

Cambridge International AS & A Level

BIOLOGY (9700) P1

TOPIC WISE QUESTIONS + ANSWERS | COMPLETE SYLLABUS



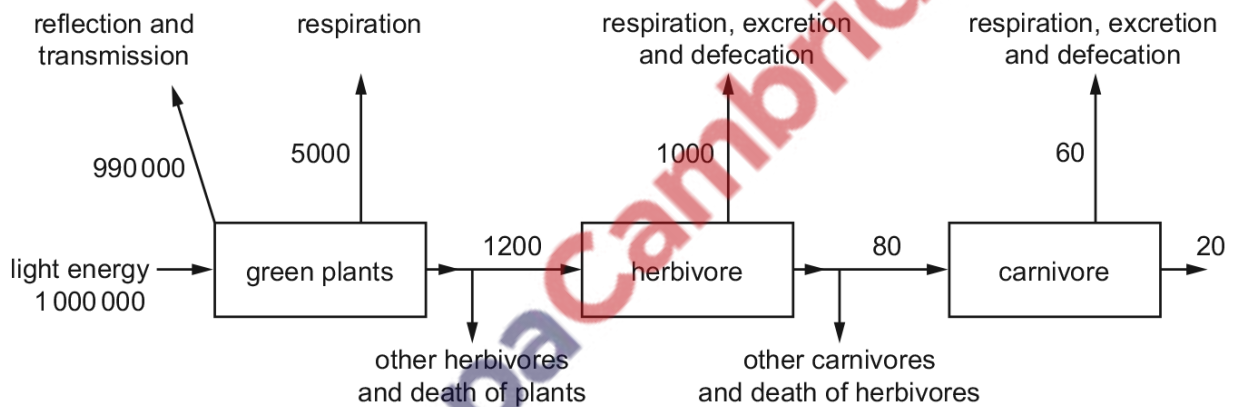
Chapter 13

Photosynthesis

13.1 Photosynthesis as an energy transfer process

1606. 9700_w15_qp_11 Q: 39

The diagram shows the flow of energy through a food chain. Figures are in $\text{kJm}^{-2} \text{year}^{-1}$.

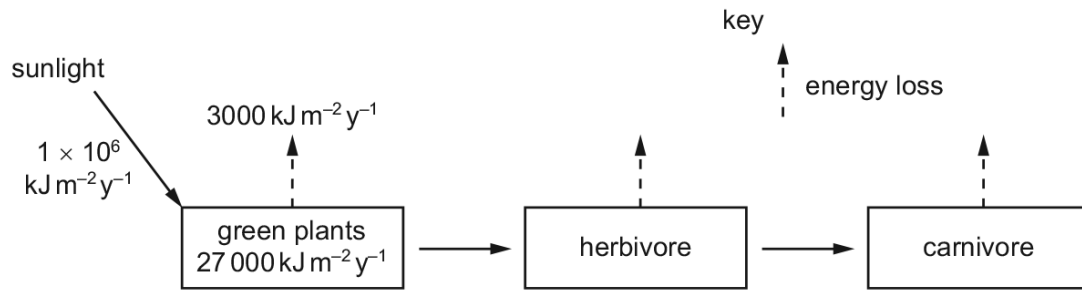


What percentage of light energy is available to the herbivore?

- A** 0.12% **B** 0.38% **C** 0.50% **D** 1.00%

1607. 9700_w15_qp_12 Q: 39

The diagram shows the flow of energy through a food chain.



What percentage of the energy is used by the green plants for photosynthesis?

- A** 0.03% **B** 0.30% **C** 2.70% **D** 3.00%

1608. 9700_w15_qp_13 Q: 39

The table shows the results of a field study of four species in a food chain in an area of woodland.

species	number of individuals	biomass of one individual / arbitrary units	energy value per unit mass / arbitrary units
R	10 000	0.1	1.0
S	5	10.0	2.0
T	500	0.002	1.8
U	3	300 000.0	0.5

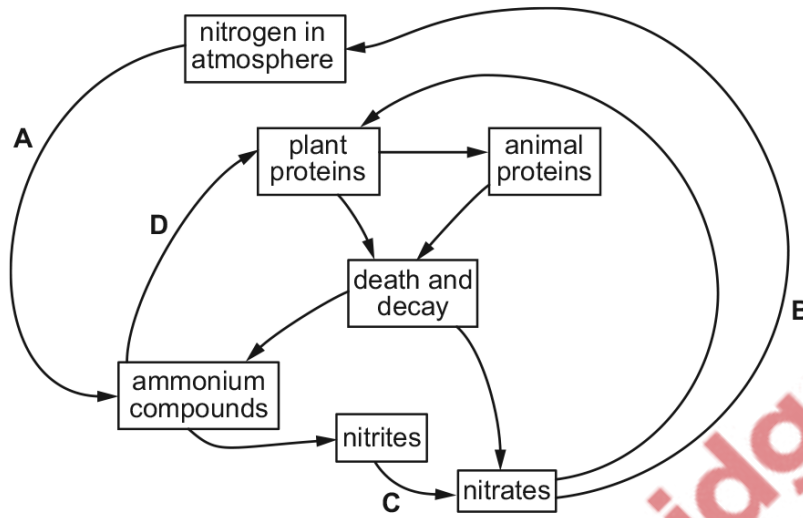
What is the energy flow in the food chain?

	from	to
A	R → T	S → U
B	S → T	R → U
C	U → R	S → T
D	U → S	T → R

1609. 9700_w15_qp_13 Q: 40

The diagram shows a simplified nitrogen cycle.

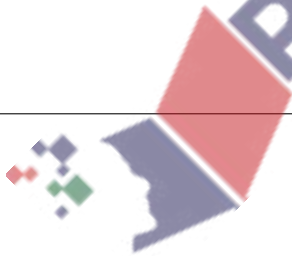
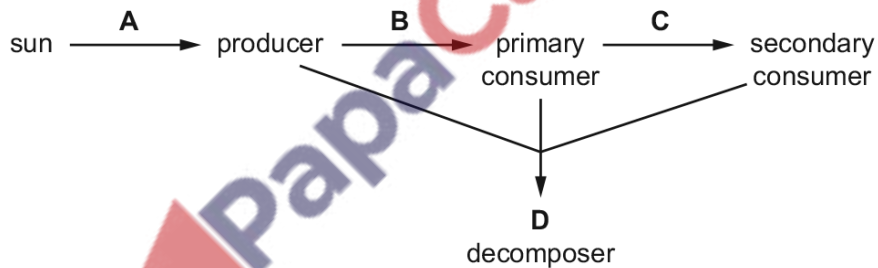
Which arrow represents the activity of nitrogen-fixing bacteria?




13.2 Adaptations for photosynthesis

1610. 9700_s15_qp_12 Q: 38

At which stage of a food chain in a tropical grassland is the energy transfer least efficient?



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