## Naming living things

If you want to find the name of a plant or animal you could look through books until you see a picture of it. Or you could use a key.

## Keys

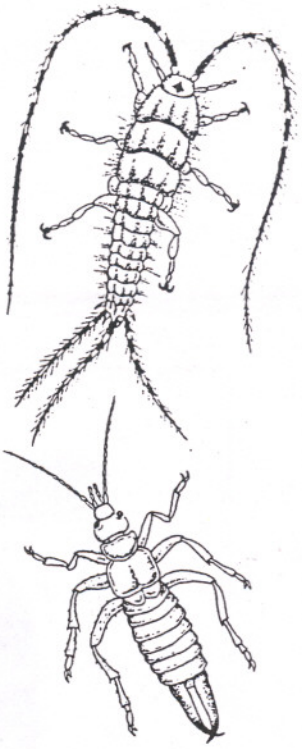
The simplest keys are made up of short, numbered sentences arranged in pairs. Look at the example below. Read the instructions, then use this key to name the insects drawn on this page.

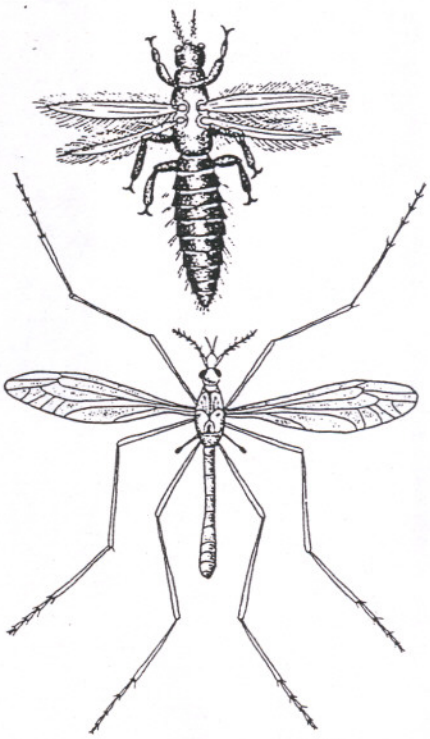
## How to use the key

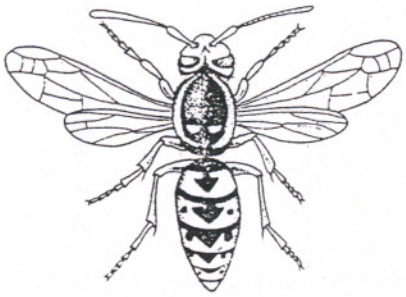
Read the first pair of descriptions and decide which fit the insect you are trying to name. Opposite the description you choose there is a number. This number tells you which pair of descriptions to read next. Read them, and again decide which describes the insect. Opposite, you will find either the insect's name, or the number of the next pair of descriptions to read. Carry on until you find the insect's name.

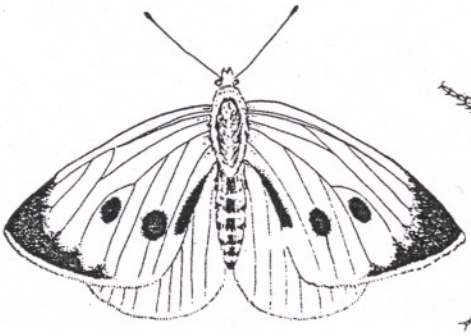
## An example of a key

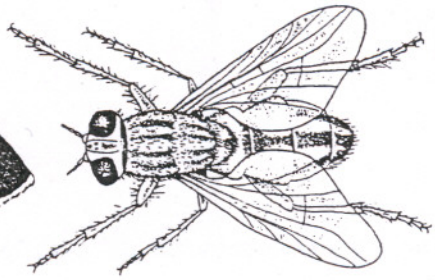
| | | |
|---|---|---|
| 1 | Wings visible | 3 |
| | Wings not visible | 2 |
| 2 | Three-pronged tail | Bristle tail |
| | Pincers at end of tail | Earwig |
| 3 | Two pairs of wings | 4 |
| | One pair of wings | 5 |
| 4 | Wings fringed with hairs | Thrip |
| | Wings not fringed with hairs | 6 |
| 5 | Legs longer than body | Cranefly |
| | Legs not longer than body | Housefly |
| 6 | Wings larger than body | Butterfly |
| | Wings not larger than body | Wasp |











For Examiner's Use

**1** Fig.1.1 shows six arthropods, each of which could carry disease organisms.

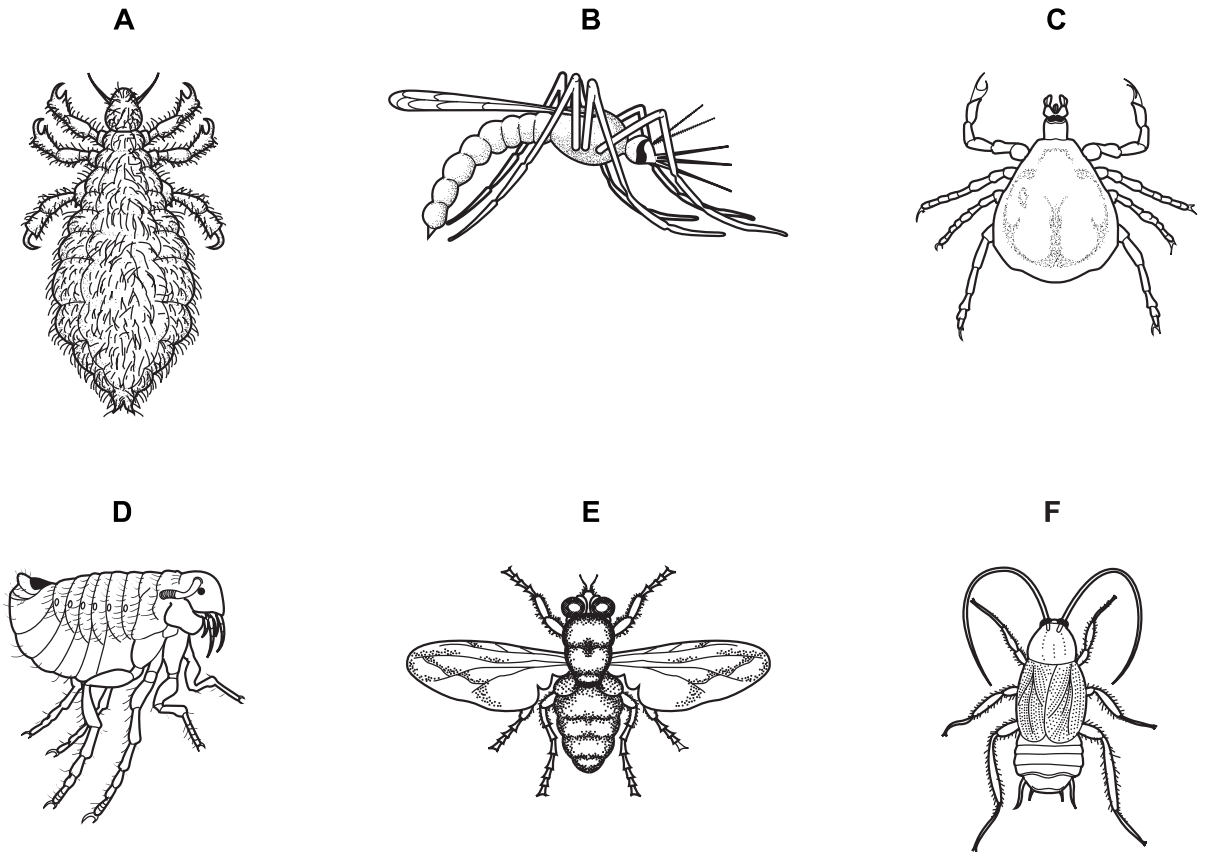



**Fig. 1.1**

Use the key to identify each of the arthropods. Write the name of each arthropod in the correct box of Table 1.1. As you work through the key, tick (✓) the boxes in Table 1.1 to show how you identified each arthropod.

Arthropod **A** has been completed for you as an example.

**Key**

| | arthropod |
|---|---|
| 1 (a) Wings present ……..... | go to 2 |
| (b) Wings absent …….. | go to 4 |
| 2 (a) Wings shorter than abdomen …… | go to 3 |
| (b) Wings longer than abdomen ……. | Musca |
| 3 (a) Abdomen long and narrow …… | Anopheles |
| (b) Abdomen short and broad ……. | Periplaneta |
| 4 (a) Has three pairs of legs …….. | go to 5 |
| (b) Has four pairs of legs ……. | Ornithodorus |
| 5 (a) One pair of legs shorter than the other pairs …. | Pulex |
| (b) All pairs of legs of similar length ……..… | Pediculus |

**Table 1.1**

| | 1 (a) | 1 (b) | 2 (a) | 2 (b) | 3 (a) | 3 (b) | 4 (a) | 4 (b) | 5 (a) | 5 (b) | name of arthropod |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | | ✓ | | | | | ✓ | | | ✓ | *Pediculus* |
| **B** | | | | | | | | | | | |
| **C** | | | | | | | | | | | |
| **D** | | | | | | | | | | | |
| **E** | | | | | | | | | | | |
| **F** | | | | | | | | | | | |

[5]

[Total: 5]

*For Examiner's Use*

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**1** Fig. 1.1 shows six different fish.

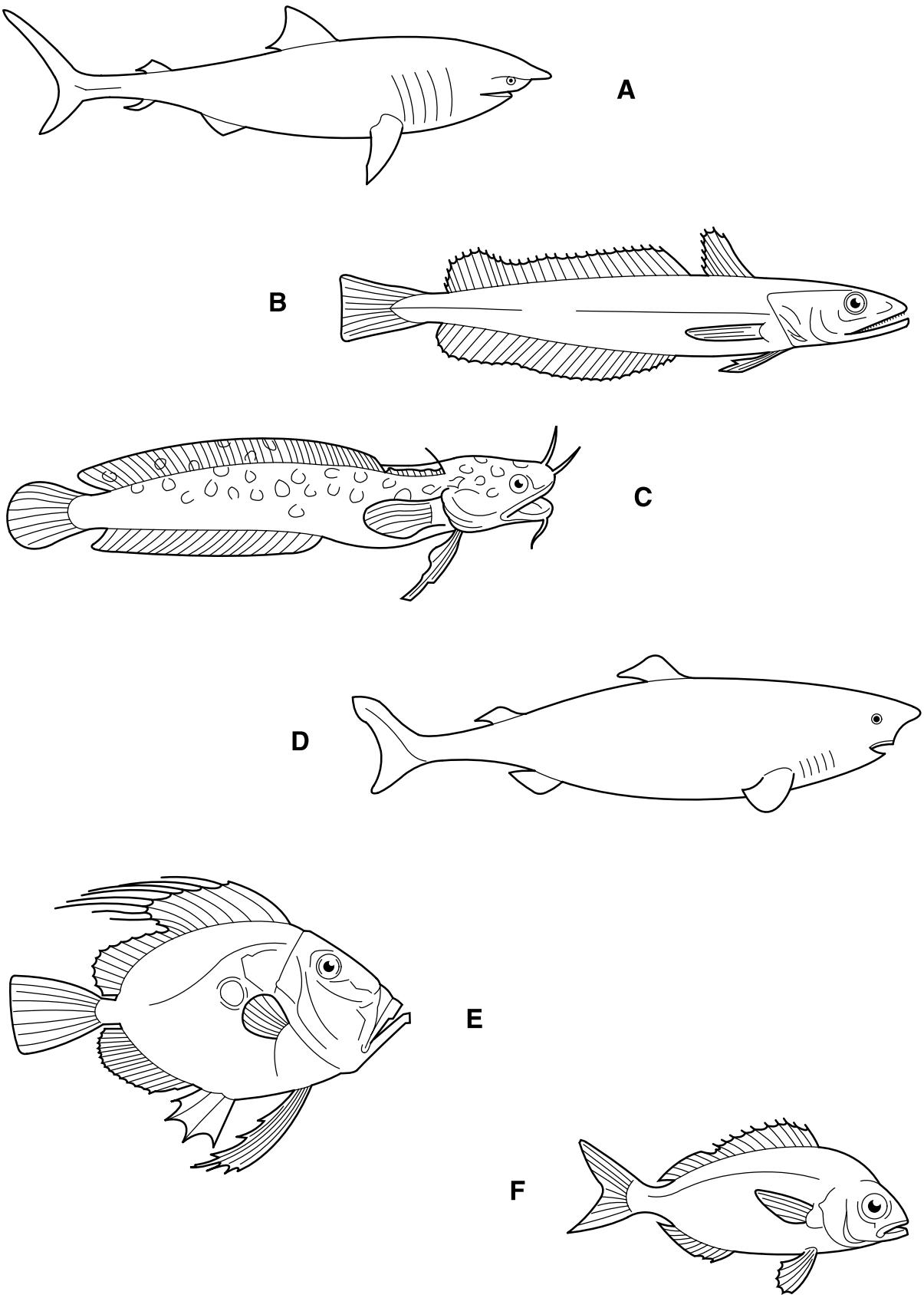


**Fig. 1.1**

Use the key below to identify each fish. Write the name of each fish in the correct box of Table 1.1. As you work through the key, tick the boxes in Table 1.1. to show how you identified each fish. Fish **A** has been identified for you as an example.

**Key**

| | | name of fish |
|---|---|---|
| **1** | **(a)** No gill slits visible | 2 |
| | **(b)** Five gill slits visible | 3 |
| **2** | **(a)** Body about 7 times as long as deep | 4 |
| | **(b)** Body about 2 times as long as deep | 5 |
| **3** | **(a)** Eye above front end of mouth | Basking Shark |
| | **(b)** Eye above back edge of mouth | Greenland Shark |
| **4** | **(a)** One fin along back | Bearded Rockling |
| | **(b)** Two fins along back | Hake |
| **5** | **(a)** Back fin with short spines | Sea Bream |
| | **(b)** Back fin with long spines | John Dory |

**Table 1.1**

| fish | **1(a)** | **1(b)** | **2(a)** | **2(b)** | **3(a)** | **3(b)** | **4(a)** | **4(b)** | **5(a)** | **5(b)** | name of fish |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | | ✓ | | | ✓ | | | | | | Basking Shark |
| **B** | | | | | | | | | | | |
| **C** | | | | | | | | | | | |
| **D** | | | | | | | | | | | |
| **E** | | | | | | | | | | | |
| **F** | | | | | | | | | | | |

[Total : 5]

Answer **all** the questions.

**1** Fig. 1.1 shows a mayfly nymph (a larva) that lives in water.

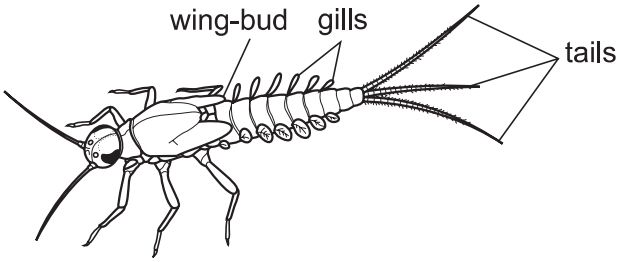


**Fig. 1.1**

**(a)** **(i)** List two features, visible in Fig. 1.1, that show this is an insect.

1. .....

2. ..... [2]

**(ii)** What special adaptation does the insect shown in Fig. 1.1 have that allows it to live in water?

..... [1]

**(b)** Fig 1.2 shows five mayfly nymphs.

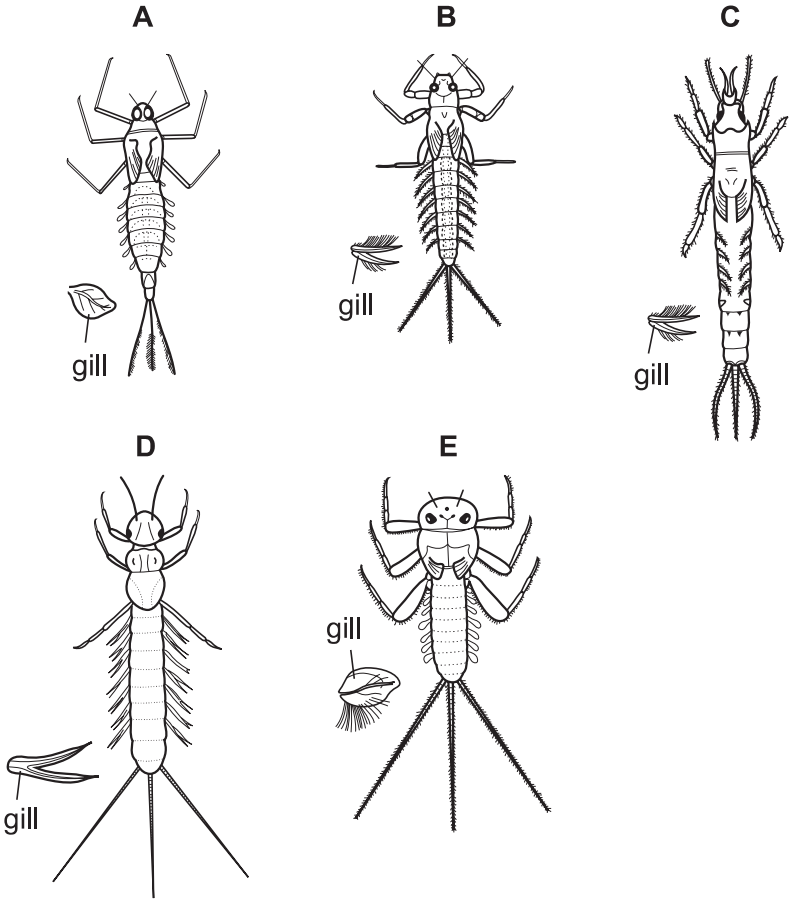


**Fig.1.2**

Use the key below to identify the species of each mayfly.

| | species |
|---|---|
| 1 Rear pair of legs point towards tails ——— go to 2 | |
| Rear pair of legs point forwards or sideways ——— go to 3 | |
| 2 Gills project sideways from body | *Paraleptophlebia* |
| Gills folded over body | *Ephemera* |
| 3 Each gill a single flat plate ——— go to 4 | |
| Each gill divided into two strands | *Potomanthus* |
| 4 Tails “feather” like in shape | *Centroptilum* |
| Tails “needle” shaped | *Ecdyonurus* |

Write the diagram letter of each of the species in the correct box of Table 1.1.

**Table 1.1**

| species | diagram letter |
|---|---|
| *Centroptilum* | |
| *Ecdyonurus* | |
| *Ephemera* | |
| *Paraleptophlebia* | |
| *Potomanthus* | |

[4]

[Total: 7]

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**1** Fig.1.1 shows the shells of five molluscs.

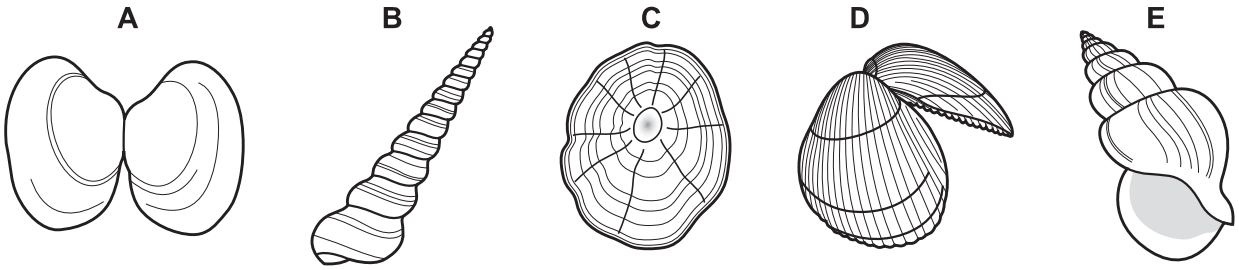


**Fig.1.1**

Use the key to identify each of the molluscs which normally live inside the shells.
Write the name of each mollusc in the correct box of Table 1.1.

As you work through the key, tick (✓) the boxes in Table 1.1 to show how you identified each mollusc.

**Key**

| | name of mollusc |
|---|---|
| 1 (a) Shell made of two parts | go to 2 |
| (b) Shell made of one part only | go to 3 |
| 2 (a) Both shell halves have ridges running down the shell | *Cardium* |
| (b) Both shell halves are smooth | *Venerupis* |
| 3 (a) Shell tightly coiled | go to 4 |
| (b) Shell conical with no coil | *Patella* |
| 4 (a) Bottom coil less than a quarter of the length of the shell | *Turritella* |
| (b) Bottom coil more than half of the length of the shell | *Buccinum* |

**Table 1.1**

| | 1 (a) | 1 (b) | 2 (a) | 2 (b) | 3 (a) | 3 (b) | 4 (a) | 4 (b) | name of mollusc |
|---|---|---|---|---|---|---|---|---|---|
| **A** | | | | | | | | | |
| **B** | | | | | | | | | |
| **C** | | | | | | | | | |
| **D** | | | | | | | | | |
| **E** | | | | | | | | | |

[4]

[Total: 4]