

# ARTHROPODS

1 The animals labelled **A** and **B** in Fig. 2.1 are both arthropods.

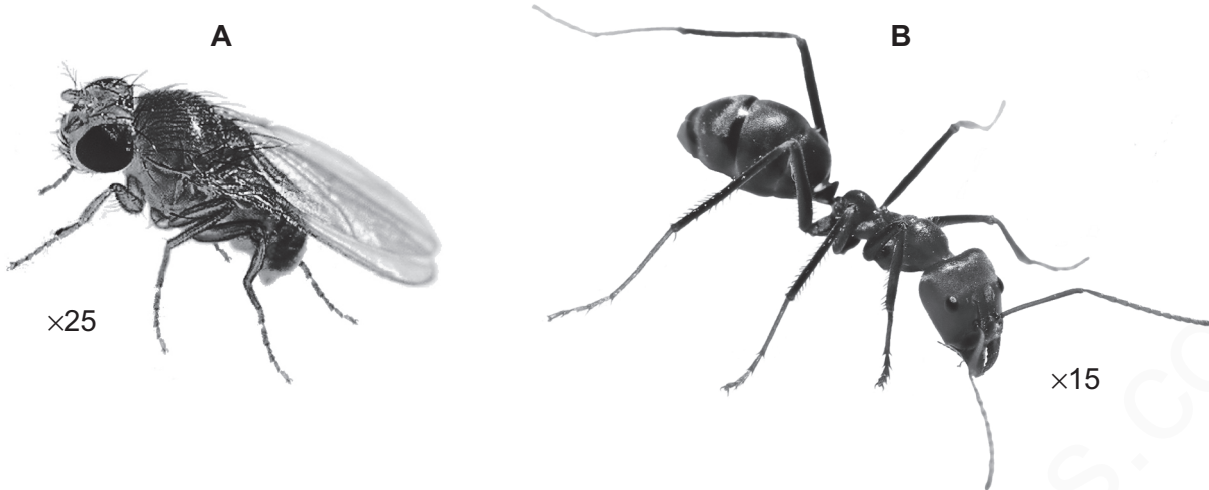


Fig. 2.1

(a) Make a large labelled drawing of the **head** of arthropod **B**

[5]

(b) **A** and **B** belong to the same group of arthropods.

(i) Name this group

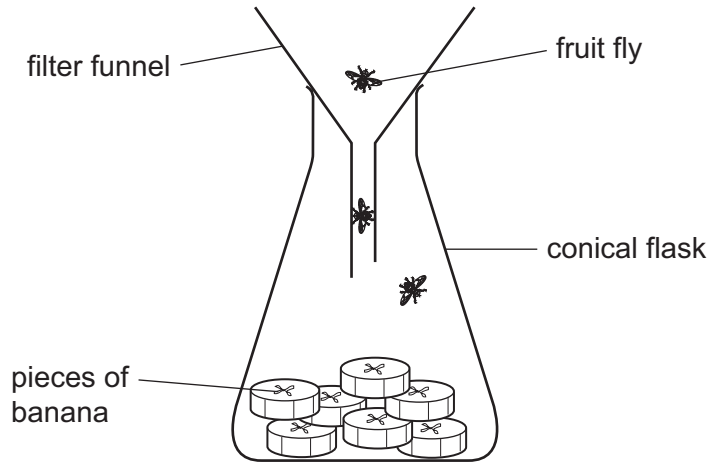
..... [1]

(ii) State two visible features of **A** and **B** which show that they belong to this group

1 .....

2 ..... [2]

(c) Fig 2.2 shows a trap which can be used to catch other insects such as fruit flies.



**Fig. 2.2**

(i) Fruit flies feed on fruits such as bananas. Bananas contain carbohydrates.

Describe how you could safely test a piece of banana for **two** different carbohydrates.

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[6]

(ii) Describe the observations expected if **these** two carbohydrates are present.

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[2]

(d) Fig. 2.3 shows a banana and a similar fruit called a plantain.



**Fig. 2.3**

Suggest an investigation to find out if fruit flies are more likely to feed on banana or plantain.

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..... [3]

[Total: 19]

## MARKING SCHEME

(a)	<p><b>Outline:</b> use of single clear lines for drawing ;</p> <p><b>Size:</b> head larger than head in photograph at least half of space available ;</p> <p><b>Detail:</b> <b>two</b> details from pair of antennae or pair eyes in correct position ; pair of mandibles / mouth parts ;</p> <p><b>Label</b> 1 label mark only: <b>one</b> from eye / antenna / jaws or mouth or mandibles AW ;</p>	[5]	<b>R</b> shading / cross hatching(including eyes)
(b) (i)	insects / Insecta ;	[1]	
(ii)	body divided into 3 parts or sections / head, thorax and abdomen ; three pairs of legs ;	[2]	
(c) (i)	<p>Use of reducing sugar and starch test reagents <b>only</b> ;</p> <p><i>reducing sugar test:</i> crush / mix with water / AW ; add Benedict's solution ; heat ;</p> <p><i>starch test:</i> add iodine solution ;</p> <p><i>Safety feature:</i> goggles / lab. coat AW / tongs / heat in water bath ;</p>	[6]	
(ii)	<p><i>Observation for reducing sugar test:</i> to green / yellow / orange / red ;</p> <p><i>Observation for starch test:</i> to blue / black ;</p>	[2]	
(d)	<p><i>method:</i> two containers – one with banana, one with plantain / AW ; OR one container / choice chamber containing banana AND plantain / AW ;</p> <p><i>controlled variable:</i> idea of same time period / same mass fruit ;</p> <p><i>collecting results:</i> record number flies seen / find change in mass of banana and plantain AW ;</p> <p><i>conclusion:</i> if more flies in banana than plantain it is preferred fruit and vice versa / AW / larger loss in mass of preferred fruit and vice versa ;</p>	Max [3]	
		<b>[Total: 19]</b>	