

1. Nov/2018/Paper_41/No.7

(a) Fig. 7.1 is a transmission electron micrograph of a chloroplast.

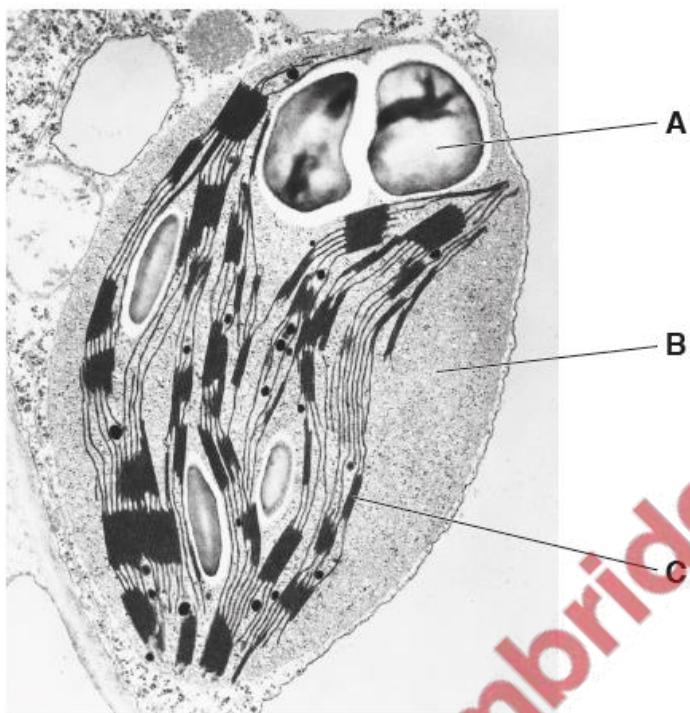


Fig. 7.1

Many compounds and structures involved in photosynthesis are located in a chloroplast.

Using the labels **A**, **B** or **C**, complete Table 7.1 to show the location of four of these compounds or structures.

You may use each of the letters **A**, **B** and **C** once, more than once, or not at all.

Table 7.1

compound or structure	location
ATP synthase
rubisco
starch grain
phospholipid bilayer

[3]

(b) *Elodea canadensis* is an aquatic plant that lives submerged in freshwater.

Equal-sized plants of *E. canadensis* were exposed to different wavelengths of light for the same period of time. As each plant photosynthesised, the number of bubbles of oxygen leaving the plant was counted.

For each wavelength, the rate of oxygen production was calculated.

The results are shown in Fig. 7.2.

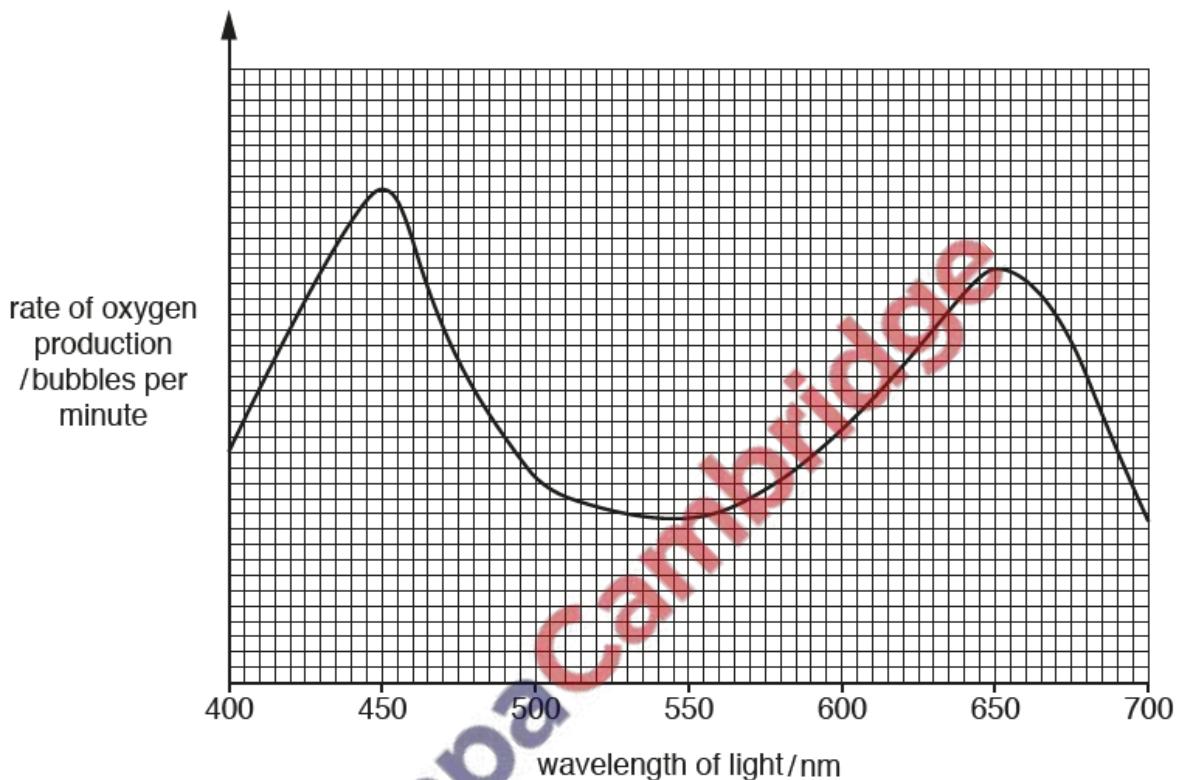


Fig. 7.2

Describe and explain the results shown in Fig. 7.2.

The image features a decorative header on the left side. It includes a logo composed of various colored shapes (blue, red, green, and small dots) arranged in a stylized pattern. To the right of the logo are five horizontal dotted lines of varying lengths, creating a clean, modern look.

(c) Chlorophyll b, carotene and xanthophyll are known as accessory pigments. Describe the role of the accessory pigments in photosynthesis.

.....

.....

.....

..... [2]

[Total: 8]

