2 Palisade cells have both chloroplasts and mitochondria. Exchanges between a mitochondrion, a chloroplast and the cytoplasm surrounding them are shown in Fig. 2.1.

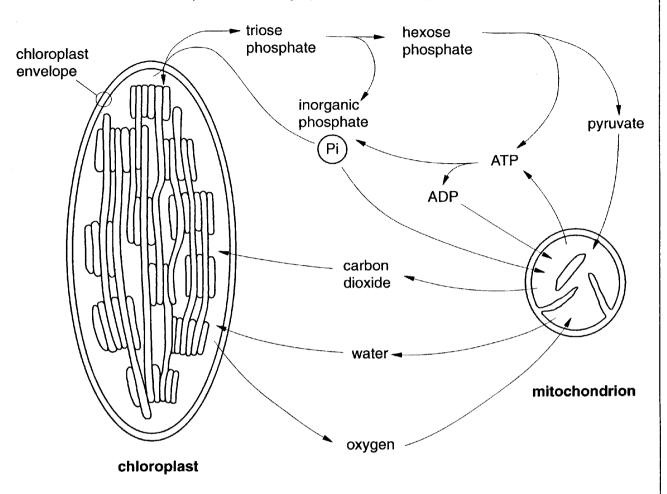


Fig. 2.1

(a) A leafy shoot can be sealed inside a transparent container. The concentration of oxygen in the atmosphere within this container can be measured. In the dark, the oxygen concentration falls. At high light intensities, the oxygen concentration increases. At a particular light intensity, the oxygen concentration in the container remains constant.

stant.						concentration	
 	 	 	 	••••	 	 	
 	 	 	 •••	•••••	 	 	 [4]

(b)		lain why there is no build up in the concentration of phosphate ions inside ochondria as a result of the inward passage of phosphate ions.
	••••	
		[2]
(c)	part	se phosphate moves out of chloroplasts by passing through carrier proteins that are tof the chloroplast envelope. These proteins allow an inorganic phosphate ion to sinwards at the same time as triose phosphate moves outwards.
		gest why the movement of triose phosphate out of chloroplasts is an example of itated diffusion rather than active transport.
	••••	[2]
(d)	stag	ny biologists believe that both mitochondria and chloroplasts evolved, at an early ge in the history of the earth, from prokaryotic organisms that inhabited the pplasm of eukaryotic host cells.
		re two structural features of mitochondria and chloroplasts that are also present in caryotic cells.
	1	
	2	
		[2]
		[Total: 10]