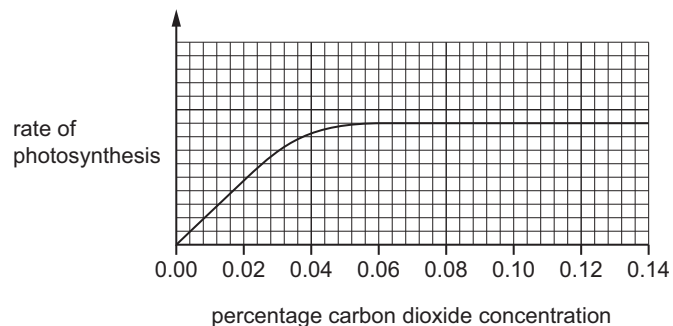


- 8 The graph shows the rate of photosynthesis of a plant in full sunlight in different concentrations of carbon dioxide. All other factors were kept constant.



What limits the rate of photosynthesis at 0.02% carbon dioxide concentration?

- A** carbon dioxide concentration
B humidity
C light intensity
D temperature

- 9 A student wrote some statements about the palisade mesophyll and spongy mesophyll tissues.

- 1 The spongy mesophyll tissue is near the stomata for gas exchange.
- 2 Only palisade mesophyll cells have chloroplasts for photosynthesis.
- 3 Palisade cells are closely packed but there are air spaces in the spongy mesophyll tissue.

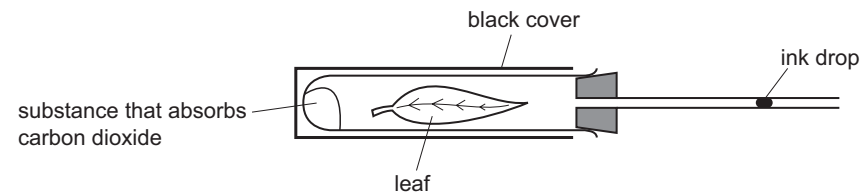
Which statements are correct descriptions of the two tissues?

- A** 1, 2 and 3 **B** 1 and 2 only **C** 1 and 3 only **D** 2 and 3 only

- 8 Which substance contains magnesium ions?

- A** cellulose
B chlorophyll
C glucose
D glycerol

- 10 The diagram shows an experiment to investigate gas exchange in a leaf.



In which direction does the ink drop move and for what reason?

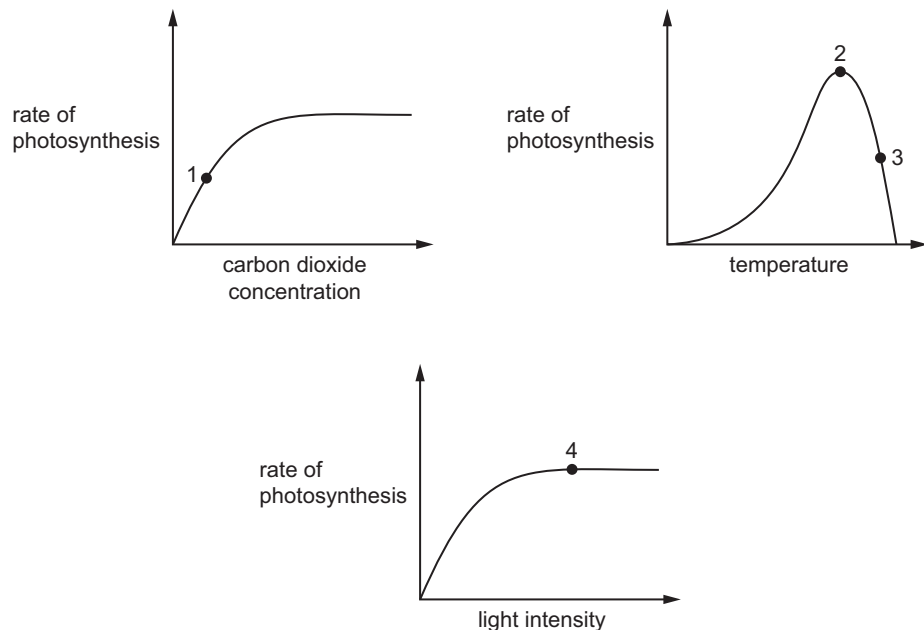
	direction	reason
A	towards the leaf	photosynthesis
B	towards the leaf	respiration
C	away from the leaf	photosynthesis
D	away from the leaf	respiration

- 8 Which descriptions of adaptations for photosynthesis are correct for spongy mesophyll tissue?

	air spaces for efficient gas exchange	long, rectangular cells to absorb light
A	yes	yes
B	yes	no
C	no	yes
D	no	no

- 9 A student investigated how the rate of photosynthesis is affected by carbon dioxide concentration, temperature and light intensity.

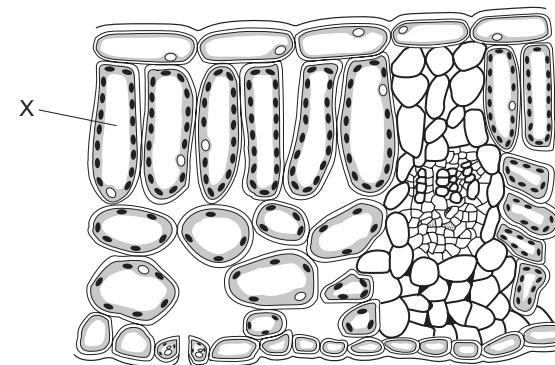
The graphs show the results.



What is a correct statement for these results?

- A Carbon dioxide concentration is a limiting factor at 1.
- B No enzymes are denatured at 3.
- C Light intensity is a limiting factor at 4.
- D Temperature is a limiting factor at 2.

- 10 The diagram shows a cross-section of part of a leaf.



What is the cell labelled X?

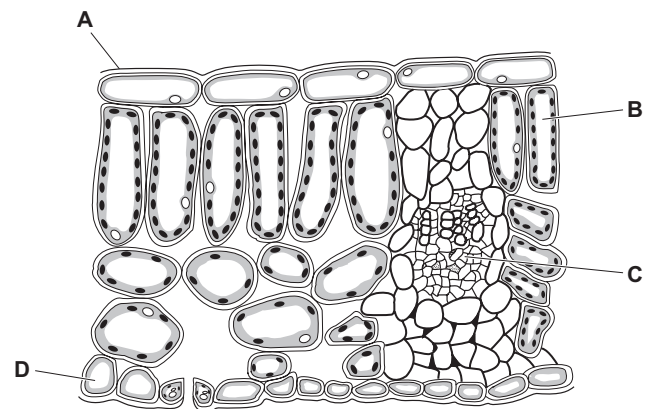
- A epidermis
- B guard cell
- C palisade mesophyll
- D spongy mesophyll

- 6 What is the balanced chemical equation for photosynthesis?

- A $3\text{CO}_2 + 3\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 3\text{O}_2$
- B $6\text{CO}_2 + 6\text{O}_2 \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{H}_2\text{O}$
- C $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
- D $6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow 6\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$

9 The diagram shows part of a cross-section of a leaf.

Which structure is a palisade mesophyll cell?



10 The graphs show how the rate of photosynthesis and the rate of respiration in a plant changed over a 24-hour period.

Which graph shows the correct rate of photosynthesis and rate of respiration?

key

— photosynthesis

----- respiration

