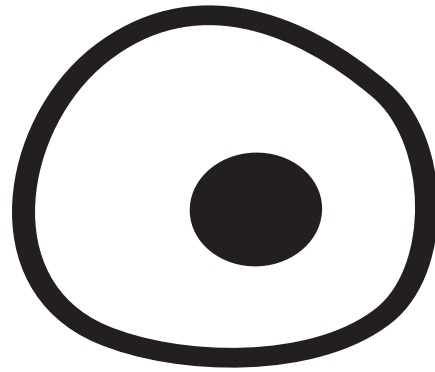
A

Cellulose

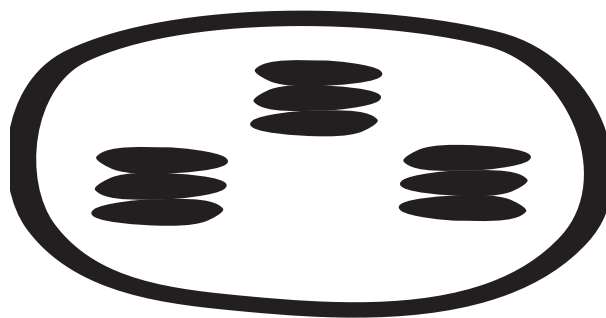


Teacher answers

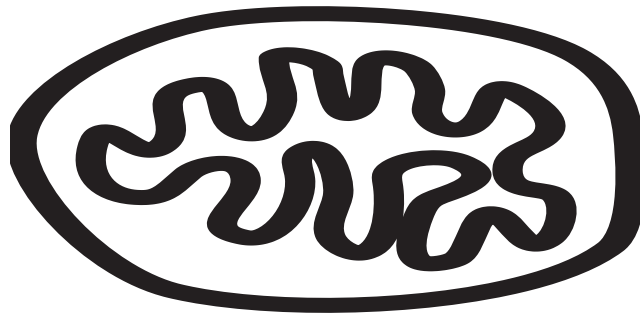
A Eukaryotic	Q Which organelle contains chromatin?
A Nucleus	Q Which organelle is the site of translation?
A Ribosome	Q What is the main function of the mitochondrion?
A Aerobic respiration	Q Which organelle produces the spindle fibres during mitosis?
A Centriole	Q Which organelle is responsible for the synthesis of lipids in the cell?
A Smooth ER	Q Which organelle contains hydrolytic enzymes?
A Lysosome	Q What is the main function of the nucleolus?
A Production of ribosomal RNA	Q Which organelle is made of stacks of membranes and covered in ribosomes?
A Rough ER	Q Which organelle packages proteins for export from the cell by exocytosis?
A Golgi apparatus	Q Which organelle is the site of respiration in a prokaryotic cell?
A Mesosome	Q Prokaryotes contain which type of ribosomes?
A 70S	Q What substance forms the cell wall of prokaryotes?
A Peptidoglycan	Q Which term means 'before the nucleus'?
A Prokaryotic	Q Which type of ribosomes do eukaryotes contain in their cytoplasm?
A 80S	Q How many membranes surround the nucleus?
A Two	Q Which organelle in animal cells, other than the nucleus, also contains DNA?
A Mitochondrion	Q Which organelle is never found in prokaryotes or animals cells?
A Chloroplast	Q What is the function of the plasma membrane?
A Control of transport into and out of the cell	Q Which structures increase the surface area of the inner mitochondrial membrane?
A Cristae	Q Which process describes how proteins are exported from cells?
A Exocytosis	Q What substance is the plant cell wall made of?
A Cellulose	Q Which structures present in some animal cells increase the surface area of the cell membrane?
A Microvilli	Q Which pigment makes chloroplasts green?
A Chlorophyll	Q Which term means 'true nucleus'?



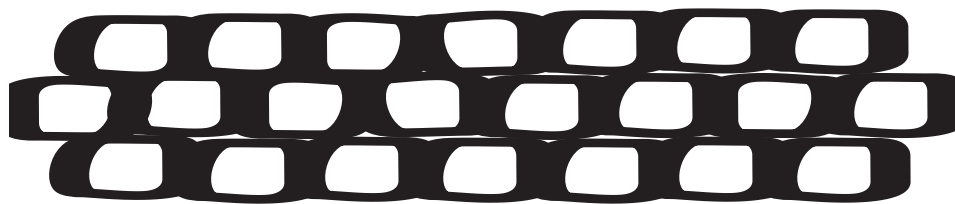
Nucleus



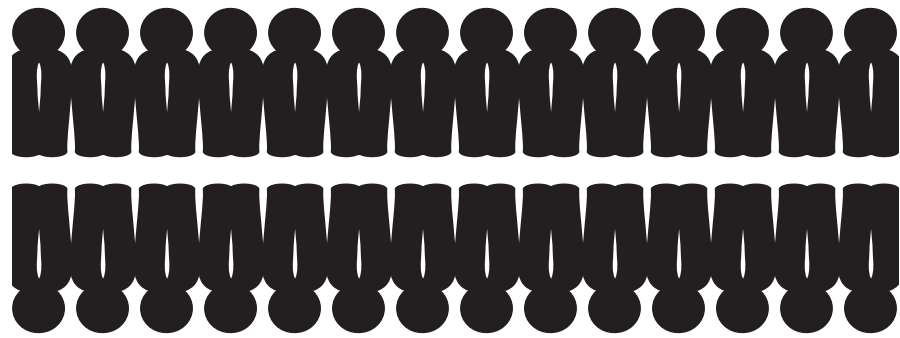
Chloroplast



Mitochondrion



Cell wall



Cell membrane





Teacher questions and answers

This organelle contains chlorophyll	Chloroplast
This organelle carries out aerobic respiration	Mitochondrion
This organelle contains the genetic material of the cell	Nucleus
This organelle is made of cellulose	Cell wall
This plant organelle is found on the outside of the cell	Cell wall
This organelle carries out photosynthesis	Chloroplast
This organelle has an envelope with pores in it	Nucleus
This organelle contains folds called cristae	Mitochondrion
This organelle produces oxygen	Chloroplast
This organelle controls transport of materials into and out of the cell	Cell membrane
This organelle is not made of membrane	Cell wall
This organelle contains starch	Chloroplast
This organelle may contain chromosomes	Nucleus
This organelle requires oxygen to work	Mitochondrion
This organelle has a structure described by the fluid mosaic model	Cell membrane
This organelle contains one or more nucleoli	Nucleus
This organelle is usually sausage-shaped	Mitochondrion
This organelle contains thylakoids	Chloroplast
This organelle is only 7 nm (7 billionths of a metre) thick	Cell membrane
This organelle prevents osmotic lysis (in plant cells and bacteria)	Cell wall
This organelle contains stroma	Chloroplast
This organelle contains matrix	Mitochondrion
This organelle is freely permeable	Cell wall

AS Triominoes: Cell organelles

