5090 Biology Paper 1 - Classification

Topical questions | 17 questions

1. Question | 5090 May-June 2023 P1 V1 Q2

2 A green-leafed plant produces spores.

To which group does the plant belong?

A dicotyledons

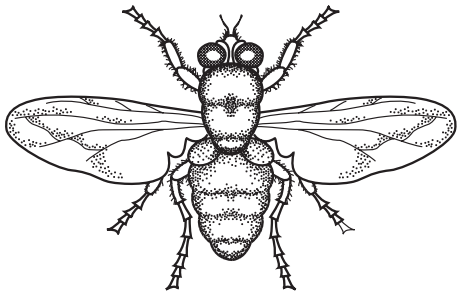
B fungi

C ferns

D monocotyledons

2. Question | 5090 May-June 2023 P1 V2 Q2

2 The diagram shows an arthropod.



Using the key, what correctly identifies the arthropod in the picture?

1 has wings ..... go to 2

does not have wings ..... **A**

2 has 2 body parts ..... **B**

has 3 body parts ..... go to 3

3 has 6 legs ..... **C**

has 8 legs ..... **D**

3. Question | 5090 Oct-Nov 2023 P1 V1 Q2

2 Some students were provided with some specimens of arthropods. They counted the number of legs on each arthropod. Their results are shown in the table.

number of legs	number of arthropods with that number of legs
6	10
8	4
10	4
20 or more	2

Which statement about the arthropods is correct?

A The same number of insects and crustaceans were counted.

B 25% of the arthropods counted were arachnids.

C 50% of the arthropods counted were insects.

D 10% of the arthropods counted were crustaceans.

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4. Question | 5090 Oct-Nov 2023 P1 V2 Q2

2 Which statement defines a species?

A a group of organisms that feed on the same food sources

B a group of organisms that have many body features in common

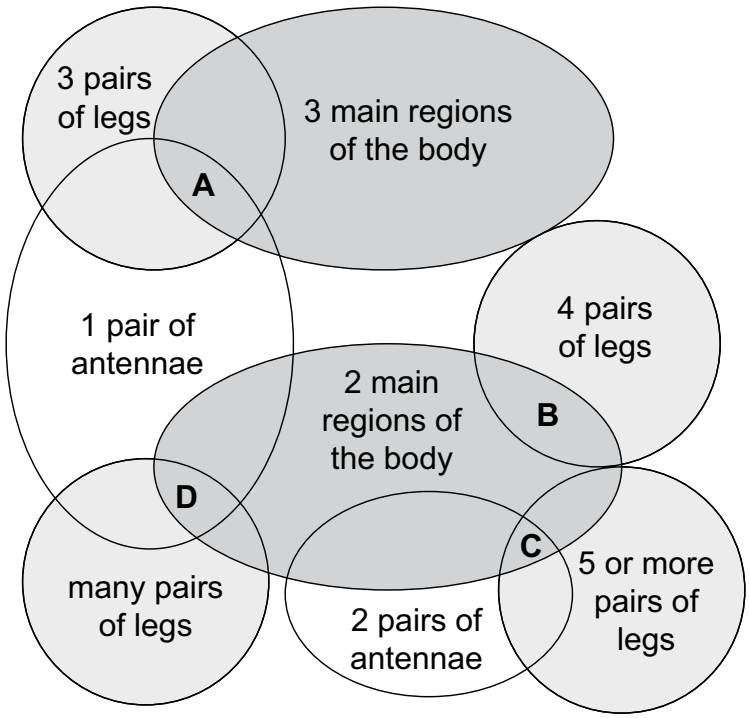
C a group of organisms that interbreed and produce fertile offspring

D a group of organisms that share a common habitat

5. Question | 5090 Specimen 2023 P1 Q3

3 The diagram shows some of the features used to classify animals in the phylum arthropods.

In the diagram, which letter, **A**, **B**, **C** or **D**, could represent insects?



6. Question | 5090 May-June 2024 P1 V1 Q2

2 A new organism is discovered. It contains DNA in a cellular structure.

To which group of organisms could it belong and to which group could it **not** belong?

	could belong to	could **not** belong to
A	bacteria	fungi
B	bacteria	viruses
C	fungi	bacteria
D	viruses	bacteria

7. Question | 5090 May-June 2024 P1 V2 Q2

2 Some young plants were put into the soil and grew well for a few weeks. They then began to show signs of disease. Samples of the diseased leaves were examined using a microscope.

Which observations of the organism causing the disease show that it could be a fungus?

	long and thread-like structure	chloroplasts **not** present	cell walls present	nuclei surrounded by a membrane
A	✓	✓	✓	✓
B	✓	✓	✓	✗
C	✓	✗	✗	✓
D	✗	✓	✓	✓

key

✓ = yes

✗ = no

8. Question | 5090 Oct-Nov 2024 P1 V1 Q2

2 The wobbegong, or carpet shark, is a type of shark that spends its time resting on the sea floor. There are twelve different species of wobbegong. The largest is *Orectolobus maculatus,* the spotted wobbegong, growing to about three metres in length.

What is the genus name of the largest wobbegong?

A carpet shark

B *maculatus*

C *Orectolobus*

D wobbegong

9. Question | 5090 Oct-Nov 2024 P1 V2 Q2

2 Species of organisms have scientific names made up of two parts.

What is the system used to name species?

A the classification system

B the genus system

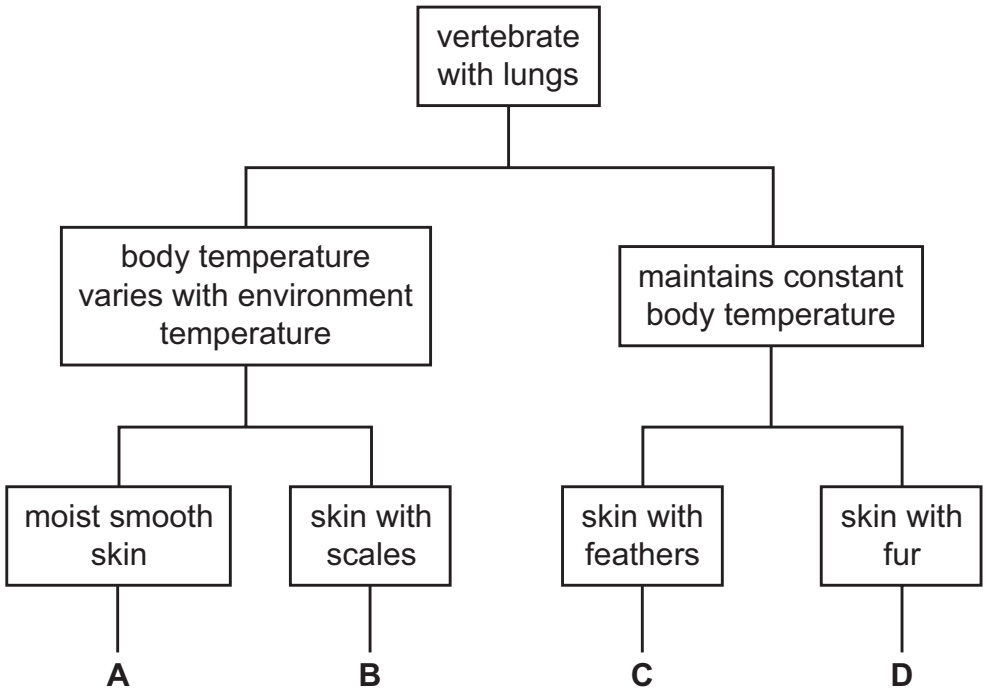
C the binomial system

D the dichotomous key system

10. Question | 5090 May-June 2025 P1 V1 Q5

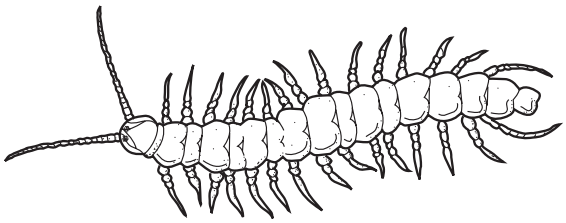
5 A new type of small vertebrate with lungs is discovered. This is identified as a reptile.

Which vertebrate in the key is a reptile?



11. Question | 5090 May-June 2025 P1 V2 Q3

3 The diagram shows a species of arthropod.



Which group of arthropods does this species belong to?

A arachnids

B crustaceans

C insects

D myriapods

12. Question | 5090 Oct-Nov 2025 P1 V1 Q2

2 The international system for naming organisms is the binomial system.

Which **two** parts form the scientific name?

A kingdom and genus

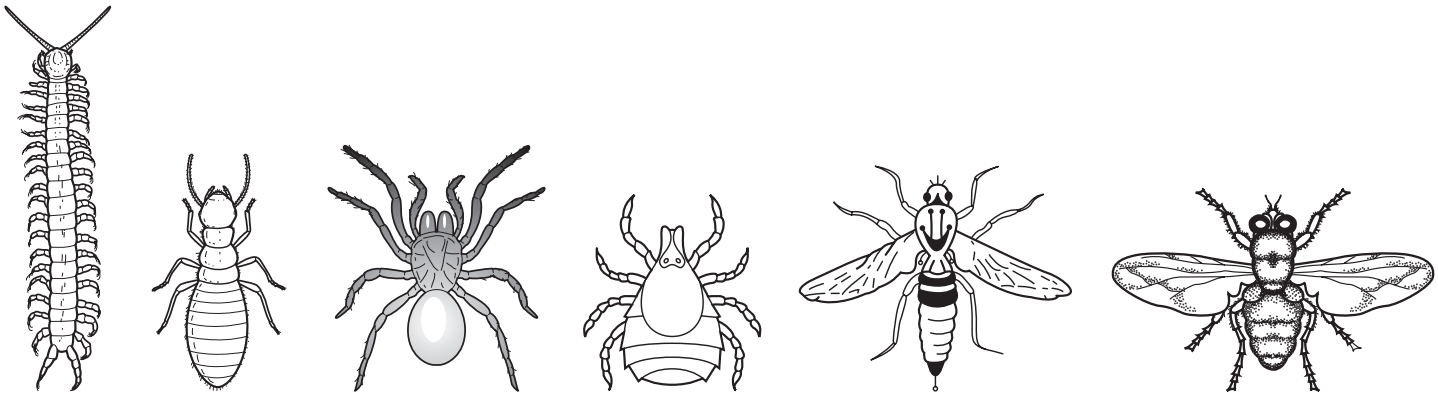
B genus and species

C species and variety

D variety and kingdom

13. Question | 5090 Oct-Nov 2025 P1 V1 Q3

3 A student draws six different arthropods found in woodland.



1 2 3 4 5 6

When constructing a dichotomous key, which question could be used to separate arthropods 2, 5 and 6 from arthropods 1, 3 and 4?

A Does it have a segmented body?

B Does it have antennae?

C Does it have six legs?

D Does it have wings?

14. Question | 5090 Oct-Nov 2025 P1 V2 Q2

2 Viruses can only replicate inside cells.

A single *Herpes simplex* virus replicates rapidly inside a living cell and produces 4000 copies in 12 hours.

What is the maximum number of viruses that could be produced in 36 hours from a single *Herpes simplex* virus?

A 1.2×10^3 **B** 16×10^6 **C** 6.4×10^{10} **D** 2.6×10^{14}

15. Question | 5090 May-June 2026 P1 V1 Q3

3 *Quercus coccifera* and *Quercus petraea* are two types of oak tree.

Which statement describes these two types of tree?

A They belong to different kingdoms.

B They belong to the same species.

C They belong to the same genus.

D They do **not** share any features.

16. Question | 5090 May-June 2026 P1 V1 Q4

4 In a practical lesson, a student makes the following observations about some organisms.

‘They are spherical, unicellular organisms which are visible with the light microscope.

Cytoplasm is present and, after staining, a nucleus can be seen.

A vacuole is present.’

What is being described?

A bacterium

B fungus

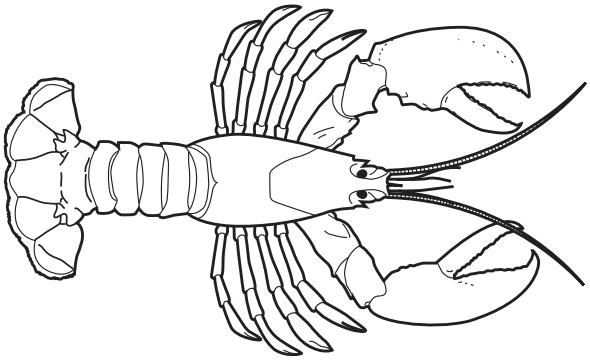
C plant

D virus

17. Question | 5090 May-June 2026 P1 V1 Q5

5 There are four main groups of arthropods. Information about each group is shown.

crustaceans	insects	arachnids	myriapods
• 2 pairs of antennae • more than 4 pairs of legs	• body in 3 parts (head, thorax and abdomen) • 3 pairs of legs • usually 2 pairs of wings	• body in 2 parts • 4 pairs of legs	• head with jaws • long segmented body • legs on each segment • one pair of antennae



Which arthropod group does the organism shown belong to?

A crustacean

B insect

C arachnid

D myriapod