

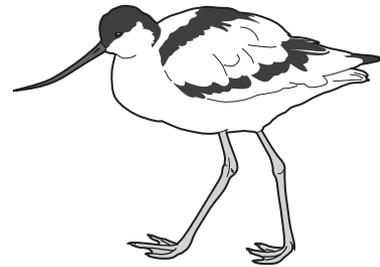
4 What is the approximate percentage of oxygen in expired air?
A 0.04% B 4% C 16% D 21%

5 Compared with atmospheric air, air breathed out by a human contains
A less water vapour, less carbon dioxide.
B less water vapour, more carbon dioxide.
C more water vapour, less carbon dioxide.
D more water vapour, more carbon dioxide.

6 Where is urea made?
A bladder
B kidney
C liver
D urethra

7 A rat has the scientific name *Rattus rattus*.
What do the two parts of this name refer to?
A genus and species
B kingdom and genus
C kingdom and species
D variety and genus

8 The diagram shows a bird that lives near rivers.



Use the key to identify the bird shown in the diagram.

- 1 toes joined by a flap of skin go to 2
 toes separate **A** heron
- 2 beak as long or longer than the head go to 3
 beak not as long as the head **B** little grebe
- 3 top of head black **C** avocet
 top of head white **D** mute swan

9 Phototropism demonstrates which two characteristics of living organisms?

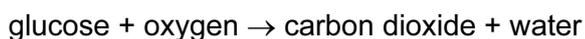
- A growth and nutrition
- B growth and sensitivity
- C movement and nutrition
- D nutrition and sensitivity

10 The table shows the scientific names and the common names of four plants.

scientific name	common name
<i>Althea officinalis</i>	marsh mallow
<i>Hottonea palustris</i>	water violet
<i>Viola palustris</i>	marsh violet
<i>Viola tricolor</i>	wild pansy

Which word in their names shows that two of the plants share the greatest number of features?

- A marsh
 - B *palustris*
 - C *Viola*
 - D violet
- 11 The equation shows a chemical reaction that occurs in living organisms.



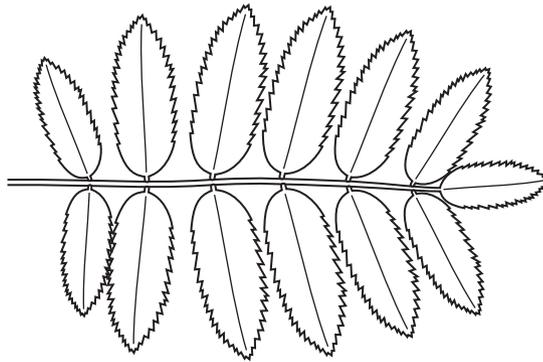
Which of these characteristics of living organisms is this equation associated with?

	respiration	nutrition
A	✓	✓
B	✓	x
C	x	✓
D	x	x

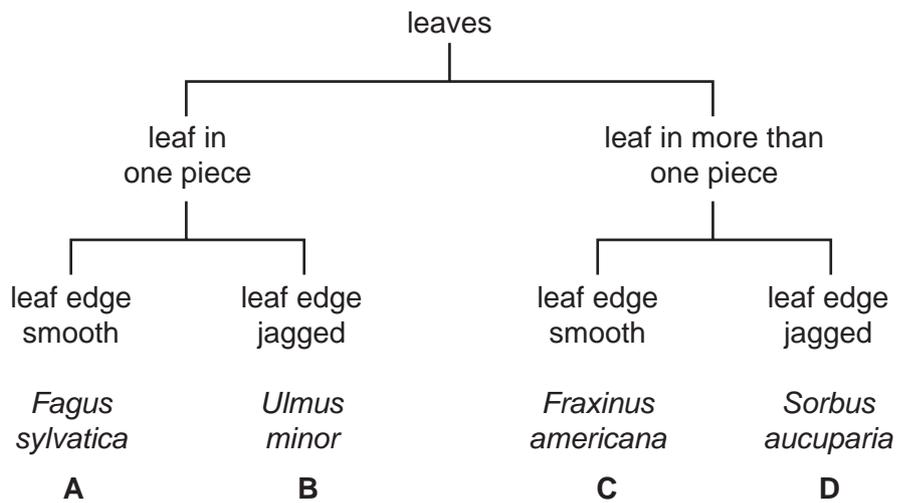
12 What is a correct way of naming an organism using the binomial system?

- A *Common buttercup*
- B *ranunculus acris*
- C *Ranunculus acris*
- D *Ranunculus sp.*

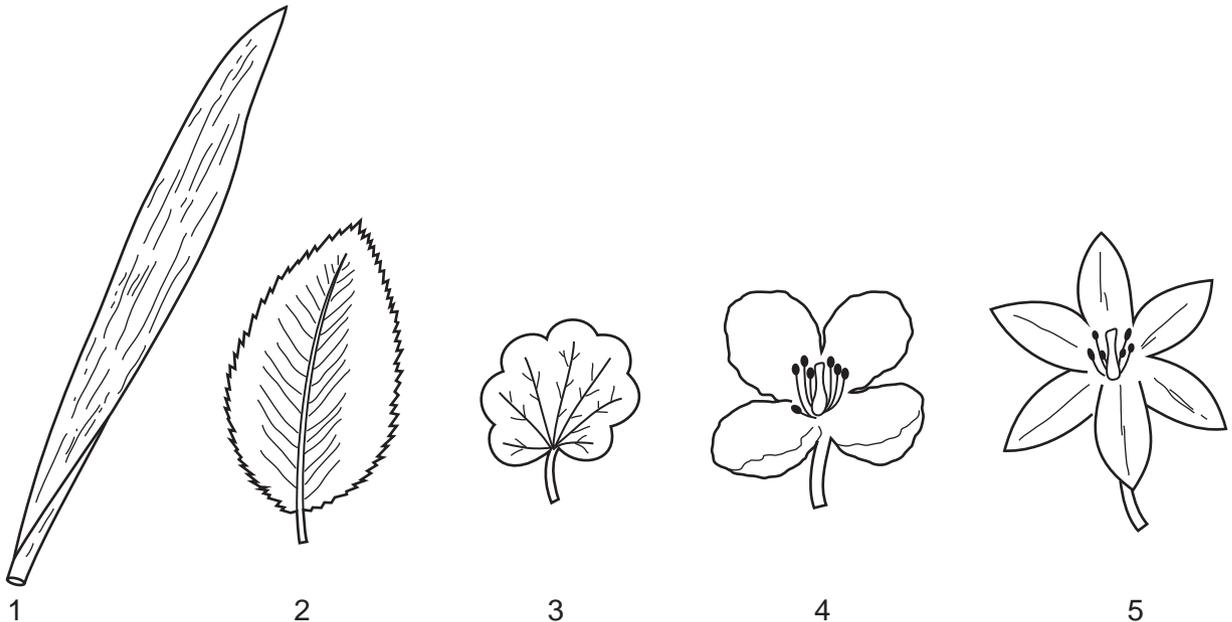
13 The diagram shows a leaf.



Use the key to identify the plant to which the leaf belongs.



14 The diagram shows some leaves and flowers of different plants.



Which are from monocotyledons?

- A** 1 and 3 **B** 1 and 5 **C** 2 and 4 **D** 2 and 5

15 The list shows the scientific names for eight animals, using the binomial system.

Alderia modesta

Arenicola cristata

Arenicola marina

Austrominius modestus

Bittium reticulatum

Botrylloides leachii

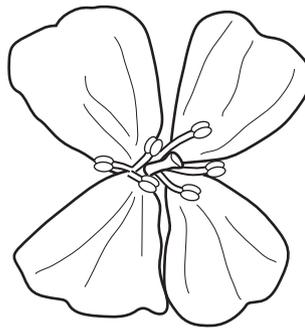
Botryllus schlosseri

Clypeostoma reticulatum

Which two animals are most closely related?

- A *Alderia modesta* and *Austrominius modestus*
- B *Arenicola cristata* and *Arenicola marina*
- C *Bittium reticulatum* and *Clypeostoma reticulatum*
- D *Botryllus schlosseri* and *Botrylloides leachii*

16 The diagram shows a flower seen from above.



Use the key to find the name of the family to which it belongs.

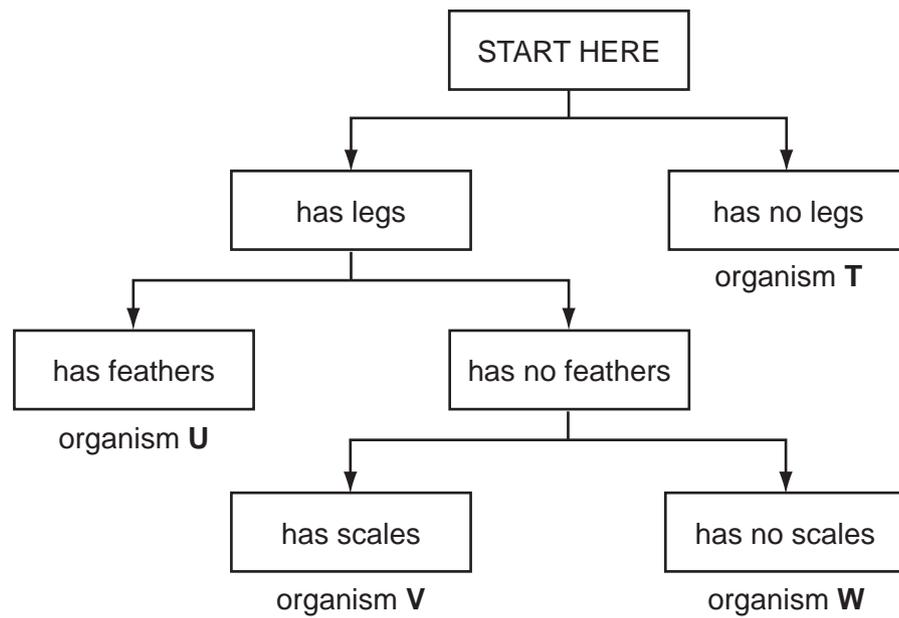
- 1 four petals go to 2
- five petals go to 3
- 2 two stamens **A** *Scrophulariaceae*
- six stamens **B** *Brassicaceae*
- 3 petals joined..... **C** *Caryophyllaceae*
- petals separate **D** *Rosaceae*

17 Some lizards detach their tails when threatened by a predator.

Which characteristic is shown?

- A excretion
- B growth
- C reproduction
- D sensitivity

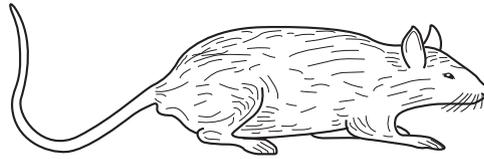
18 The diagram shows a key for five vertebrates.



Which class of vertebrates does organism **W** belong to?

- A amphibians
- B birds
- C fish
- D reptiles

19 The diagram shows an animal whose scientific name is *Rattus rattus*.



Which genus does it belong to?

- A mammal
- B *rattus*
- C *Rattus*
- D vertebrate

20 What are the characteristics of bony fish?

	maintain constant body temperature	external ears present	jelly-covered eggs	scales
A	✓	✓	x	x
B	✓	x	✓	✓
C	x	✓	x	x
D	x	x	✓	✓

21 What are the features of the leaves of a plant that is a eudicotyledon (dicotyledon)?

	broad leaves	parallel veins
A	✓	✓
B	✓	x
C	x	✓
D	x	x

22 Many snakes that belong to the viper family are unusual in that they give birth to live young.

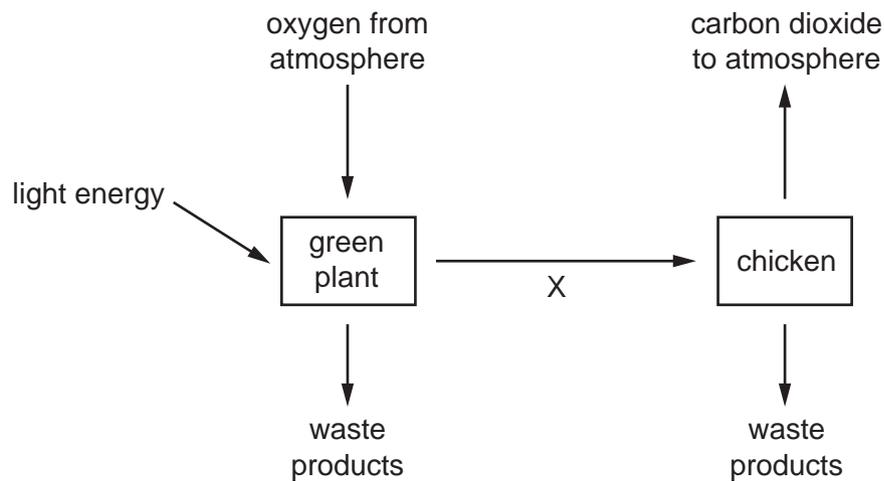
This is usually a characteristic of which vertebrate group?

- A amphibians
- B birds
- C bony fish
- D mammals

23 Use the key to identify which group is amphibians.

- 1 hair present mammals
- hair absent go to 2
- 2 feathers present group A
- feathers absent go to 3
- 3 dry scaly skin..... group B
- moist skin go to 4
- 4 four limbs group C
- no limbs group D

24 The diagram illustrates some of the processes carried out by living organisms.



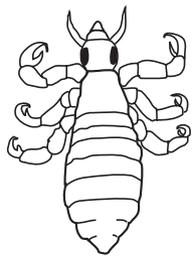
Which characteristic of living organisms is represented by arrow X?

- A excretion
- B nutrition
- C respiration
- D sensitivity

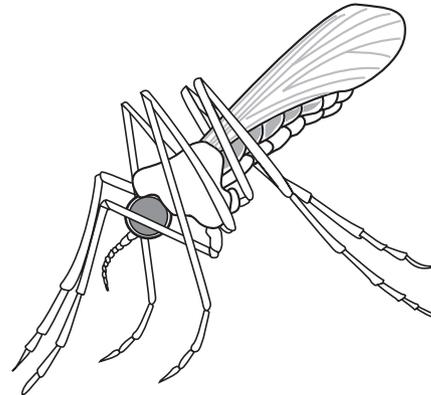
25 What is a correct way of naming a species, according to the binomial system?

- A *Homo sapiens*
- B *Homo Sapiens*
- C human being
- D sapiens

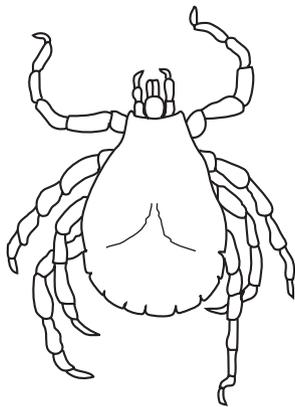
26 The diagram shows four arthropods.



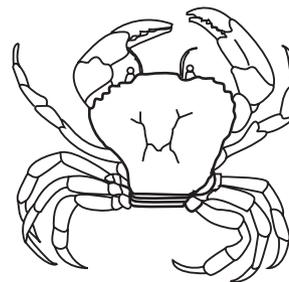
Pediculus ×20



Anopheles ×10



Dermacentor ×7



Carcinus ×0.5

How many of these arthropods are insects?

- A 1
- B 2
- C 3
- D 4

27 The key can be used to distinguish between four different chemical substances.

Use the key to identify which substance could be a protein.

- 1 contains the element carbon go to 2
- does not contain carbon **A**
- 2 contains the element nitrogen **B**
- does not contain nitrogen go to 3
- 3 gives a positive result with Benedict's test **C**
- gives a negative result with Benedict's test **D**

28 The statements describe four different plants.

Which plant must be a monocotyledon?

- A** The flowers are wind-pollinated.
- B** The flowers each have five petals.
- C** The leaves are large with a clear network of veins on them.
- D** The leaves have parallel veins.

29 The diagram shows an animal.

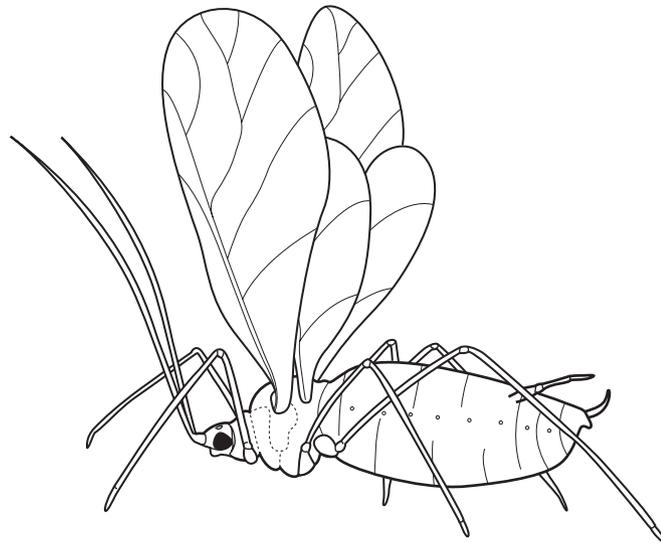


Use the key to identify this animal.

- 1 body covered with scales go to 2
- body covered with hair go to 3
- 2 has a rounded bill **A**
- has a pointed bill **B**
- 3 has webbed feet **C**
- does not have webbed feet **D**

- 30 All fish, all birds and all mammals are
- A animals with internal fertilisation.
 - B carnivores.
 - C vertebrates.
 - D warm-blooded animals.

31 The diagram shows an animal.



Use the key to identify the animal.

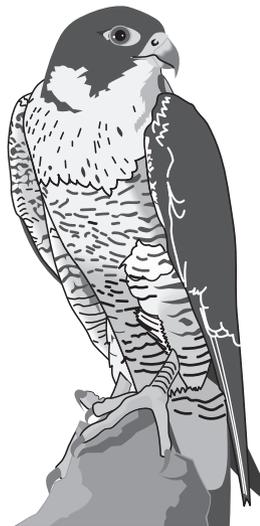
- | | | |
|---|--|----------|
| 1 | has two wings | go to 2 |
| | has four wings | go to 3 |
| 2 | has antennae much shorter than legs | A |
| | has antennae about the same length as legs | B |
| 3 | has feathery antennae | C |
| | has smooth antennae | D |

- 32 What is **not** a characteristic of all living organisms?
- A excretion
 - B photosynthesis
 - C reproduction
 - D respiration

33 Which characteristics do bony fish have?

	backbone	scales	hair
A	x	x	✓
B	x	✓	x
C	✓	✓	x
D	✓	x	✓

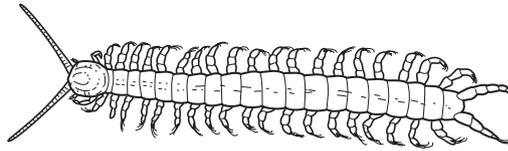
34 The diagram shows an animal whose scientific name is *Falco peregrinus*.



To which species does it belong?

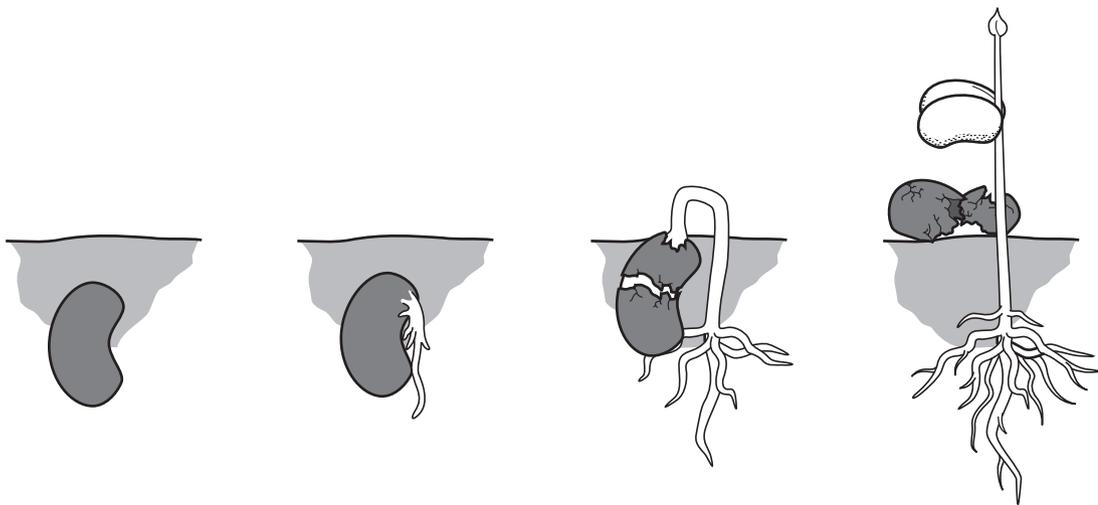
- A** bird
- B** *F. peregrinus*
- C** *Falco*
- D** vertebrate

35 Use the key to identify the arthropod shown.



- 1 body divided into segments go to 2
- body not divided into segments go to 3
- 2 body has one pair of legs per segment **A**
- body has two pairs of legs per segment **B**
- 3 one pair of antennae **C**
- two pairs of antennae **D**

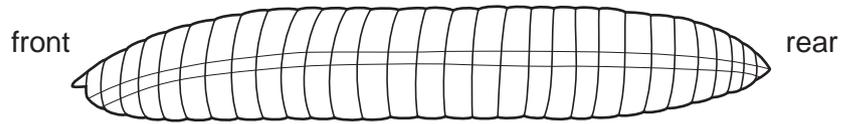
36



Which characteristics of living things are demonstrated by this sequence?

- A** growth and reproduction
- B** growth and sensitivity
- C** nutrition and reproduction
- D** nutrition and sensitivity

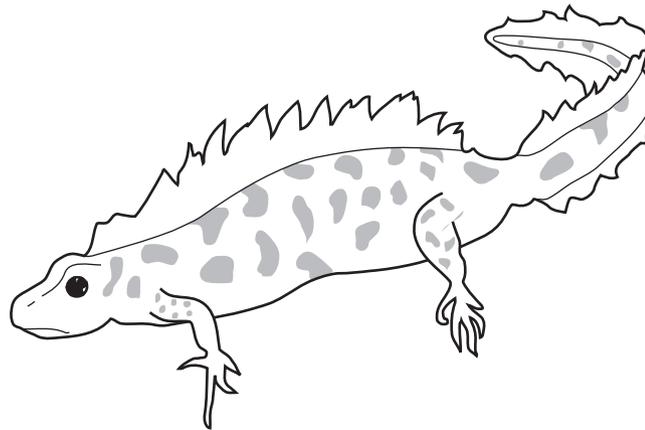
37 The diagram shows the body plan of an invertebrate animal.



To which group does the animal belong?

- A annelid
- B crustacean
- C insect
- D nematode

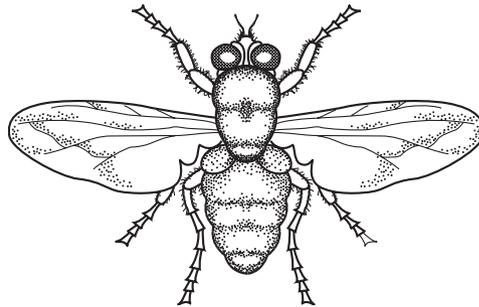
38 The diagram shows an animal.



Use the key to identify the animal.

- 1 front limbs with five fingers go to 2
- front limbs with four fingers go to 3
- 2 skin with spots **A**
- skin without spots **B**
- 3 tail with fins **C**
- tail without fins **D**

- 39 Which characteristic do **all** living organisms show?
- A breathing
 - B excretion
 - C photosynthesis
 - D tropism
- 40 Why does the energy needed by a human increase during the first ten years of life?
- A Coordination and responses improve.
 - B Energy is needed for gamete formation.
 - C The body is growing.
 - D The diet is more balanced.
- 41 Which feature is characteristic of both annelids and arthropods?
- A compound eyes
 - B jointed limbs
 - C segmented bodies
 - D wings
- 42 The diagram shows an animal.



Use the key to identify the animal.

- 1 wings present go to 2
- wings absent go to 3
- 2 one pair of wings visible **A**
- two pairs of wings visible **B**
- 3 three pairs of legs **C**
- four pairs of legs **D**

43 Growth is a characteristic feature of living organisms.

Which process provides the energy for growth?

- A excretion
- B movement
- C respiration
- D sensitivity

44 The table shows the number of animals collected in a sample from some woodland and the groups to which they belong.

animal group	number in sample
annelids	8
arachnids	10
insects	80
molluscs	40
myriapods	7
nematodes	15

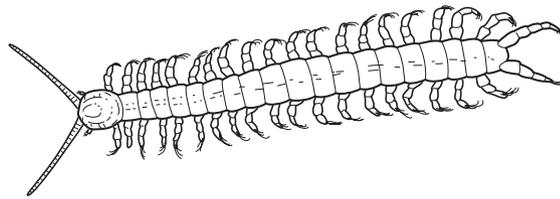
How many arthropods were collected?

- A 33 B 97 C 120 D 160

45 Which process provides the raw materials needed for tissue repair?

- A excretion
- B growth
- C nutrition
- D respiration

46 The diagram shows an arthropod.



How many pairs of jointed legs does this arthropod have?

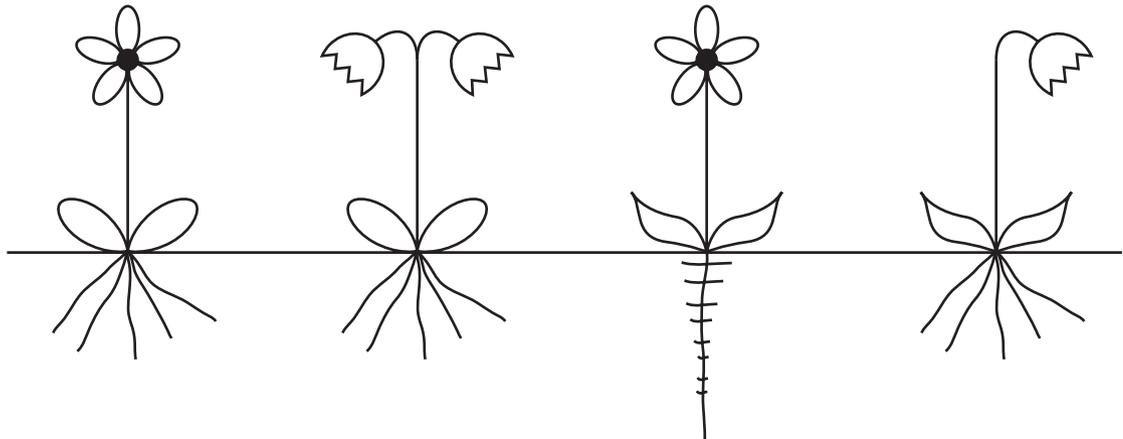
- A 2
- B 20
- C 21
- D 40

47 Which group does **not** contain animals that are arthropods?

- A annelids
- B arachnids
- C crustaceans
- D insects

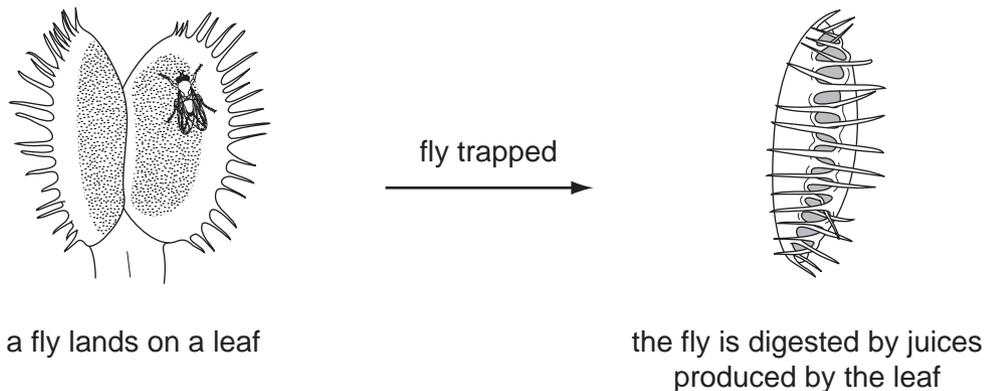
48 Keys are used in biological identification.

Which statement may appear in a key and **alone** could identify one of the plants in the diagrams?



- A The plant has a single deep root with small branches.
- B The plant has many similar roots, arising from a single point.
- C The plant has one flower on the stem.
- D The plant has pointed leaves.

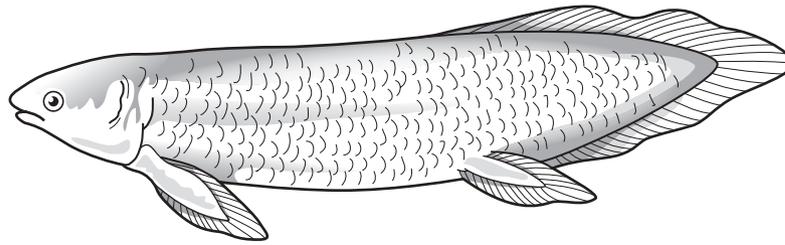
49 The diagram shows how a plant, called a Venus fly-trap, reacts to a fly landing on it.



Which characteristics of living things are shown by the plant in the diagram?

- A excretion and growth
- B growth and sensitivity
- C nutrition and reproduction
- D nutrition and sensitivity

50 The diagram shows the external features of an animal.



To which class does it belong?

- A** amphibians
- B** fish
- C** mammals
- D** reptiles