

IB Diploma

BIOLOGY

SL P1

2017 — 2024

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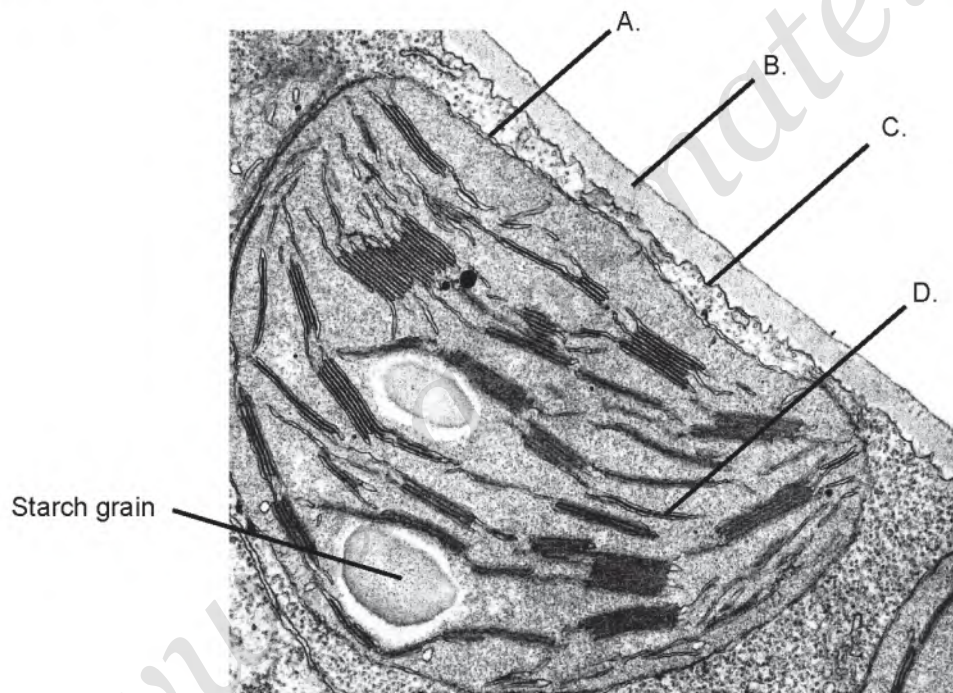
1 - (BIOLO/11_SL_Summer_2017_Q1) - *Cell Biology*

Which structure found in eukaryotes has a single membrane?

- A. Nucleus
- B. Lysosome
- C. Chloroplast
- D. Mitochondrion

2 - (BIOLO/11_SL_Summer_2017_Q2) - *Cell Biology*

The following electron micrograph shows part of a palisade mesophyll cell. Which of the labelled structures controls the exchange of substances to and from the cell?



[Source: adapted from Eldon Newcomb, <http://botit.botany.wisc.edu/about.html>]

3 - (BIOLO/11_SL_Summer_2017_Q3) - Cell Biology

Which organism has DNA located in three organelles?

- A. A sponge
- B. A fern
- C. A flatworm
- D. A bacterium

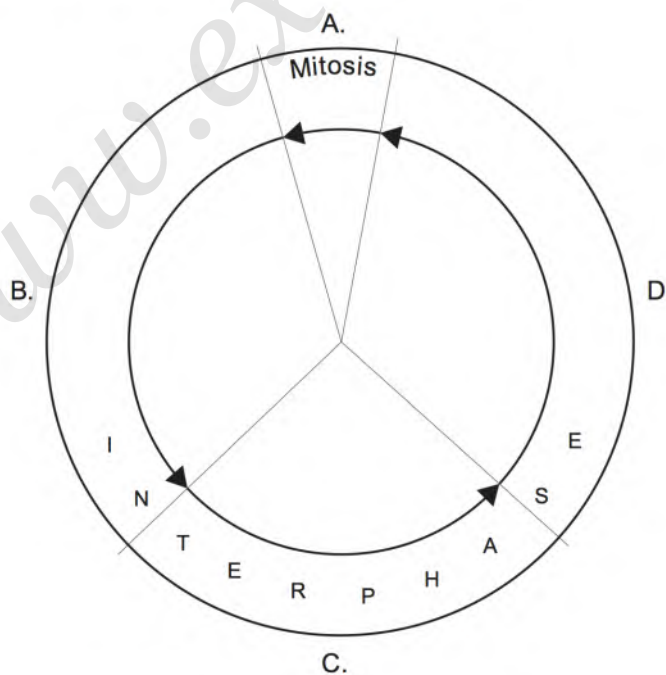
4 - (BIOLO/11_SL_Summer_2017_Q4) - Cell Biology

Which organelle is involved in generating vesicles destined for the cell membrane?

- A. Golgi apparatus
- B. Smooth endoplasmic reticulum
- C. Rough endoplasmic reticulum
- D. Lysosome

5 - (BIOLO/11_SL_Summer_2017_Q5) - Cell Biology

When during the cell cycle does DNA replication take place?



[Source: © International Baccalaureate Organization 2017]

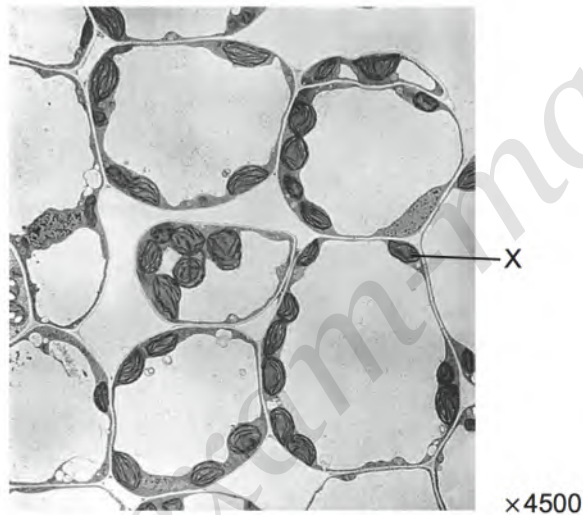
6 - (BIOLO/12_SL_Summer_2017_Q1) - Cell Biology

The giant alga *Acetabularia* has a feature that suggests it is an exception to the cell theory. What feature is this?

- A. It lacks a nucleus.
- B. It lacks a cell wall.
- C. It has only one mitochondrion.
- D. It lacks subdivision into separate cells.

7 - (BIOLO/12_SL_Summer_2017_Q2) - Cell Biology

The image shows an electron micrograph of mesophyll cells.



[Source: BIOPHOTO ASSOCIATES/SCIENCE PHOTO LIBRARY]

What is the name of the structure labelled X?

- A. Cytoplasm
- B. Mitochondrion
- C. Nucleus
- D. Chloroplast

8 - (BIOLO/12_SL_Summer_2017_Q3) - *Cell Biology*

What is a role of cholesterol in animal cells?

- A. It increases body fat.
- B. It controls membrane fluidity.
- C. It lines the inner wall of capillaries.
- D. It is a constituent of bile.

9 - (BIOLO/12_SL_Summer_2017_Q4) - *Cell Biology*

What is evidence for the endosymbiotic theory?

- A. RNA can catalyse metabolic reactions.
- B. Meteorites contain organic molecules.
- C. Amino acids can be synthesized from inorganic compounds.
- D. Mitochondria possess their own DNA.

ANSWERS

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1 - (BIOLO/11_SL_Summer_2017_Q1) - *Cell Biology*

B

2 - (BIOLO/11_SL_Summer_2017_Q2) - *Cell Biology*

C

3 - (BIOLO/11_SL_Summer_2017_Q3) - *Cell Biology*

B

4 - (BIOLO/11_SL_Summer_2017_Q4) - *Cell Biology*

A

5 - (BIOLO/11_SL_Summer_2017_Q5) - *Cell Biology*

C

6 - (BIOLO/12_SL_Summer_2017_Q1) - *Cell Biology*

D

7 - (BIOLO/12_SL_Summer_2017_Q2) - *Cell Biology*

D

8 - (BIOLO/12_SL_Summer_2017_Q3) - *Cell Biology*

B

9 - (BIOLO/12_SL_Summer_2017_Q4) - *Cell Biology*

D

10 - (BIOLO/12_SL_Summer_2017_Q5) - *Cell Biology*

B