

1 (a) Fig. 1.1 shows a pyramid of energy for an ecosystem.

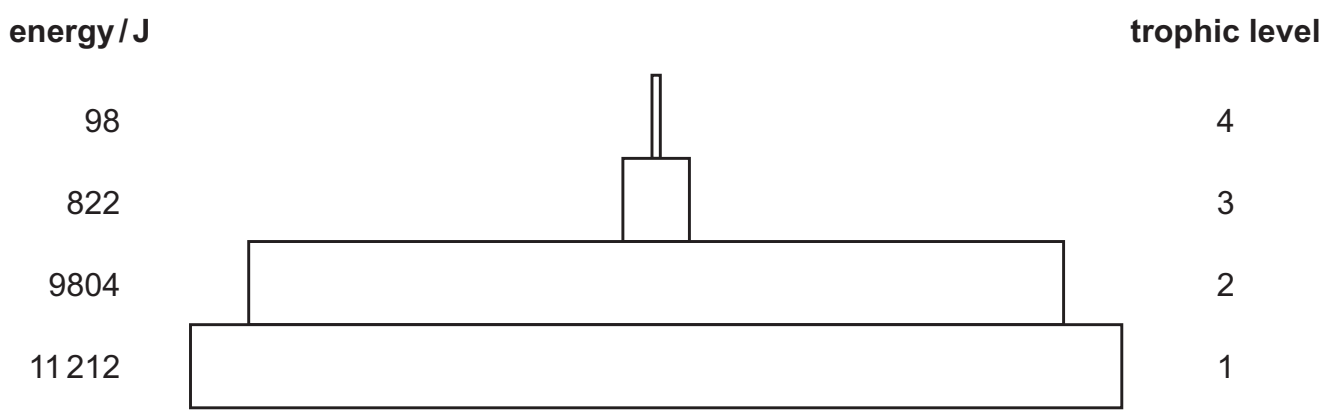


Fig. 1.1

(i) State where the organisms in trophic level 1 in Fig. 1.1 get their energy from.  
 ..... [1]

(ii) Calculate the percentage of energy transferred between trophic levels 2 and 3 in Fig. 1.1.  
 Give your answer to **one** significant figure.  
 ..... [2]

(iii) State **two** reasons why the energy decreases between trophic levels 1 and 4, as shown in Fig. 1.1.  
 1 .....  
 2 ..... [2]

(iv) Describe the advantages of representing food chains using a pyramid of energy compared with a pyramid of biomass.  
 .....  
 .....  
 .....  
 .....  
 ..... [2]

(b) A new species was introduced to an ecosystem.

Fig. 1.2 shows the changes in the population as the species established itself in the ecosystem.

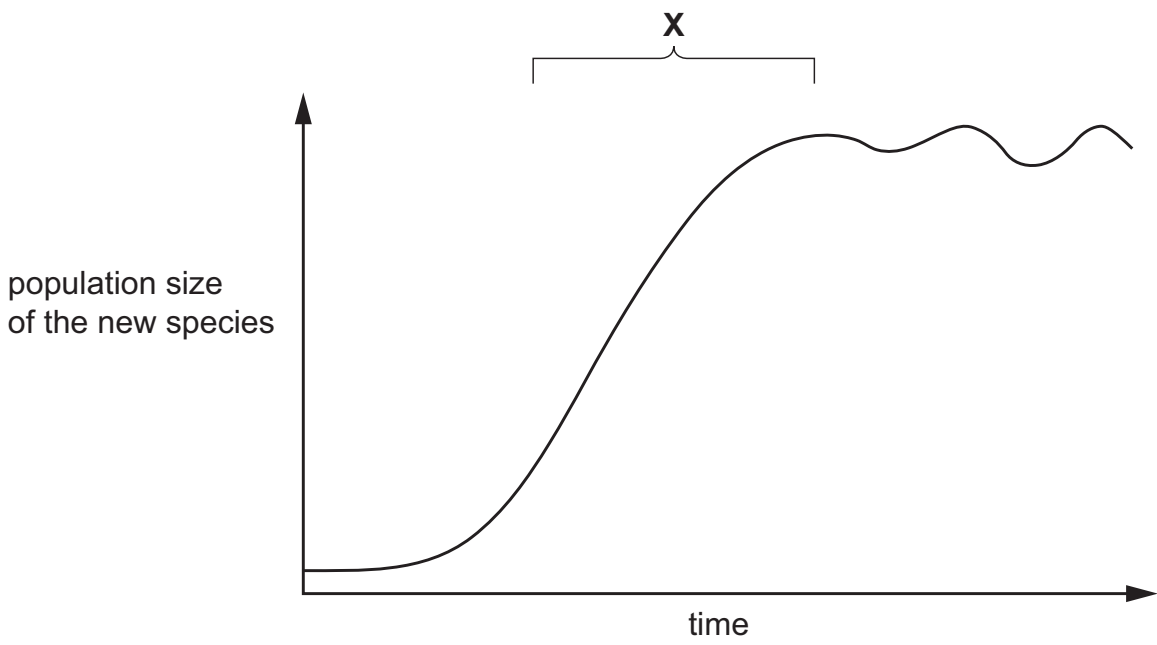


Fig. 1.2

(i) Complete the sentence to describe the term population.  
 A population is a group of organisms of one species living in the same  
 ..... at the same ..... [1]

(ii) Describe **and** explain the reasons for the shape of the graph at X in Fig. 1.2.  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 .....  
 ..... [5]