

Exercise walk-through

Features of organisms ■ 1.3

eXercise

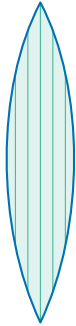
You must be able to

- give the main features of each kingdom
- classify vertebrates and arthropods by their features
- describe monocots/dicots and the structure of a virus

Method — Plant groups and viruses

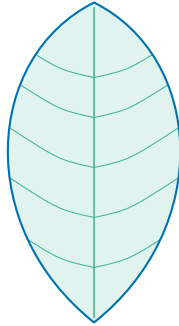
- **insects:** 3 body parts, 3 pairs of legs; **arachnids:** 2 parts, 4 pairs of legs.

Method — Plant groups and viruses



Monocotyledon

parallel veins, 1 cotyledon

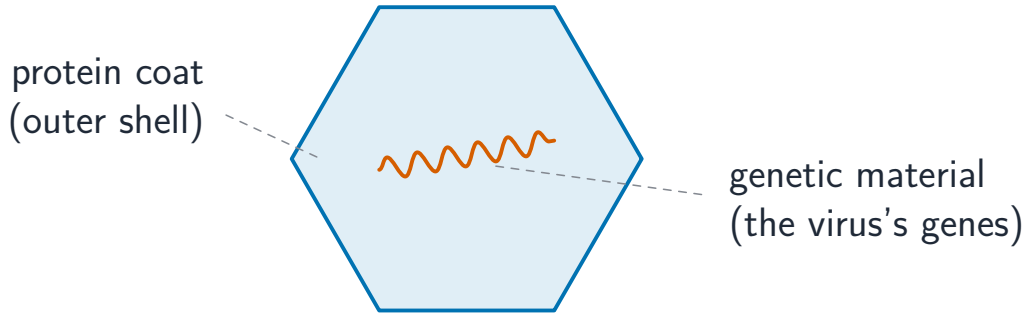


Dicotyledon

net (branching) veins, 2 cotyledons

Monocot leaf (parallel veins) vs dicot leaf (net veins)

Method — Plant groups and viruses



A virus: a protein coat around genetic material

Practice 2.1 ■ 1 mark

State the main feature that distinguishes a vertebrate from an arthropod.

Solution 2.1

Worked steps

a vertebrate has a backbone; an arthropod does not (it has an exoskeleton) **B1**.

Practice 2.2 ■ 2 marks

State the two parts that make up a virus.

Solution 2.2

Method: Plant groups and viruses

Worked steps

a protein coat **B1**; genetic material inside **B1**.

Exam-style 3.1 ■ 1 mark

Which feature places an organism in the plant kingdom?

- A** no cell wall
- B** cells contain chloroplasts and can photosynthesise
- C** single-celled with no nucleus
- D** feeds on other organisms

Solution 3.1

- A no cell wall
- B cells contain chloroplasts and can photosynthesise** 
- C single-celled with no nucleus
- D feeds on other organisms

Worked steps

B. Plants have cell walls and chloroplasts and photosynthesise.

Exam-style 3.2 ■ 1 mark

An animal has three pairs of legs, a body in three parts and one pair of antennae.

- (a) Name the arthropod group it belongs to.
- (b) State two features of a mammal.

Solution 3.2

Method: Plant groups and viruses

Worked steps

(a) insects **B1**.

(b) any two of: have fur/hair; feed young on milk; **B1** **B1**.

Exam-style 3.3 ■ 2 marks

Explain why many scientists do not classify viruses as living organisms.

Solution 3.3

Worked steps

a virus is not made of cells and cannot carry out the life processes on its own **M1**;
it can only reproduce inside a living host cell **A1**.