

National 5 Biology

Energy in Ecosystems

1. Write down the meaning of the following words:

- | | |
|-----------------------|----------------|
| (a) population | (b) habitat |
| (c) community | (d) ecosystem |
| (e) producer | (f) consumer |
| (g) predator | (h) prey |
| (i) pyramid of energy | (j) decomposer |

(10)

2. Draw a food chain containing 5 organisms, and from this, draw a pyramid of numbers.

(2)

3. (a) State the source of energy in all ecosystems.

(1)

(b) In food chains and food webs, what do the arrows indicate?

(1)

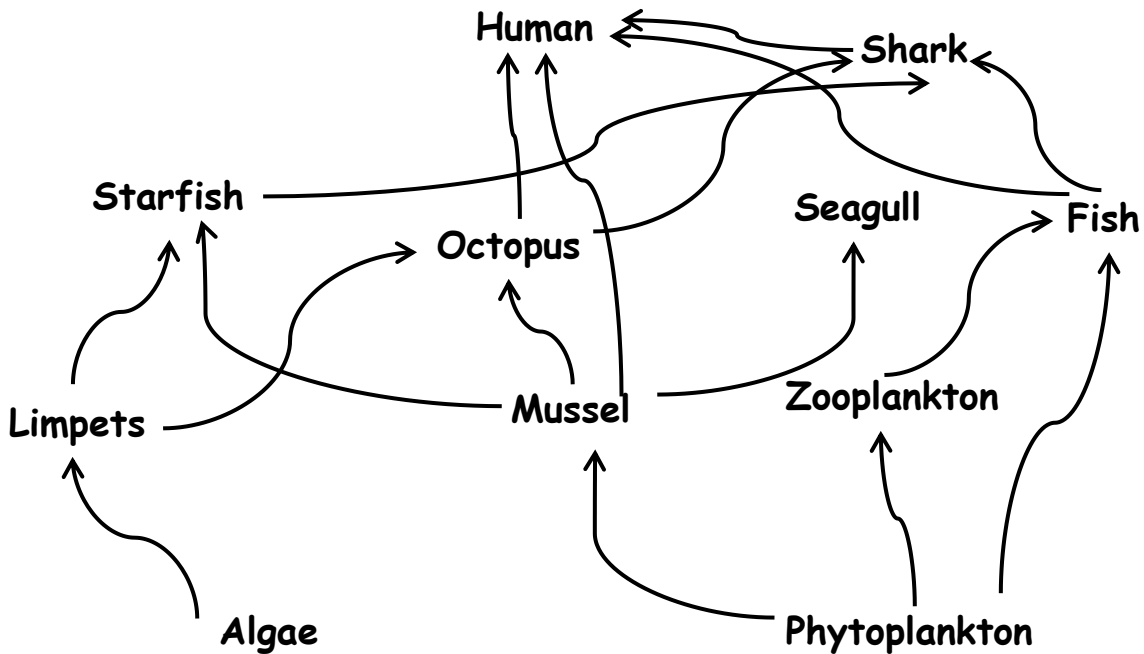
(c) Energy is lost from food chains. Give two ways this can happen.

(2)

(d) How much energy is lost at each stage in a food chain?

(1)

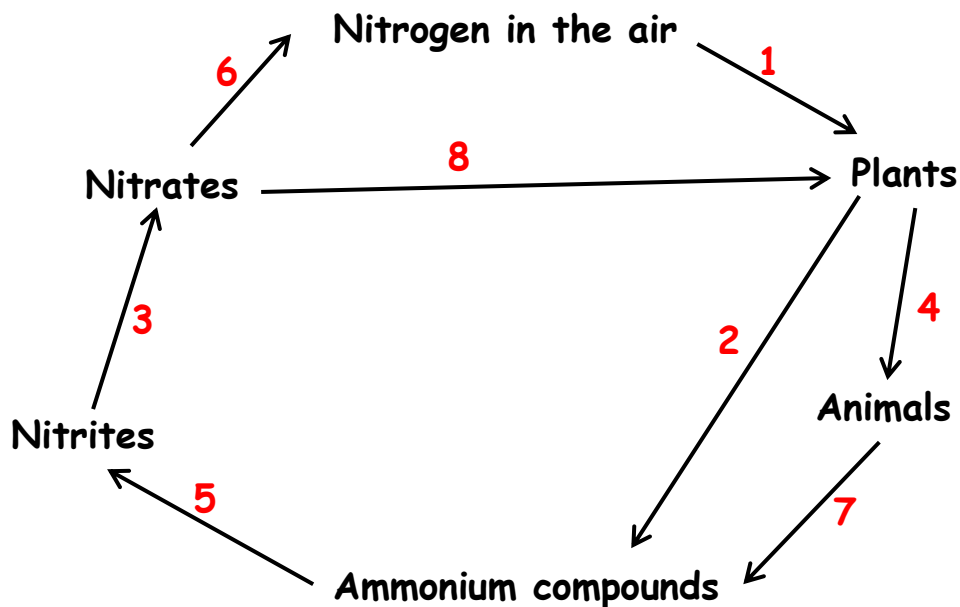
4. The following diagram shows some organisms from a marine food web.



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- (a) From the above food web, state the producer(s). (1)
- (b) State the primary consumers. (2)
- (c) State the top carnivore(s). (1)
- (d) How many herbivores are there in the food web? (1)
- (e) How many consumers are in the web? (1)
- (f) Draw a food chain from this food web containing 5 organisms. (1)

5. The following diagram represents the Nitrogen Cycle.



- (a) Which number represents denitrification? (1)
- (b) Which number represents nitrification. (1)
- (c) What does arrow 4 represent? (1)
- (d) What does arrow 1 represent? (1)
- (e) Which arrows represent death? (2)

Total = 30