

## Chapter 19

# Organisms and their environment



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01. 0610\_p20\_qp\_40 Q: 1

The dominant grass species in an African grassland ecosystem are star grass and red oat grass.

- Star grass is eaten by antelope species, such as topi and Thomson's gazelle.
- Smaller animals such as mice and grasshoppers feed on red oat grass.
- Topi and Thomson's gazelle are eaten by predators such as cheetahs, lions and serval cats.
- Grasshoppers and mice are eaten by serval cats and tawny eagles.
- Vultures feed on dead mammals.

Fig. 1.1 shows part of the food web for this ecosystem.

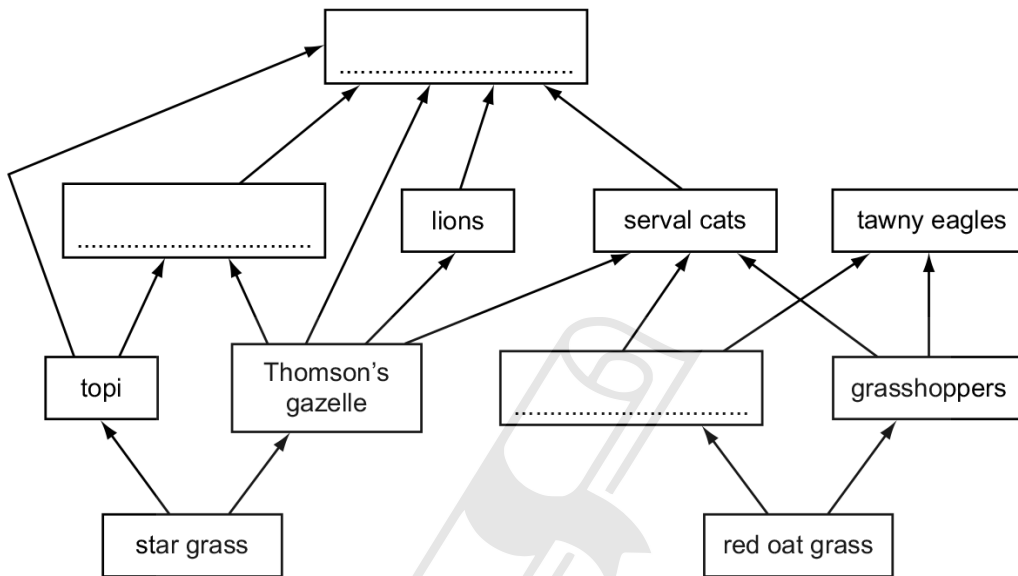


Fig. 1.1

(a) Complete the food web by writing the names of the correct organisms in the boxes in Fig. 1.1.

[3]

(b) Name the trophic level of the following species.

star grass .....

topi .....

[2]

(c) (i) State the principal source of energy for the food web shown in Fig. 1.1.

..... [1]

(ii) State what happens to energy when it leaves a food web.

..... [1]

(d) Explain why there are no more than four trophic levels in the food web shown in Fig. 1.1.

.....  
.....  
.....  
.....  
.....  
..... [3]

(e) Fish such as salmon can be reared intensively in fish farms. They are fed on high protein food made from animals. When eating this food, the fish are feeding as secondary consumers. Describe the **disadvantages** of intensive farming, such as salmon farming, for producing human food.

.....  
.....  
.....  
.....  
.....  
..... [3]

[Total: 13]

02. 0610\_w19\_qp\_43 Q: 1

- (a) The ant-mimic jumping spider, *Myrmarachne formicaria*, is shown in Fig. 1.1.

The common name of this species describes its behaviour. It is an arachnid that tricks its prey because it looks like the insects that it eats.



Fig. 1.1

- (i) Suggest which trophic level in a food chain *M. formicaria* could belong to.  
..... [1]
- (ii) State the genus of the spider shown in Fig. 1.1.  
..... [1]
- (iii) Some keys use paired choices of features to identify species such as the ant-mimic jumping spider.  
State the name of this type of key.  
..... [1]

(b) Spiders are classified as arachnids. Arachnids are one of the main groups of arthropods.

Fig. 1.2 shows diagrams of six arthropods, four of which are arachnids.

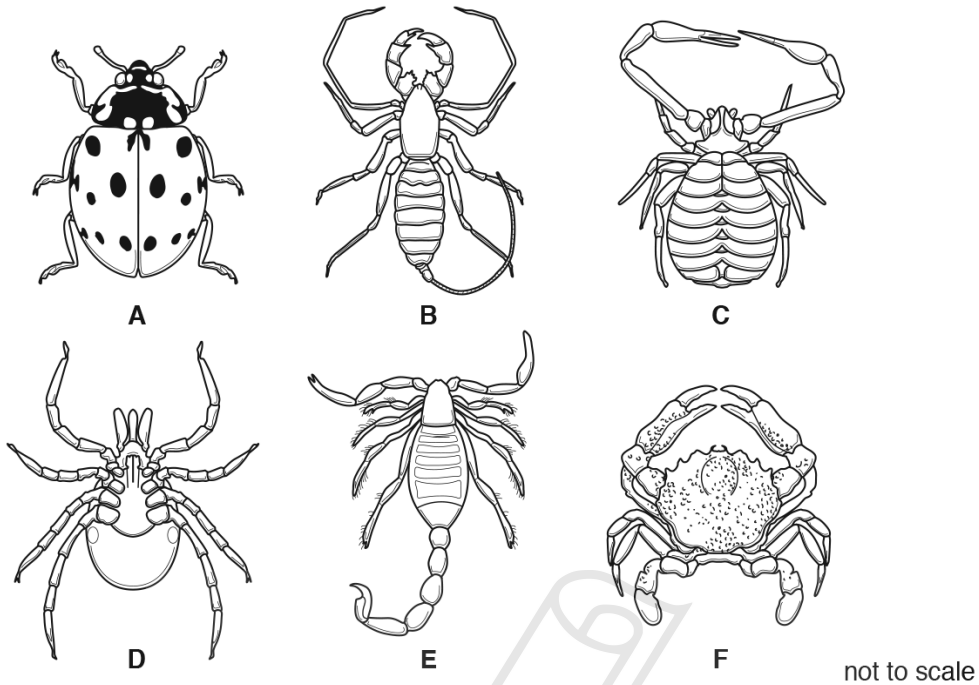


Fig. 1.2

(i) State **two** common features of all the arthropods, visible in Fig. 1.2.

- 1 .....
- 2 ..... [2]

(ii) State **two** common features of all arachnids that can be used to distinguish them from other arthropods.

- 1 .....
- 2 ..... [2]

(iii) State the letters of the **four** arachnids shown in Fig. 1.2.

..... [2]

(c) The features shown in Fig. 1.2 are morphological features. Many traditional methods of classification used morphology.

State the name of one **other** type of feature that can also be used in classification.

..... [1]

[Total: 10]

03. 0610\_s18\_qp\_41 Q: 2

(a) Adaptive features are defined as the inherited features of an organism that increase its fitness.

State what is meant by *fitness* in this context.

.....  
.....  
.....[1]

(b) Rodents are the most common mammals in many hot deserts.

Fig. 2.1 shows the lesser Egyptian jerboa, *Jaculus jaculus*, which lives in North Africa and the Middle East in areas that have high daytime temperatures and very little rainfall.



Fig. 2.1

Like many desert-living mammals, jerboas are active at night.

Suggest **two** features of *J. jaculus* that adapt it to each of the following challenges of living in desert ecosystems:

(i) very high daytime temperatures

1 .....  
2 ..... [2]

(ii) very little or no light at night

1 .....  
2 ..... [2]

- (c) A scientist studied communities in different parts of a desert and estimated the biomass of the organisms in each area.

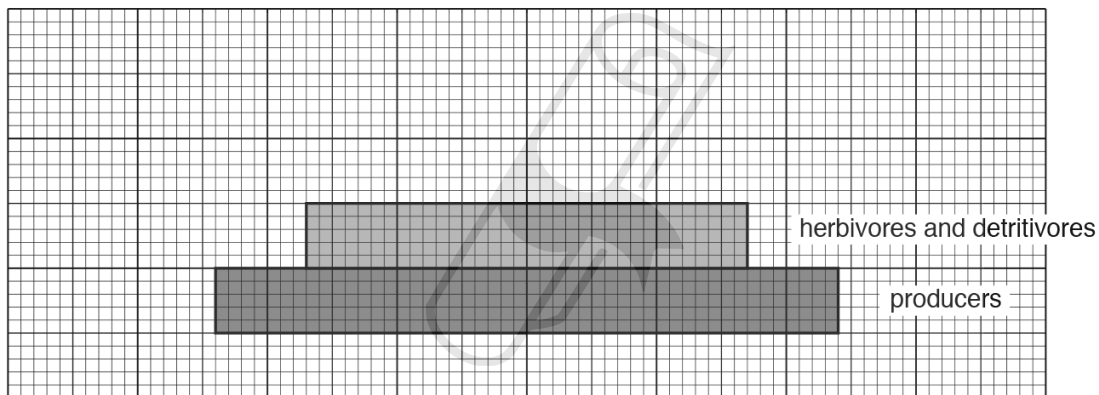
He divided the organisms into four groups according to their roles in the food web as shown in Table 2.1.

Detritivores are animals that eat dead organisms or parts of organisms.

**Table 2.1**

groups of organisms in the food web	biomass/g per m <sup>2</sup>
producers	480
herbivores	220
detritivores	120
carnivores	40

Some of these results are shown as a pyramid of biomass in Fig. 2.2.



**Fig. 2.2**

- (i) Use the information in Table 2.1 to complete the pyramid of biomass in Fig. 2.2. [2]
- (ii) The scientist observed the detritivores and decided to include them with herbivores in this pyramid of biomass.

Suggest what the scientist discovered about the detritivores that made him make this decision.

.....

.....

.....[1]

(iii) Explain why there are rarely more than four or five trophic levels in ecosystems.

.....  
.....  
.....  
.....  
.....[2]

(iv) Explain the advantages of presenting information about food webs as a pyramid of biomass and **not** as a pyramid of numbers.

.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....[3]

[Total: 13]

Mangrove trees are hydrophytes because they grow in water.

Fig. 2.1 shows a young mangrove tree.



Fig. 2.1

(a) An adaptive feature is a feature that increases the fitness of an organism.

(i) Define the term *fitness*.

.....  
.....  
..... [1]

(ii) Mangrove trees have many aerial roots and floating seeds.

Suggest how these adaptive features allow mangrove trees to survive in water.

many aerial roots .....  
.....  
.....  
floating seeds .....  
.....  
..... [2]

(b) Fig. 2.2 shows a food chain in a mangrove forest.

mangrove tree → fiddler crab → seagull

**Fig. 2.2**

Table 2.1 gives the number of organisms and their biomass in a mangrove forest.

**Table 2.1**

organism	number of organisms	biomass of organisms/kg
mangrove trees	1 000	450 000
fiddler crabs	7 500 000	8 000
seagulls	150 000	1 200

(i) Estimate the biomass of one fiddler crab in grams.

Write your answer to two significant figures.

Show your working.

..... g  
[2]

(ii) Sketch a **pyramid of numbers**, using the information in Table 2.1, for the food chain shown in Fig. 2.2.

Write the number of each trophic level on the appropriate part of your pyramid.

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[3]



05. 0610\_w17\_qp\_43 Q: 4

The Canadian Government were concerned about overfishing at the Grand Banks in the Atlantic Ocean.

As a result, commercial fish stocks were monitored from 2002 until 2013.

The population data for four species of fish are shown in Fig. 4.1.

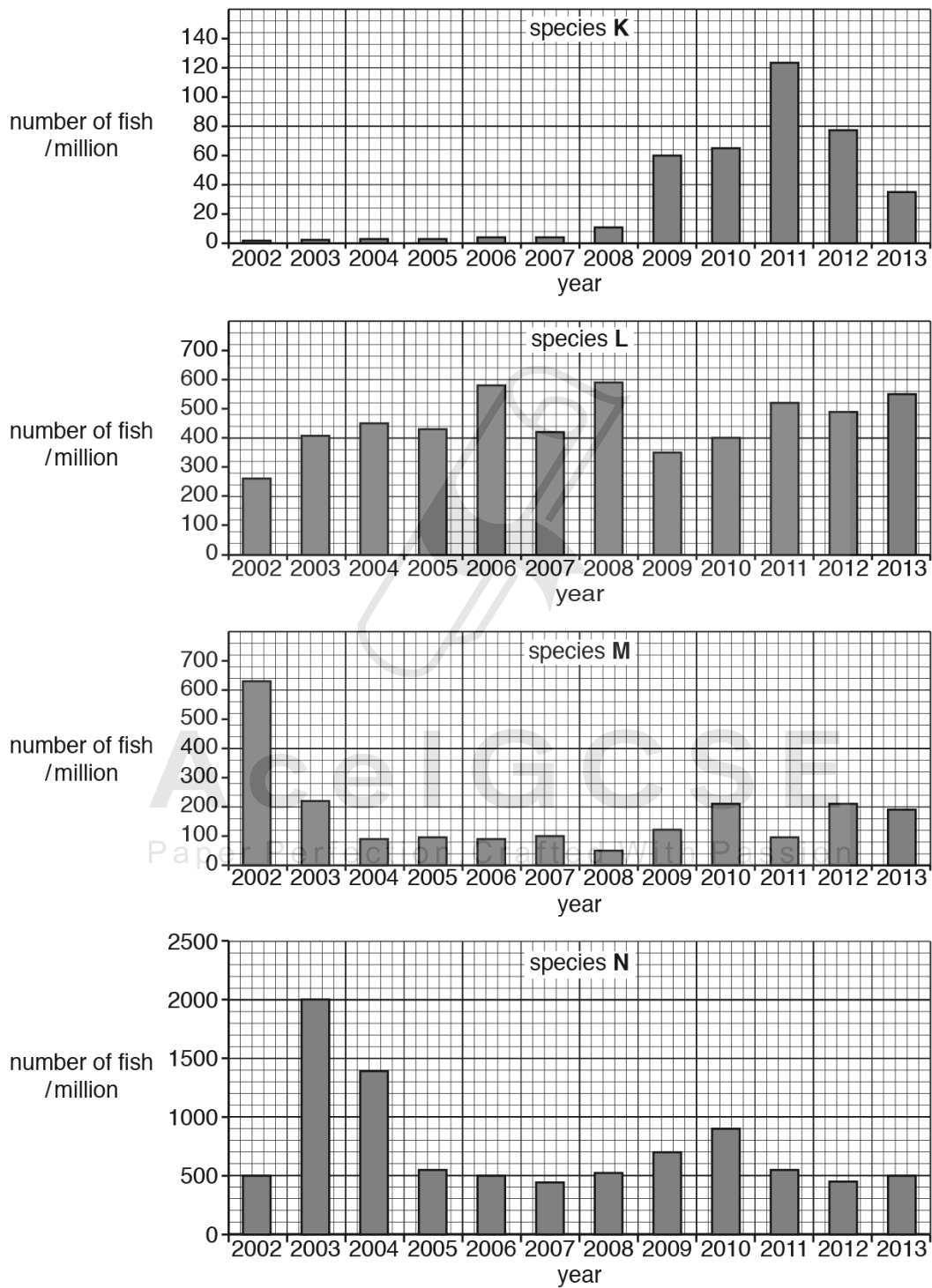


Fig. 4.1

(a) Use the information in Fig. 4.1 to:

(i) state the most abundant fish species in **2002**

.....[1]

(ii) suggest the fish species that had the most carefully controlled fishing quotas between **2002** and **2013**.

Give a reason for your choice.

.....

.....

.....[1]

(iii) calculate the percentage increase in species **N** between **2002** and **2003**.

Show your working.

.....[2]

(b) Overfishing is a possible reason for the decrease of the population of species **M** between 2002 and 2003.

State **two other** reasons that could have caused this decrease.

1 .....

2 .....

[2]

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- (c) Overfishing can be reduced by having large holes in fishing nets.

Fig. 4.2 shows sections of two fishing nets, the drawings are both at the same scale.

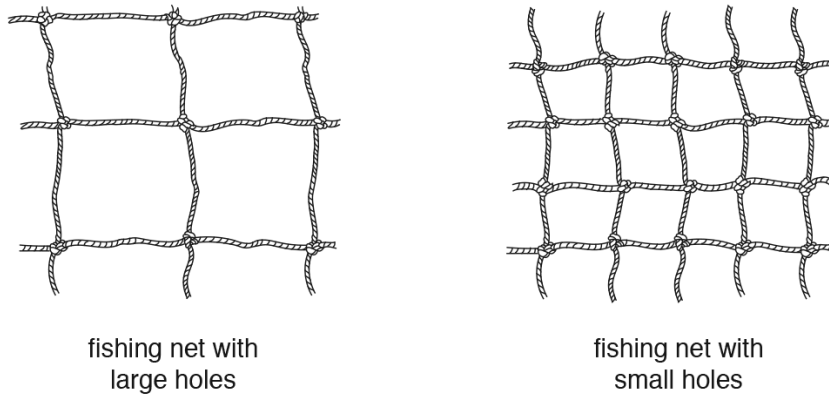


Fig. 4.2

- (i) Suggest how controlling the size of the holes in fishing nets helps to reduce overfishing.

.....  
.....  
.....[1]

- (ii) Describe and explain how methods **other** than fishing net hole size, could help to prevent overfishing.

.....  
.....  
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.....  
.....  
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.....  
.....[4]

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06. 0610\_p16\_qp\_40 Q: 1

The dominant grass species in an African grassland ecosystem are star grass and red oat grass.

- Star grass is eaten by antelope species, such as topi and Thomson’s gazelle.
- Smaller animals such as mice and grasshoppers feed on red oat grass.
- Topi and Thomson’s gazelle are eaten by predators such as cheetahs, lions and serval cats.
- Grasshoppers and mice are eaten by serval cats and tawny eagles.
- Vultures feed on dead mammals.

Fig. 1.1 shows part of the food web for this ecosystem.

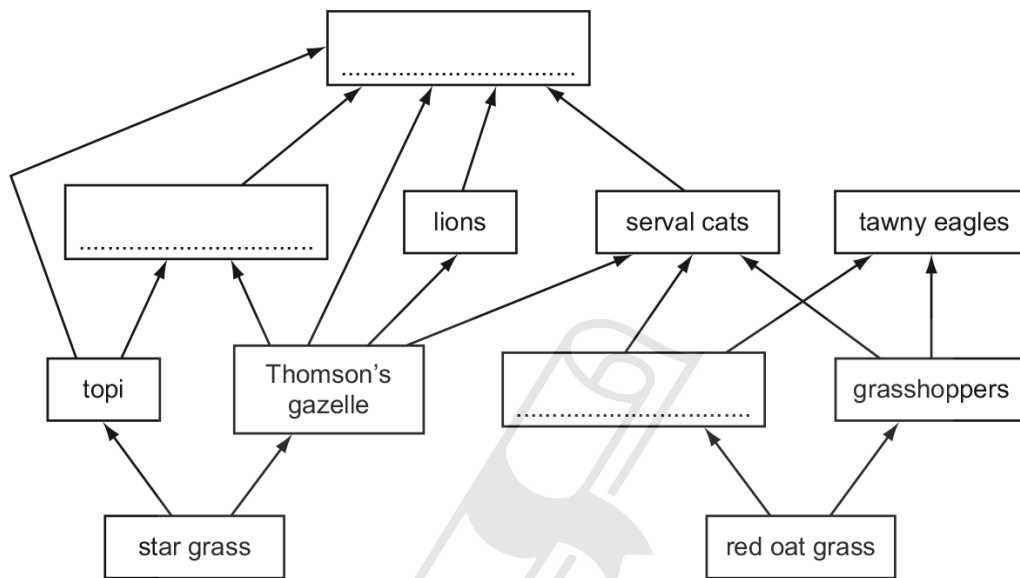


Fig. 1.1

(a) Complete the food web by writing the names of the correct organisms in the boxes in Fig. 1.1.

[3]

(b) Name the trophic level of the following species.

star grass .....

topi .....

[2]

(c) (i) State the principal source of energy for the food web shown in Fig. 1.1.

..... [1]

(ii) State what happens to energy when it leaves a food web.

..... [1]

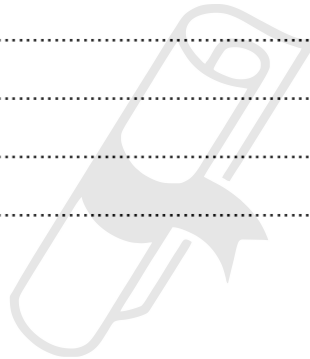
(d) Explain why there are no more than four trophic levels in the food web shown in Fig. 1.1.

.....  
.....  
.....  
.....  
.....  
..... [3]

(e) Fish such as salmon can be reared intensively in fish farms. They are fed on high protein food made from animals. When eating this food, the fish are feeding as secondary consumers.  
Describe the **disadvantages** of intensive farming, such as salmon farming, for producing human food.

.....  
.....  
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.....  
.....  
..... [3]

[Total: 13]



07. 0610\_w19\_qp\_41 Q: 7

Fig. 7.1 shows part of the nitrogen cycle.

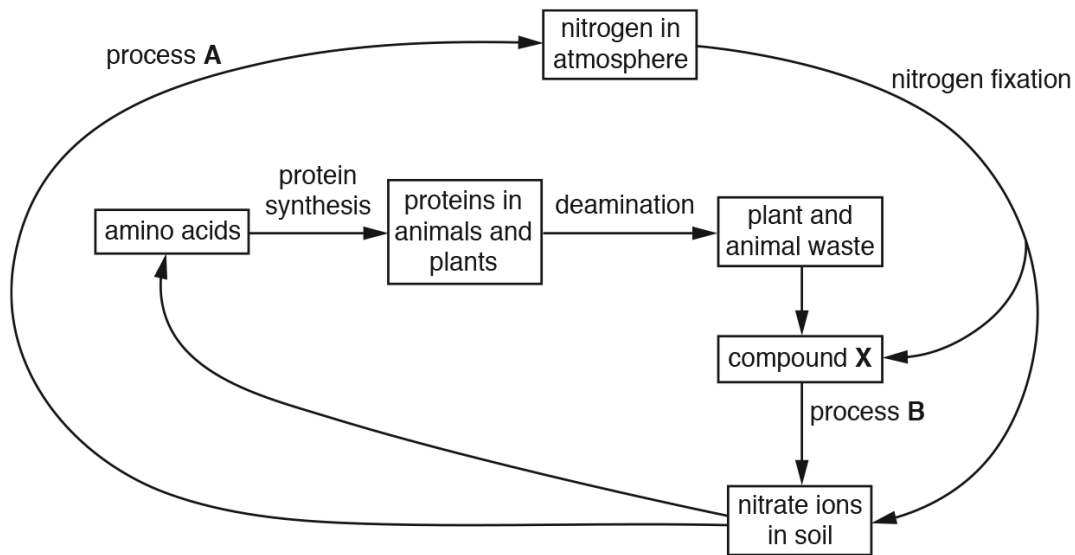


Fig. 7.1

(a) (i) State **two** ways that nitrogen fixation can occur.

1 .....

2 .....

[2]

(ii) State the names of processes **A** and **B** in Fig. 7.1.

process **A** .....

process **B** .....

[2]

(iii) State the name of compound **X** in Fig. 7.1.

..... [1]

(iv) Define the term *deamination*.

.....

.....

.....

.....

..... [2]

**(b)** State the name of the structure in a cell where protein synthesis occurs.

..... [1]

**(c)** State the name of an enzyme that digests proteins.

..... [1]

[Total: 9]

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09. 0610\_w18\_qp\_42 Q: 1

Wetlands are important ecosystems. Researchers studied the feeding relationships between the organisms in an area of wetland on the coast of Texas.

Fig. 1.1 shows part of the food web that they studied.

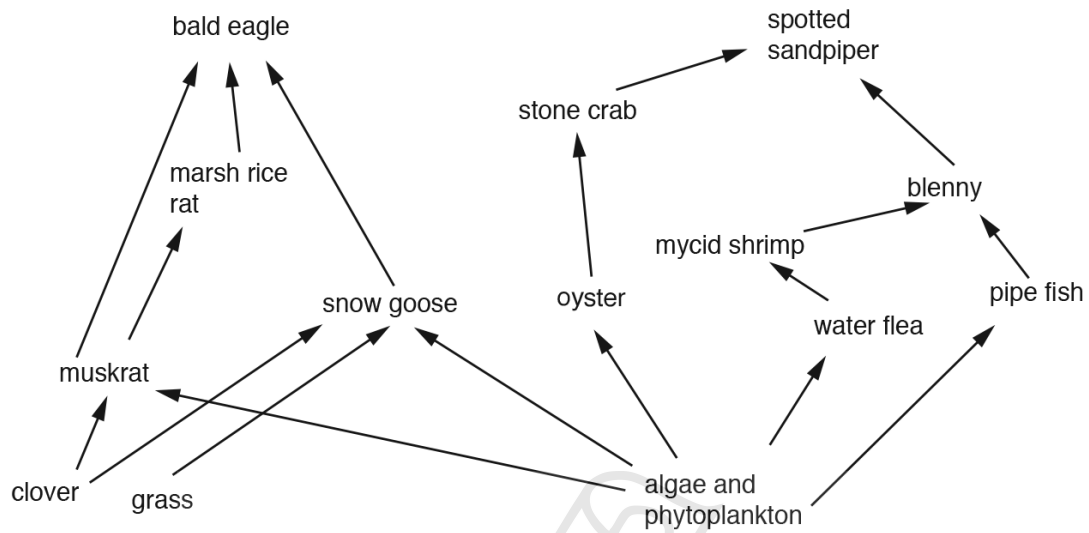


Fig. 1.1

(a) Complete Table 1.1 by giving the name of **one** organism from the food web in Fig. 1.1 for each row.

Table 1.1

	name of organism from Fig. 1.1
producer	
secondary consumer	
an animal that feeds at two trophic levels	

[3]



(d) State the name of the structure in plant cells where process **D** occurs.

..... [1]

(e) State the process that occurs at **B**.

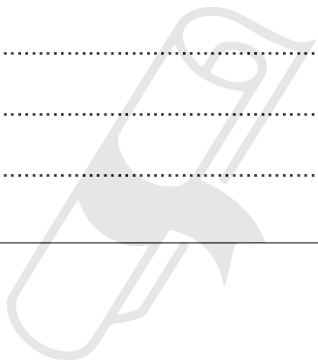
..... [1]

(f) A pyramid of numbers for the wetland ecosystem showed that there were very large numbers of organisms at the base of the pyramid and very few at the top.

Explain why.

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.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [3]

[Total: 13]



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- (a) Atlantic cod, *Gadhus morhua*, is a type of fish that is an important resource for commercial fishing.

Fig. 6.1 shows the estimated mass of Atlantic cod over 40 years.

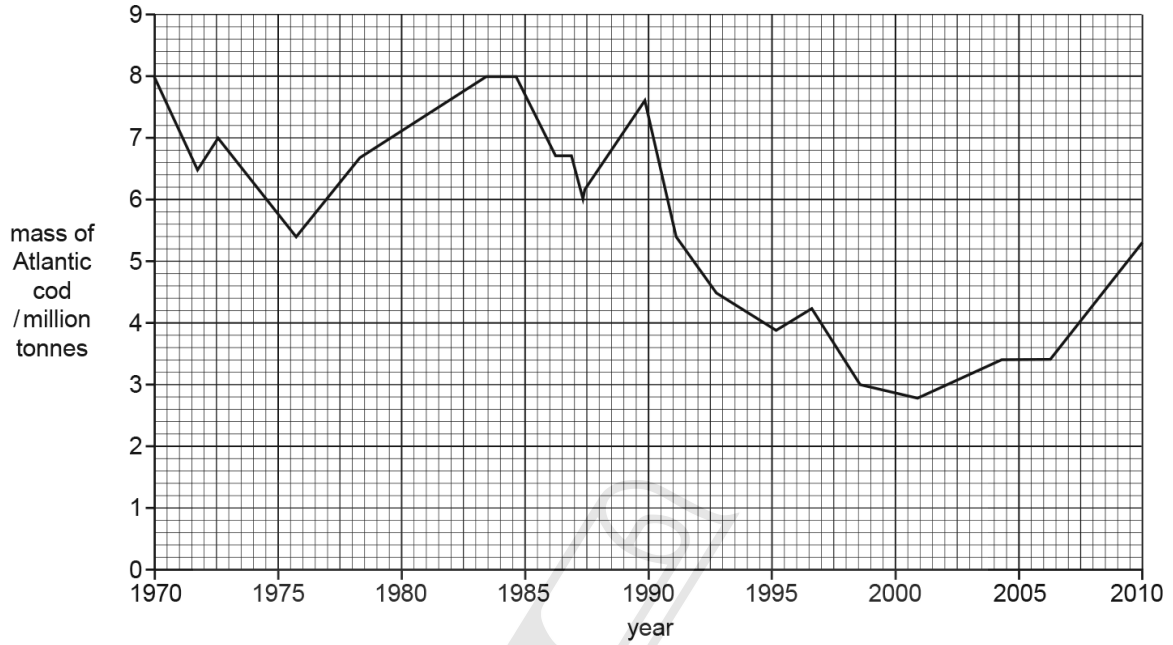


Fig. 6.1

- (i) In 1970, the mass of Atlantic cod was 8 000 000 tonnes.  
State **one** year when the mass of Atlantic cod was half this value.  
..... [1]
- (ii) State the years when there was a continuous increase in the mass of Atlantic cod for at least five years.  
..... [1]
- (iii) Suggest reasons for the trend shown between 1990 and 1995.  
.....  
.....  
.....  
.....  
.....  
.....  
.....  
..... [3]

(iv) Explain how fish stocks can be conserved by restocking.

.....

.....

.....

.....

.....

.....

..... [3]

(b) Fish have adaptive features that enable them to live successfully in their environment.

Fig. 6.2 is a photograph of a great white shark, *Carcharodon carcharias*.

Great white sharks are efficient predators and have very good eyesight to see in poor light conditions underwater.



Fig. 6.2



11. 0610\_s18\_qp\_43 Q: 2

Fig. 2.1 shows an Arctic wolf, *Canis lupus*. These wolves are one of the few mammals adapted to the extreme cold of the tundra in the Canadian Arctic and in Alaska.



Fig. 2.1

(a) (i) State **two** features, **visible** in Fig. 2.1, that identify Arctic wolves as mammals.

1 .....

2 .....

[2]

(ii) Arctic wolves show many adaptive features to a cold environment.

Explain what is meant by the term *adaptive feature*.

.....

.....

.....

.....

.....

.....[3]



01. 0610\_p20\_MS\_40 Q: 1

- (a)** animals written in the correct boxes in the food web  
 vultures;  
 cheetahs;  
 mice / mouse; [3]
- (b)** (primary) producer;  
primary consumer; [2]
- (c)** (i) Sun; [1]  
 (ii) (lost) to the atmosphere / (lost as) infra-red (radiation) / heat / owtte; [1]
- (d)** Any three from:  
 idea that small percentage of energy from Sun is 'fixed' by photosynthesis /  
 most energy from Sun not available / reference to wrong wavelength;  
 energy is lost between and within trophic levels;  
 ref. to 10% energy transfer / ora (per trophic level);  
 note: if magnitude given, e.g. '90% lost between trophic levels', award 2 marks  
 ref. to material that is inedible or indigestible;  
 ref. to (small) total percentage reaching fourth trophic level (cumulative idea);  
 not enough energy in fourth trophic level to support another level;  
 avp; [max 3]
- (e)** Any three from:  
 feed is expensive;  
 more energy efficient to feed humans on crops or producers or animals that are used to make  
 the (fish) food;  
 waste feed causes eutrophication of water supplies;  
 diseases or parasites spread easily (in captivity);  
 diseases spread to other organisms in the wild;  
 chemicals used to control disease are also pollutants (e.g. antibiotics);  
 avp; e.g. animal welfare concerns [max 3]

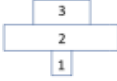
02. 0610\_w19\_MS\_43 Q: 1

	Answer	Mark	Partial Marks
(a)(i)	(level) 3 / tertiary / secondary <u>consumer</u> ;	1	
(a)(ii)	<i>Myrmarachne</i> ;	1	
(a)(iii)	dichotomous (key) ;	1	
(b)(i)	exoskeleton ; jointed / segmented, legs / AW ; (at least) 1 (or more up to 6) / (at least 1) (or more up to 3) pair, of legs / AW ; segmented (body) ; bilateral body symmetry ;	2	
(b)(ii)	two body parts ; eight legs / four pairs of legs ; AVP ;	2	
(b)(iii)	<b>B C D E</b> (in any order) ;;	2	
(c)	anatomy ; DNA (sequences) / genes ; sequences of amino acids (in proteins) ; AVP ; e.g. behaviour	1	

03. 0610\_s18\_MS\_41 Q: 2

	Answer	Mark	Partial Marks
(a)	(the probability that an organism will) survive <u>and</u> , reproduce / AW ;	1	
(b)(i)	(during the day they) remain in a burrow / stay in the shade / stay inactive / sleep / AW ; light colour / pale / yellow / white (fur / hair) / AW ; thin / long, tail / legs ; thin / short / little, fur ; no fur on legs ; fur on feet ; large, ears / pinna(e) ; little / no, fat ; large surface area: volume ratio ; produces, little / concentrated, urine ; AVP ;	2	A nocturnal (habit)  A ref. to long kidney tubules / AW
(b)(ii)	big eyes / large pupils / good eyesight ; whiskers ; lots of rods (in the retina / fovea) ; large ears / good sense of hearing / sensitive ears ; good sense of smell ;	2	A eye has no cones
(c)(i)	block added to the top of the pyramid that is 4 small squares wide ; labelled carnivores ;	2	
(c)(ii)	(detritivores) eat (mainly), plants / producers ; (detritivores) feed, at second trophic level / as primary consumers ; detritivores are eaten by, third trophic level / secondary consumers ;	1	
(c)(iii)	little energy is transferred from one trophic level to the next ; <b>ora</b> not all of the organisms are, eaten / digested / absorbed ; named example of energy loss ; <i>idea that</i> not enough energy to support higher trophic levels ;	2	
(c)(iv)	<i>idea that</i> in a pyramid of numbers one large individual is shown in the same way as one very tiny individual ; <b>ora</b> biomass indicates how much food there is, available / left ; biomass is an indicator of the energy available ; pyramid of biomass is pyramid shaped whereas a pyramid of numbers is not always ; <b>ora</b> AVP ;	3	

04. 0610\_s18\_MS\_42 Q: 2

	Answer	Mark	Partial Marks
(a)(i)	the probability of an organism will surviving <u>and</u> reproducing (in the environment in which it is found) / AW ;	1	
(a)(ii)	<i>aerial roots</i> for anchorage / stability (in flowing water) / (aerobic) respiration / gas exchange / oxygen absorption ;  <i>floating seeds</i> for (seed) dispersal (carried on water) / reduce competition (from parent) / access to oxygen (to germinate / respire) ;	2	
(b)(i)	1.1 (g) ;;	2	one mark for correct working if answer wrong (8000 / 7 500000) $\square$ 1000
(b)(ii)	bottom bar is narrowest ; middle bar is widest ; correct numbering of trophic levels ;	3	
(b)(iii)	pyramid of biomass is pyramid-shaped (and pyramid of numbers is not) ; <b>ora</b> mangrove trees have a <u>larger</u> biomass (than crabs) ; <b>ora</b> so one tree provides food for many crabs / AW ; (one) crab has a smaller biomass than (one) seagull ; <b>ora</b> each seagull needs to eat many crabs / AW ; (total) crab biomass is greater than (total) seagull biomass ; <b>ora</b> comparative data to support an argument with units ;	4	



06. 0610\_p16\_MS\_40 Q: 1

- (a) animals written in the correct boxes in the food web  
vultures;  
cheetahs;  
mice / mouse; [3]
- (b) (primary) producer;  
primary consumer; [2]
- (c) (i) Sun; [1]  
(ii) (lost) to the atmosphere / (lost as) infra-red (radiation) / heat / owtte; [1]
- (d) Any three from:  
idea that small percentage of energy from Sun is 'fixed' by photosynthesis /  
most energy from Sun not available / reference to wrong wavelength;  
energy is lost between and within trophic levels;  
ref. to 10% energy transfer / ora (per trophic level);  
note: if magnitude given, e.g. '90% lost between trophic levels', award 2 marks  
ref. to material that is inedible or indigestible;  
ref. to (small) total percentage reaching fourth trophic level (cumulative idea);  
not enough energy in fourth trophic level to support another level;  
avp; [max 3]
- (e) Any three from:  
feed is expensive;  
more energy efficient to feed humans on crops or producers or animals that are used to make the (fish) food;  
waste feed causes eutrophication of water supplies;  
diseases or parasites spread easily (in captivity);  
diseases spread to other organisms in the wild;  
chemicals used to control disease are also pollutants (e.g. antibiotics);  
avp; e.g. animal welfare concerns [max 3]

07. 0610\_w19\_MS\_41 Q: 7

	Answer	Mark	Partial Marks
(a)(i)	(named) bacteria ; lightning ; AVP ;	2	
(a)(ii)	process <b>A</b> denitrification ; process <b>B</b> nitrification ;	2	
(a)(iii)	ammonia / ammonium (ions) ;	1	<b>A</b> nitrite (ions)
(a)(iv)	removal of nitrogen containing part of amino acids ; to form urea ;	2	
(b)	ribosome / rough endoplasmic reticulum ;	1	
(c)	protease / pepsin / trypsin ;	1	

08. 0610\_w18\_MS\_41 Q: 1

	Answer	Mark	Partial Marks
(a)(i)	sun / light ;	1	
(a)(ii)	<b>C</b> ;	1	
(a)(iii)	ingestion / feeding / AW ;	1	
(a)(iv)	energy is lost (from the food chain as it is transferred from one trophic level to the next) / energy decreases up the trophic levels ; only 10% energy transferred ; ora energy is lost as heat / in respiration / in (named) metabolic processes / movement ; not all organisms (in one trophic level) are eaten / not all parts of the organisms are eaten ; not all nutrients in the organisms are, eaten / digested / absorbed some energy is lost in, excretion / urine / faeces ; some energy is transferred to decomposers ;	3	<b>A</b> energy transfer is inefficient          <b>A</b> egestion
(b)(i)	organisms that get energy from dead / waste, (organic) material ;	1	
(b)(ii)	respiration ;	1	
(c)	combustion / burning ; (more / less) fossil fuel is used ; concentration of (atmospheric) carbon dioxide is increasing ; deforestation described ; trees not replanted / fewer trees ; ora described effect on photosynthesis ; carbon dioxide released (into the atmosphere), as the trees are burnt / decay ; causing, global warming / <u>enhanced</u> greenhouse effect ; <i>ref. to</i> tundra thaw and methane ; rate of fossilisation is slower than rate of combustion / fossil fuels are non-renewable ; positive human activities / carbon capture technology ; (idea of) loss of equilibrium / balance ;	5	

09. 0610\_w18\_MS\_42 Q: 1

	Answer	Mark	Partial Marks								
(a)	<table border="1"> <tr> <td></td> <td>name of an organism from Fig.1.1</td> </tr> <tr> <td>producer</td> <td>algae / (phyto)plankton / clover / grass ;</td> </tr> <tr> <td>secondary consumer</td> <td>marsh rice rat / (stone) crab / mycid shrimp / blenny / (bald) eagle ;</td> </tr> <tr> <td>an animal that feeds at two trophic levels</td> <td>(bald) eagle / blenny / (spotted) sandpiper ;</td> </tr> </table>		name of an organism from Fig.1.1	producer	algae / (phyto)plankton / clover / grass ;	secondary consumer	marsh rice rat / (stone) crab / mycid shrimp / blenny / (bald) eagle ;	an animal that feeds at two trophic levels	(bald) eagle / blenny / (spotted) sandpiper ;	3	
	name of an organism from Fig.1.1										
producer	algae / (phyto)plankton / clover / grass ;										
secondary consumer	marsh rice rat / (stone) crab / mycid shrimp / blenny / (bald) eagle ;										
an animal that feeds at two trophic levels	(bald) eagle / blenny / (spotted) sandpiper ;										
(b)	nitrification ; (nitrifying) bacterium / bacteria ;	2	A oxidation								
(c)	root hairs ; (by) active, transport / uptake ; across (cell) membranes ; against a concentration gradient / low to high concentration / AW ; by proteins (molecules / pumps / carriers) ; use of, energy / ATP ; (also by) diffusion ;	3									
(d)	ribosome / (rough) endoplasmic reticulum ;	1									
(e)	nitrogen fixation ;	1									
(f)	little energy is transferred from one trophic level to the next / AW ; not enough energy, at the top of the pyramid / at higher trophic levels, to support a large number of organisms ; named example of energy loss ; heat / in respiration / in (named) metabolic processes / movement / excretion / urine / faeces not all organisms / parts of organisms (in one trophic level), are, eaten / digested ; AVP ;	3									

	Answer	Mark	Partial Marks
(a)(i)	1994 / 1995 / 1996 / 1997 / 2007 ;	1	
(a)(ii)	at least a 5 year period between 1975 and 1983 ;	1	
(a)(iii)	increased predation ; introduced species / new predators ; reduction in food supply ; overfishing / increase in fishing ; parasites / disease ; named examples of pollution / eutrophication ; global warming / climate change / ocean acidification ; AVP ;	3	
(a)(iv)	(captive) breeding programmes ; release them (into the wild / into protected areas) ; protected areas; monitoring of numbers ; limited fishing (so that wild stocks can recover) ; using farmed fish / sustainable fish (so wild stocks can recover) ; AVP ;	3	
(b)(i)	sharp / large teeth ; lots of teeth ; big jaws ; streamlined ; camouflaged ; AVP ;	2	apply list rule
(b)(ii)	1 variation (in eyesight) ; 2 ref. to mutation ; 3 new alleles arise that increases fitness ; 4 (organisms with better eyesight) are better competitors ; 5 organisms with the good eyesight / feature, are more likely to survive and reproduce ; ora 6 passing on their alleles (for good eyesight) ; 7 eventually all the organisms (in the population) will have the feature / good eyesight ; 8 ref to natural selection / evolution ;	5	

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	Answer	Mark	Partial Marks
(a)(i)	(external) ears / pinna(e) ; fur / hair ; whiskers ;	2	
(a)(ii)	inherited / genetic, feature ; result of natural selection ; increases <u>fitness</u> ; increases chances of survival / AW ; increases chances of, reproducing / AW ;	3	
(b)	temperature ; light (intensity) ; water (supply) / <i>idea that</i> water is not available (as frozen) ; (named) soil feature ; (named) mineral ion ; carbon dioxide ; grazing / predation ; (competition for) space ; disease ; (named) pollutant ;	3	A humidity
(c)	little energy available from, herbivores / primary consumers / lower trophic level(s) ; few producers / low population of producers / AW ; energy is lost, between / within, trophic levels / along food chain ; <b>ora</b> ref to 10 % energy transfer / 90% energy loss (between trophic levels) ; <b>ora</b> energy lost, in named process ;; low numbers of, prey / (primary) consumers / food ;  wolves not very successful at catching prey ; reason why ; e.g. prey are widely dispersed / larger animals  lower reproductive rate / higher mortality of wolves ;  hunting / killed by people ; reason why ; e.g. for fur / compete with humans for food  habitat destruction (by humans) ; reason why ; e.g. road building / oil exploration / melting of snow  disruption of food web (described) ; disease ; inbreeding / reduced genetic diversity ; <u>climate change</u> / <u>global warming</u> ;	6	