

Chapter 25: IGCSE Interdependence of living organisms

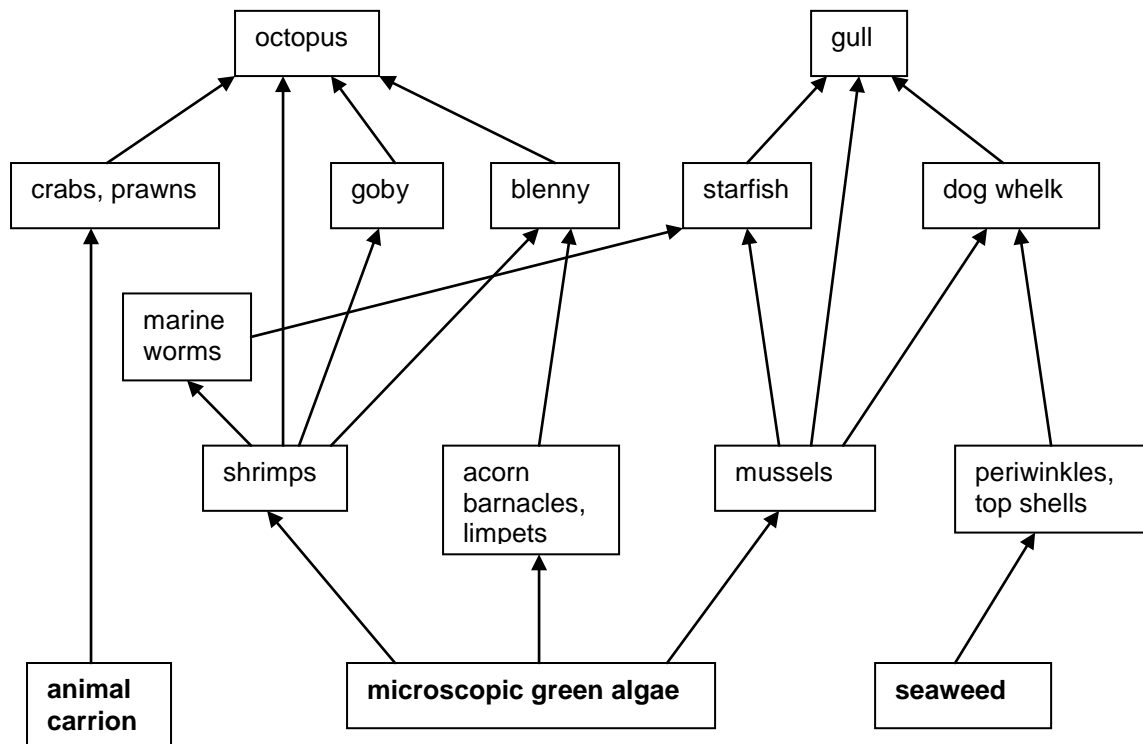
1 Classify the following animals as either carnivores or herbivores.

cow, rabbit, dog, shark, sheep, deer, lion, eagle, giraffe, seal, grass snake, horse

2 Classify the following as producers, primary consumers or secondary consumers.

caterpillar, falcon, mouse, tree, phytoplankton, pike, cat, grass, locust, goat, otter, wheat

3 The diagram represents a food web that might occur on a rocky seashore.



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(a) Pick out a food chain that includes shrimps and ends with gulls.

(b) Which are the producers?

(c) Name a primary, secondary and tertiary consumer in the food web.

(d) What might happen to the food web if all the mussels were killed by a pollutant?

4 A meal consists of grilled trout, potatoes and mushrooms. Explain how each item is ultimately the product of photosynthesis.

5 On average, what percentage of the sun's energy, which reaches the surface of the Earth, is used for photosynthesis?

(a) 100% (b) 10% (c) 1% (d) 0.1 %

6 On average, what percentage of the food given to cattle is converted to flesh and bone?

(a) 100% (b) 10% (c) 1 % (d) 0.1 %

7 Choose the most appropriate words from the list below to complete the following paragraph.

In a food chain, passes from one to another. The of the is always less than that of the because most of the food eaten by the is used to produce rather than new growth.

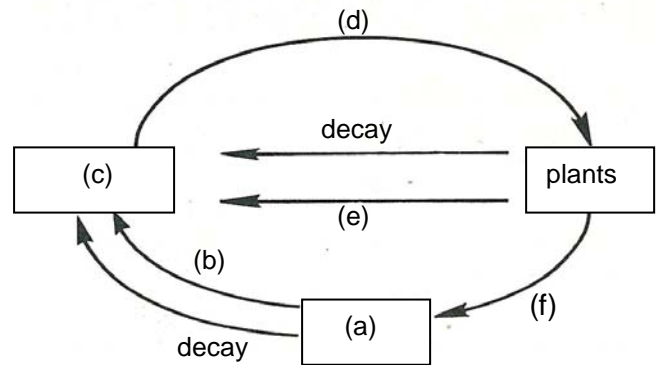
biomass, sunlight, trophic level, photosynthesis, producers, energy, consumers, decomposers

Interdependence of living organisms (continued)

8 Which two major groups of organisms make up the bulk of the decomposers?

9 The diagram represents part of a simplified carbon cycle. Write the name of the organisms, substances or processes represented by the letters (a)-(f).

10 What processes (a) remove and (b) add to the carbon dioxide in the air?



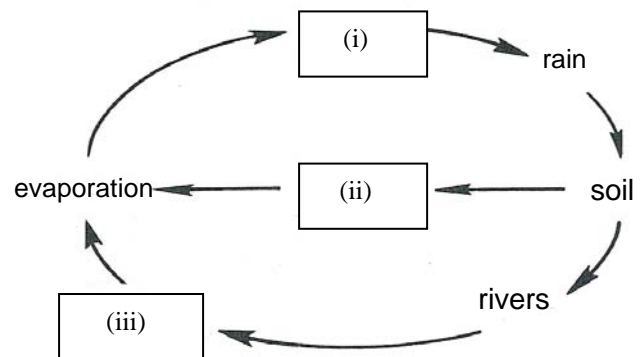
11 What part do (a) nitrifying, (b) nitrogen-fixing and (c) denitrifying bacteria play in the nitrogen cycle?

12 What processes remove nitrates from the soil?

13 The diagram represents a simplified water cycle.

(a) Say what might be represented by (i) - (iii).

(b) At which three points in the cycle are humans most likely to interfere?



14 (a) In what ways do farmers try to improve the quality of (i) their soil, (ii) their crop plants?
(b) What other steps do farmers take to maximise the yield from their crops?