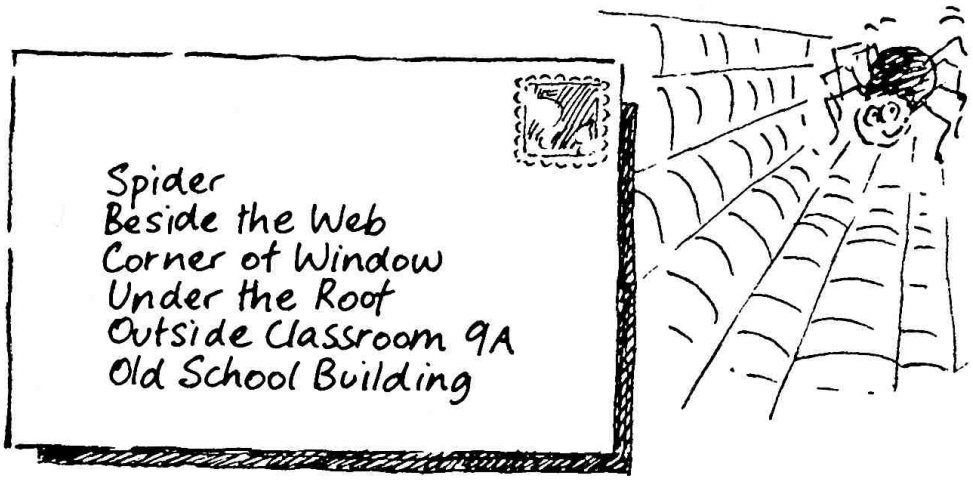
7C1 What do you know about environment?

Name _____ Class _____

What goes on in an environment?

- Your environment is your surroundings.
  You could think of a living thing's environment as its address.
  An example is given on the envelope below.



- Write an 'environmental address' for ***one*** plant and ***one*** animal you have studied.

- Food chains show the feeding relationships in a habitat.
  Below are some examples of food chains.
  There are three mistakes. Put a ring round them.
  Write notes beside them to say what is wrong.

a) worm → leaf → blackbird

b) acorn → mouse → owl

c) freshwater shrimp → water louse → water spider

d) plants ← caterpillar ← robin

7C1 A place to live

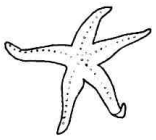
Extra Help

Name _____ Class _____

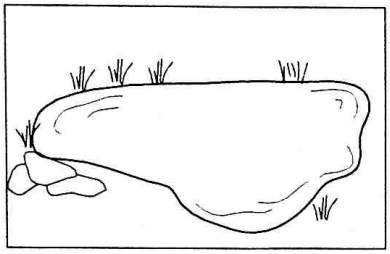
- Look at the pictures of the four different habitats.
  Look at the names of the animals and plants scattered around the page.
- Can you match each animal and plant with its natural habitat?
  One has been done to start you off.

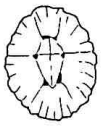

Crab

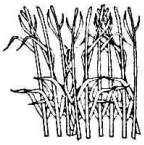

Pondweed


Starfish

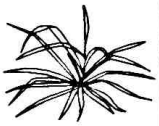
Pond

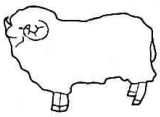



Barnacle

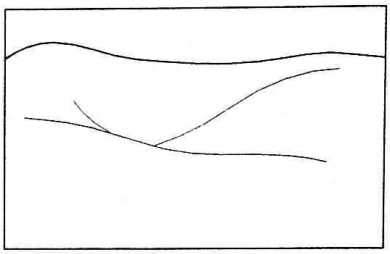

Reeds

Grass

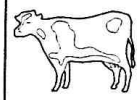



Sheep

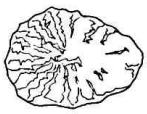
Desert



Cow



Palm Tree


Limpet

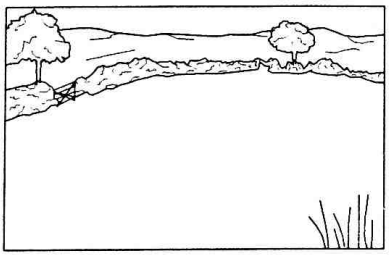

Gerbil


Rabbit

Snake


Cactus

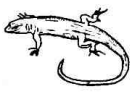
Field




Seaweed

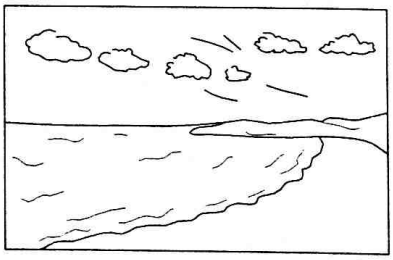

Frog

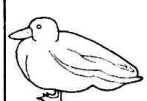

Toad


Lizard


Water Lily

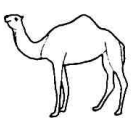
Seashore




Duck


Jellyfish


Fox


Camel

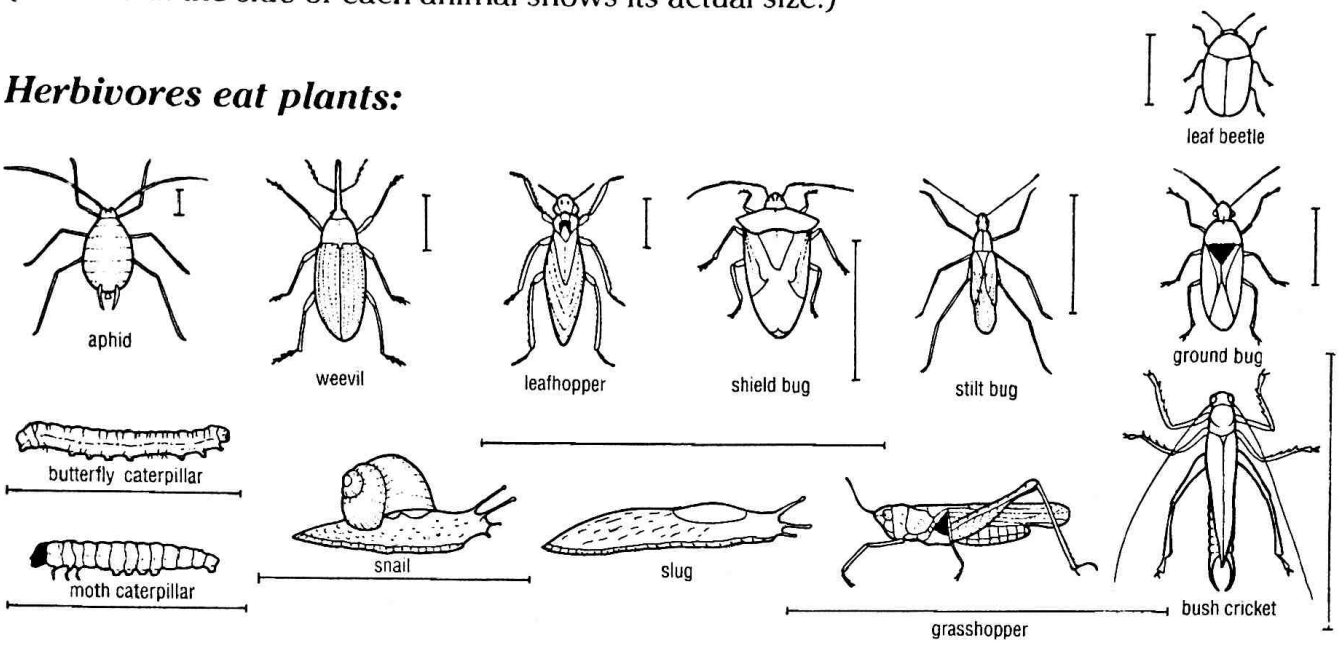

Field Mouse

7C1 How do small animals survive?

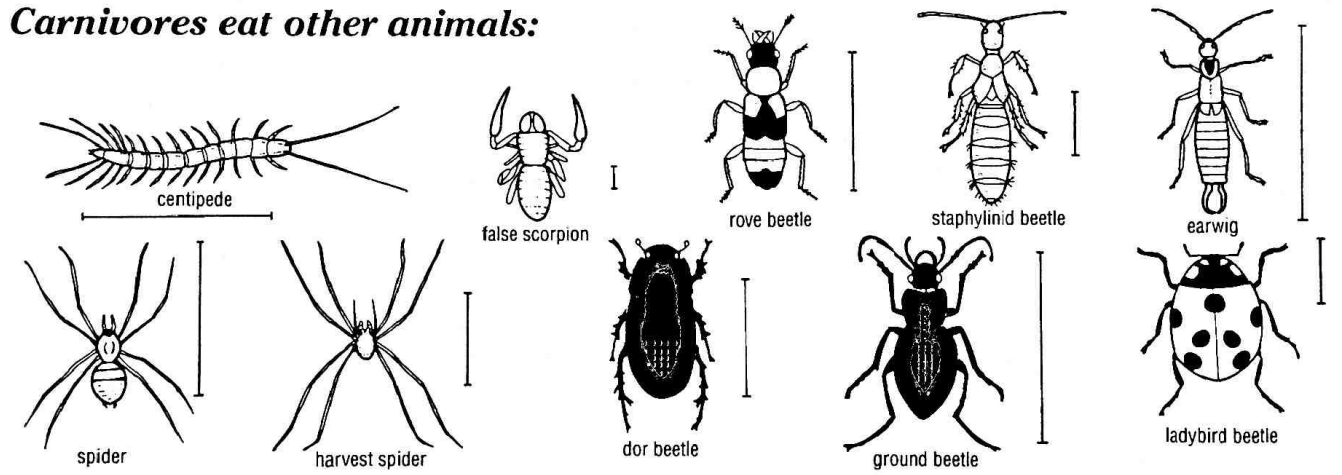
Help Sheet

Use this sheet to identify any small animals that you find.
The sheet also tells you what the animals feed on.
(The line at the side of each animal shows its actual size.)

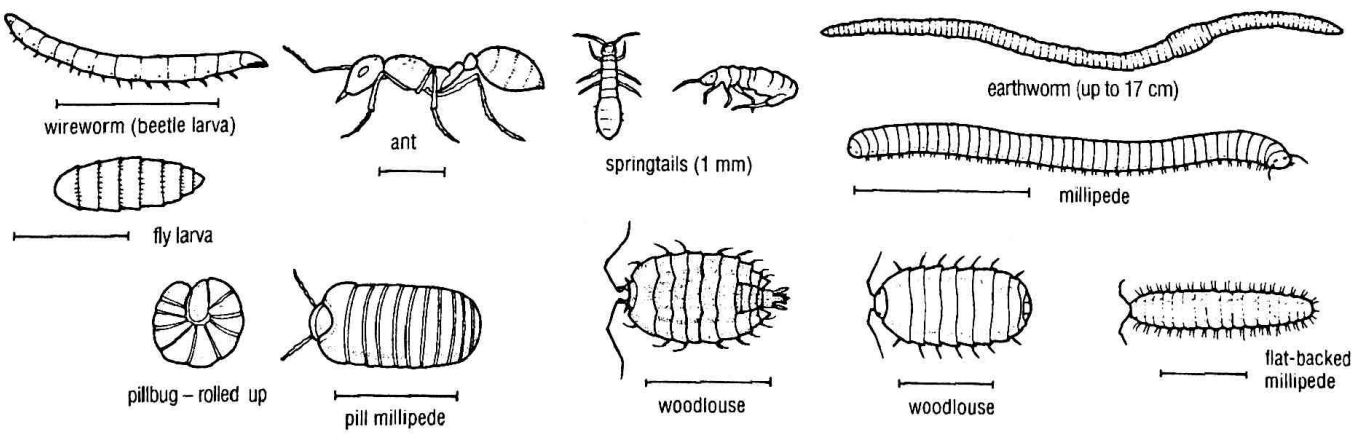
Herbivores eat plants:



Carnivores eat other animals:



Scavengers eat dead plant and animal remains:



7C1

Looking at sample sizes in fieldwork

Sc1 Skill Sheet 3

Name _____ **Class** _____

A class were looking at the different animals found in various areas of the school grounds. Four groups collected samples from three different areas. Then they counted the number of animals in each.

Here are their results:

Group 1

Area	*Worms*	*Ants*	*Woodlice*	*Ladybirds*
Leaf litter	0	12	10	0
Soil	2	5	2	0
Hedge	0	0	0	3

Group 2

Area	*Worms*	*Ants*	*Woodlice*	*Ladybirds*
Leaf litter	0	10	2	0
Soil	1	6	0	1
Hedge	0	0	0	5

Group 3

Area	*Worms*	*Ants*	*Woodlice*	*Ladybirds*
Leaf litter	0	4	6	0
Soil	5	7	0	0
Hedge	0	0	0	5

Group 4

Area	*Worms*	*Ants*	*Woodlice*	*Ladybirds*
Leaf litter	1	20	2	0
Soil	2	16	1	0
Hedge	0	3	0	2

1 Looking at Group 3 only, which habitats do ants prefer? _____

2 Looking at Group 4 only, which habitats do ants prefer? _____

3 Complete the whole class table below by adding the results of all 4 groups together.

Area	*Worms*	*Ants*	*Woodlice*	*Ladybirds*
Leaf litter				
Soil				
Hedge				

4 Now use the whole class results from question 3 to answer these questions:

a) Which habitat do ants prefer? _____

b) Why is this answer more reliable? _____

_____

_____

5 Explain why you wouldn't use Group 4's results to make a firm conclusion about which habitat woodlice prefer.

_____

7C1

Backyard safari

HOMEWORK SHEET
Writing for a purpose

- Write a report for a nature magazine about your backyard, garden or local park.
- Include information about why you think it is a good place for small animals to live.
- Mention all of the different habitats it provides and which creatures are able to live there. For example, woodlice can live under the tree bark and rotting wood. They like it there because it is damp and dark. If they stayed out in the open they would dry up in the sun.
- Make sure that you set out your report in an interesting way that will attract people to it and make them want to read it.
- You may like to include diagrams, photographs or cartoons.

Mark scheme

You will receive marks for the following:

– explaining clearly what the creatures need to survive	*2*
– giving good examples of creatures in different habitats	*2*
– making good use of scientific words	*2*
– producing a good, eye-catching design	*2*
– neatness and accuracy of English	*2*

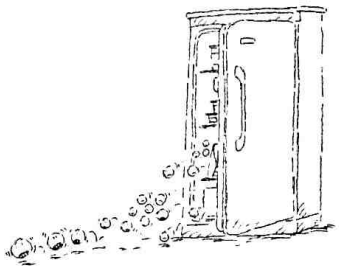
Maximum = 10 marks

7C2 Shivering seeds!

Help Sheet

Think about:

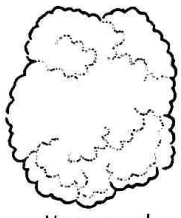
- How many seeds will you use?
- Where can you put them to keep them cold?
- What temperature do you want the seeds at?
- How long will they be kept cold?
- How will you try to make it a ***fair test***?

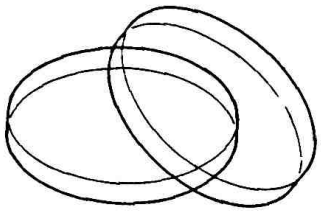


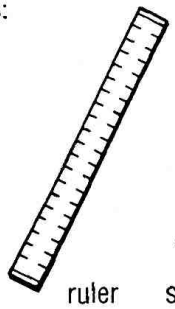
For each type of seed tested you could put your results in a table like this:

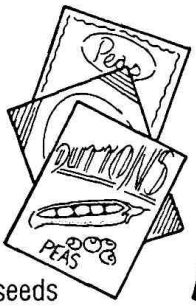
Number of days	Length of root (cm)

You may choose to use some or all of these things:

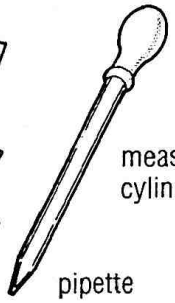

cotton wool

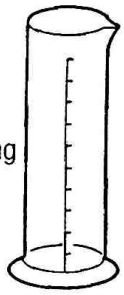

petri dish


ruler



seeds


pipette

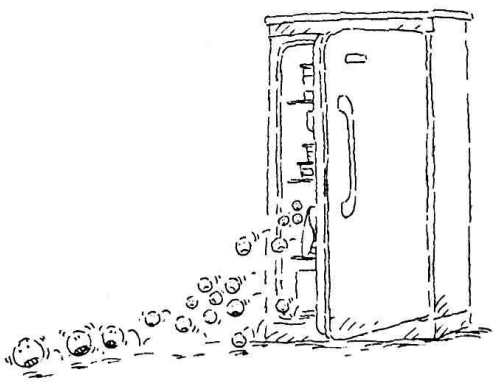

measuring cylinder

7C2 Shivering seeds!

Extension Sheet

1 Evaluate your investigation:

- What did you do to make your test as fair as possible?
- How would you make your results more reliable?
- How would you improve your investigation?



2 If you were designing an advert for the new variety of pea seeds, what things would you want to tell people about?
(If you have time you could draw an advert.)

3 Some seeds contain a chemical which stops them from growing! They will only germinate (start growing) after this chemical has been washed away. Why do you think it is an advantage for these seeds to have this chemical?

7C2 Shivering seeds!

Extra Help

Name _____ **Class** _____

- What are you going to investigate?

_____

_____

- Fill in the spaces below using the words in the box.

temperature	water	dark	warm	count	time	fridge	number

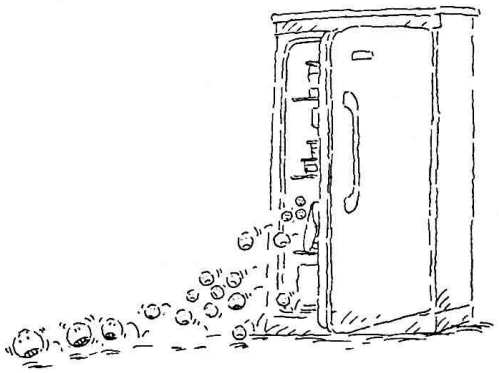
To make it as fair a test as possible:

I will use the same n _ _ _ _ _ _ of seeds.

I will add the same amount of w _ _ _ _ _ .

I will give them the same length of t _ _ _ _ to grow.

I will put both sets of seeds in the d _ _ _ _ .



The thing I will change is t _ _ _ _ _ _ _ _ _ _ _ _ .

One dish of seeds will be left in the f _ _ _ _ _ _ .

One dish of seeds will be left in a w _ _ _ _ place.

I will c _ _ _ _ _ the number of seeds which grow in each dish.

- Record your results in the table:

Number of seeds which started to grow in the cold	*Number of seeds which started to grow in the warm*

- What did you find out?

_____

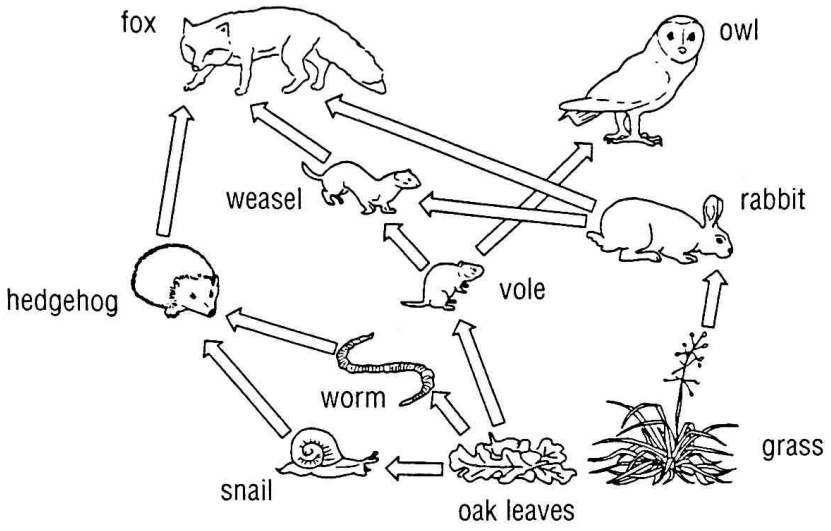
_____

7C3 Who's eating who?

Extra Help

Name _____ Class _____

- Look at the food web.



Woodland food web

- The food chains below have been taken from this food web. Finish them off by filling in the missing spaces.

1 o _ _ _ l _ _ _ _ _ _ → snail → hedgehog → f _ _ _

2 leaves → v _ _ _ _ → owl

3 grass → r _ _ _ _ _ _ → fox

4 leaves → worm → h _ _ _ _ _ _ _ _ → f _ _ _

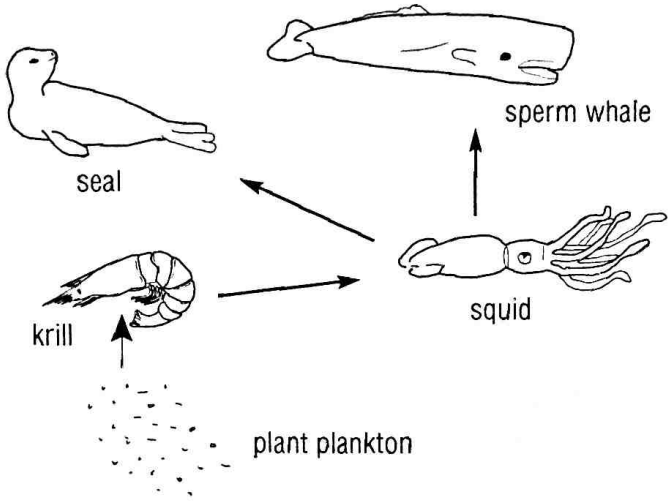
5 g _ _ _ _ → rabbit → w _ _ _ _ _ _ → fox

6 o _ _ _ l _ _ _ _ _ _ → vole → w _ _ _ _ _ _ → f _ _ _

- Plants are called **producers** because they can make their own food. Draw a green circle around all the plants in the food chains above.
- Animals that eat plants are called **herbivores**. Draw a blue circle around all the herbivores in the food chains.
- Animals that eat other animals are called **carnivores**. Draw a red circle around all the carnivores in the food chains.

7C3 Antarctic food web

HOMEWORK SHEET
Handling data



Look at the food web above and answer these questions.

1. Name the producers in this food web.
2. What does a squid eat?
3. Which animals eat squid?
4. Name 2 consumers in this food web.
5. Name 2 carnivores in this food web.
6. Name one herbivore in this food web.
7. What would happen to the number of sperm whales if a disease killed all the seals?
8. What would happen to the number of krill if all the seals died?

Mark scheme
You will receive 1 mark for correctly answering questions 1, 2, 3, 6, 7 and 8.
You will receive 2 marks for correctly answering questions 4 and 5.

Maximum = 10 marks

7C4 Fit for survival

Extra Help

Name _____ **Class** _____

- Look at the photographs at the top of page 42.
- Look at the list of adaptations in the box below.

Markings like large eyes to scare away birds
White fur for camouflage
Brightly coloured flowers to attract insects
Strong front legs for digging
Sharp teeth for tearing meat
Sensitive nose to give a good sense of smell
Thick fur coat to keep warm in the snow
Can live in poor soil
Well camouflaged against the sea bed
Wings for flying
Eyes on the side of the body to see predators and prey in the water above

- Match each adaptation to the correct photograph and write it in this table:

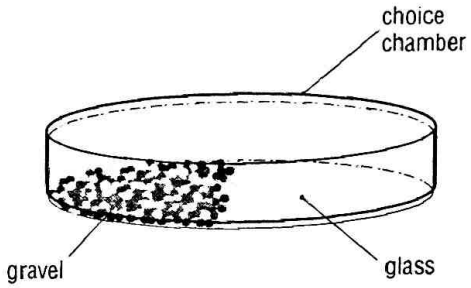
	How it is adapted to survive
Polar bear	
Flounder	
Mole	
Oxford ragwort	
Eyed hawk moth	

Sample sizes for biological work

Name _____ **Class** _____

Some Year 7 students were investigating the conditions that snails prefer to live on.

They set up some choice chambers with different surfaces in them. Then they recorded the number of snails in each section every 5 minutes for a total of 25 minutes.



Results

Group 1

Time (minutes)	*Surface*	
	Glass	*Gravel*
5	7	3
10	6	4
15	8	2
20	9	1
25	8	2
Average	7.6	2.4

Look at Group 1's results.
Which surface do the snails prefer?

_____

_____

Group 2

Time (minutes)	*Surface*	
	Glass	*Gravel*
5	6	4
10	2	8
15	3	7
20	1	9
25	1	9
Average	2.6	7.4

From these results, which surface do the snails prefer?

_____

continued ...

Sample sizes for biological work (continued)

Now consider the other 2 groups' results and the whole class.

Group 3

Time (minutes)	*Surface*	
	Glass	*Gravel*
5	8	2
10	8	2
15	7	3
20	9	1
25	10	0
Average	8.4	1.6

Group 4

Time (minutes)	*Surface*	
	Glass	*Gravel*
5	6	4
10	5	5
15	6	4
20	7	3
25	7	3
Average	6.2	3.8

Whole class

	Surface	
	Glass	*Gravel*
Total of averages using each group's results	24.8	15.2

Why is it better to use the whole class results than the results of the individual groups?

Fitting the bill

Different birds are adapted to feed in different habitats.
Look carefully at the pictures of the 6 birds below.

Can you match up each bird with the correct description?

1 Catches fish and tears them to pieces to feed its young.

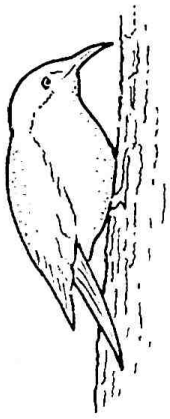
2 Sieves its food out of pond water.

3 Climbs trees and picks insects out of cracks in the bark.

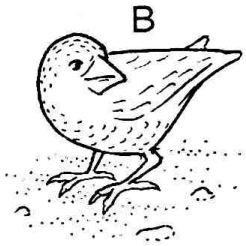
4 Cracks open hard seeds.

5 Wades in shallow water feeding on insects and small worms.

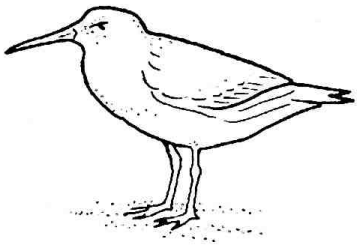
6 Wades in deep water feeding on insects on the surface.



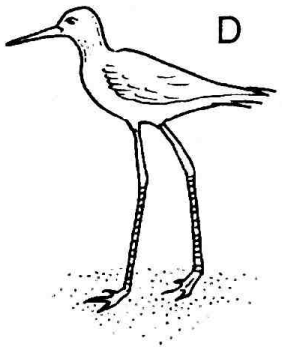
A



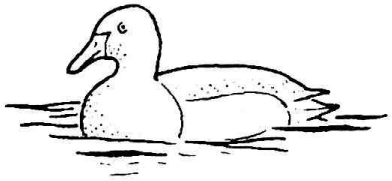
B



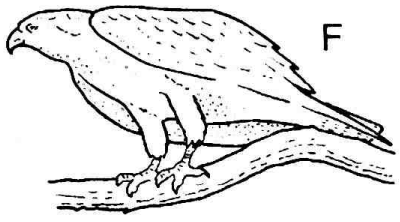
C



D



E



F

continued ...

Fitting the bill *(continued)*

Look at the diagrams below.
Diagram 1 shows ***three*** burrowing animals that live at different depths in the sand on a beach. Wading birds feed on them.
Diagram 2 shows the heads of ***three*** wading birds.

Diagram 1

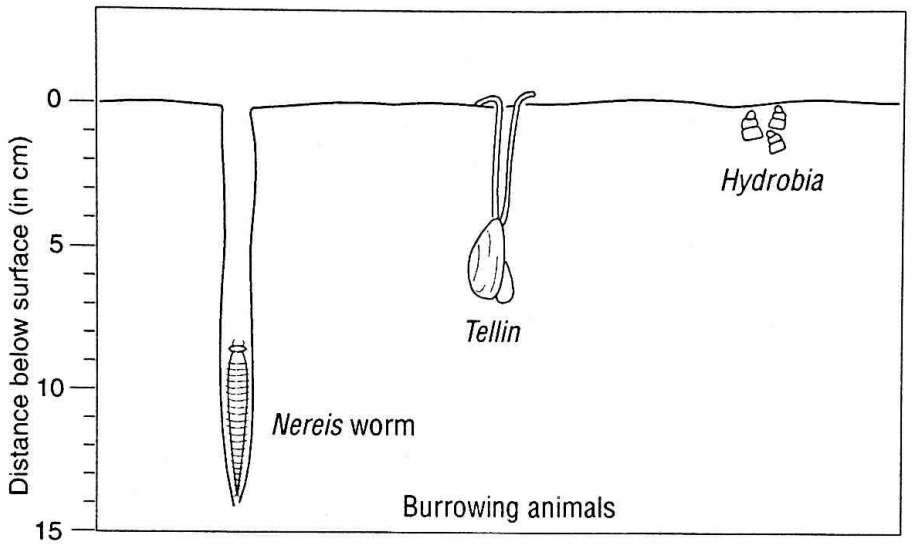
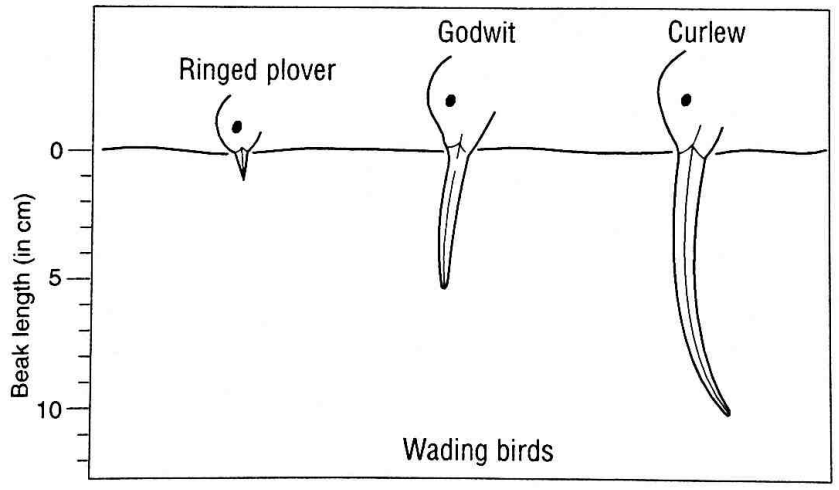


Diagram 2



7 Which burrowing animal is each wading bird likely to feed on? (i) Ringed plover
(ii) Godwit
(iii) Curlew

8 Which bird is able to feed on *all* the burrowing animals?

Mark scheme
You will receive 1 mark for correctly completing numbers 1, 2, 3, 4, 5, 6 and 8.
You will receive 3 marks for correctly completing number 7.

Maximum = 10 marks

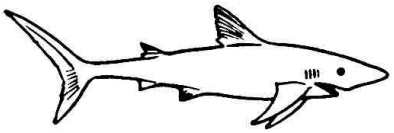
7C5 Predators and prey

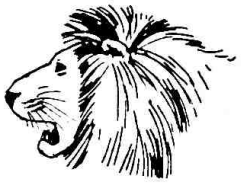
Extra Help

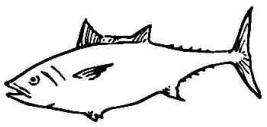
Name _____ **Class** _____

- The pictures on the left show four predators. The pictures on the right show their prey. Match up each predator to its prey by drawing a line between them.







- Predators are adapted to hunting and killing their prey. Tick the boxes in the table below to show which adaptations each predator has.

Adaptation	*owl*	*shark*	*lion*	*spider*
hooked beak				
sharp pointed teeth				
makes a web to catch its prey				
well camouflaged				
strong sharp claws				
can move very quickly				
has fangs to inject poison				
can see very well at night				
rows of sharp teeth				
good eyesight				
good hearing				

7C5 Life's ups and downs

Extra Help

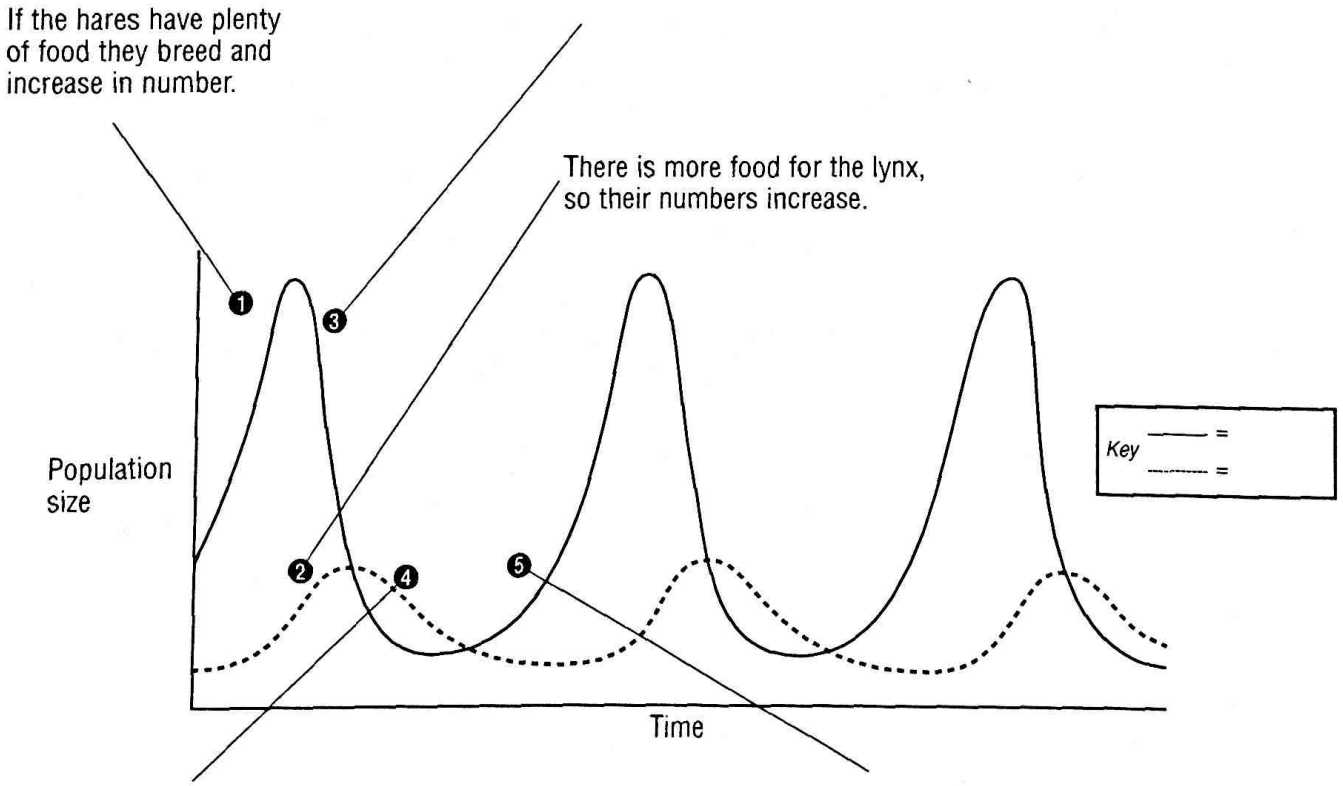
Name _____ Class _____

- The graph below shows what happens to a population of lynx and of hares over a number of years.
- Label the predator (lynx) and the prey (hare) on the graph.
- Finish labelling the graph using the sentences in the box below.

The number of lynx start to fall as there are fewer hares to eat.

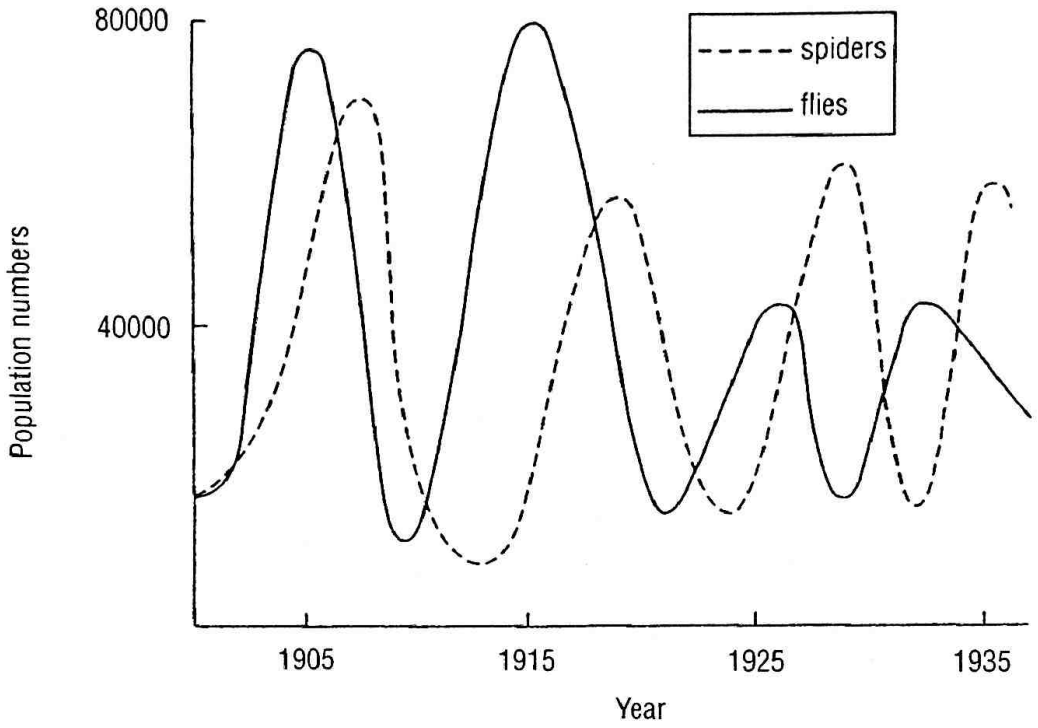
The number of hares starts to increase again as there are now a lot fewer lynx hunting them.

The number of hares starts to fall as there are now more lynx hunting them.



7C5 Come into my parlour ... HOMEWORK SHEET Handling data

Name _____ Class _____



This graph shows how the population of spiders (predators) and the population of flies (prey) changed over a number of years.

Copy the passage below into your book. Use the information on the graph to fill in the gaps using the words ***spiders*** or ***flies***.

- At the start, the population of flies goes up because there are not many _ _ _ _ _ _ _ to hunt them.
- A few years later the population of _ _ _ _ _ _ _ goes up because there are now lots of _ _ _ _ _ for them to feed on.
- The number of _ _ _ _ _ _ _ keeps going up until there are not enough flies for them to feed on.
- Now, the number of _ _ _ _ _ goes down very quickly, because they are hunted by large numbers of _ _ _ _ _ _ _.
- As there are not enough _ _ _ _ _, many of the _ _ _ _ _ _ _ starve, so the number of their population goes down.
- The whole cycle now starts again, with the population of _ _ _ _ _ going up because there are fewer _ _ _ _ _ _ _ to hunt them.

Mark scheme
You will receive 1 mark for each correct answer.

Maximum = 10 marks

7C5 Populations

LITERACY SHEET Core

Name _____ **Class** _____

All the words below relate to plants and animals living together.
Use a book, your own knowledge, a dictionary, ROM or the internet to fill in the definition column.
Then, try and write a sentence using the word correctly.

Words	*Definition*	*Write a sentence using the word correctly*
Food chains		
Adaptation		
Competition		
Resources		
Territory		
Predator		
Prey		
Biosphere		
Pyramid of numbers		
Consumer		
Population		