

Characteristics & Classification of living organisms

Question Paper 1

Level	IGCSE
Subject	Biology (0610/0970)
Exam Board	Cambridge International Examinations (CIE)
Topic	Characteristics and classification of living organisms
Sub-Topic	Characteristics and classification of living organisms
Booklet	Question Paper 1

Time Allowed: 42 minutes

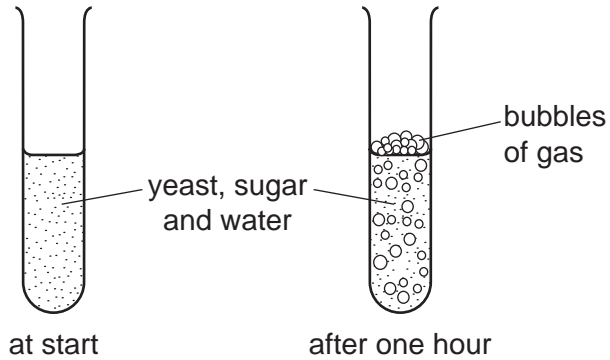
Score: /35

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>85%	75%	68%	60%	53%	48%	40%	33%	<25%

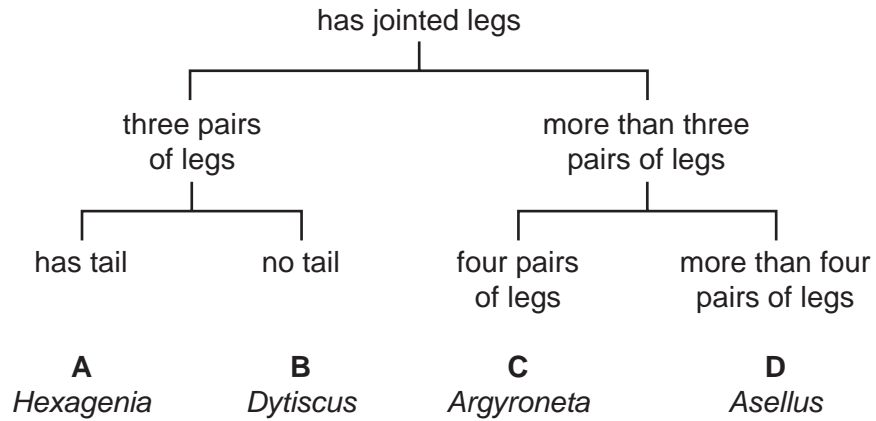
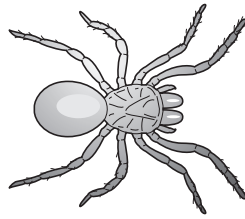
1. Some yeast, sugar and water are mixed in a test-tube. The diagrams show the test-tube at the start and after one hour.



Which process causes this change?

- A growth
 - B reproduction
 - C respiration
 - D sensitivity
2. Which name is given to a group of individuals that can reproduce to produce fertile offspring?
- A a genus
 - B a kingdom
 - C a species
 - D an organ system

3. Use the key to identify the animal shown in the diagram.

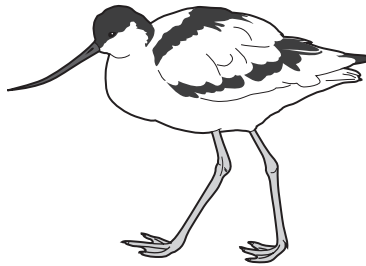


4. A rat has the scientific name *Rattus rattus*.

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

5. 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

6. Phototropism demonstrates which two characteristics of living organisms?

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

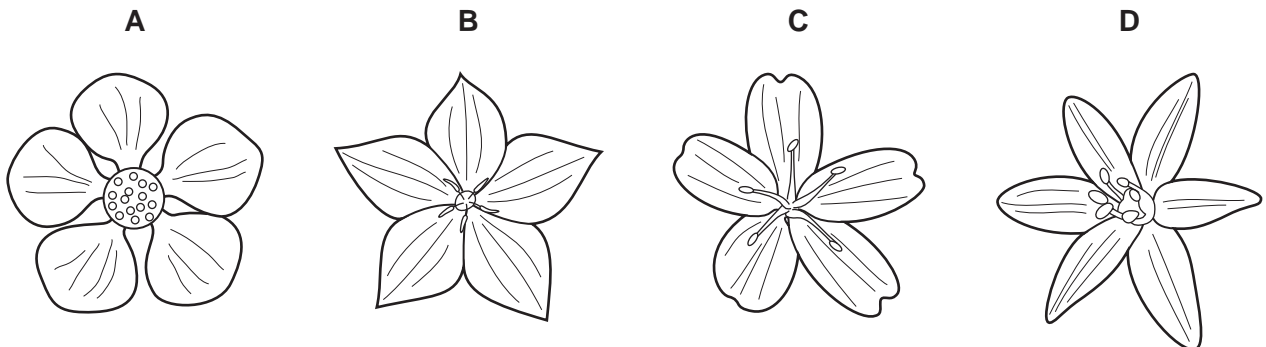
7. The table shows the scientific names and the common names of four plants.

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

8. Which diagram shows a flower from a monocotyledon?

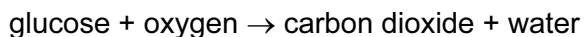


9. During the process of nutrition, all organisms need to absorb mineral ions and water from their environment.

Which other substances do plants and animals need to absorb during this process?

	plants	animals
A	carbon dioxide	inorganic compounds
B	carbon dioxide	organic compounds
C	oxygen	inorganic compounds
D	oxygen	organic compounds

10. The equation shows a chemical reaction that occurs in living organisms.



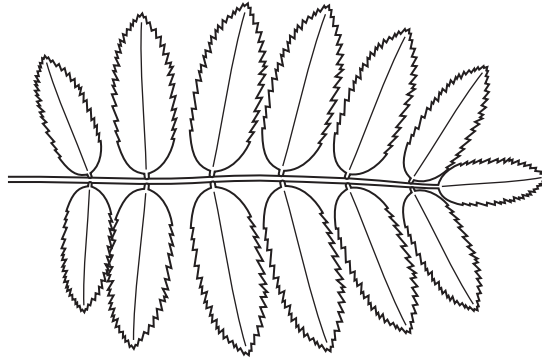
Which of these characteristics of living organisms is this equation associated with?

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

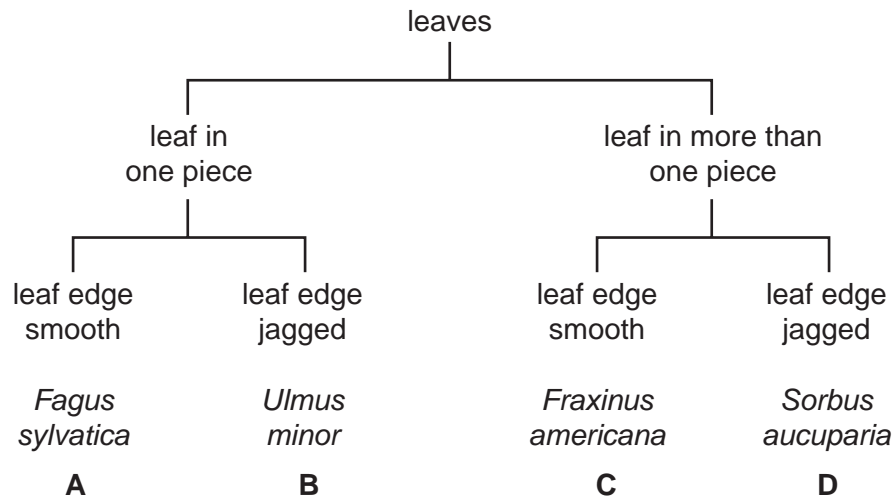
11. What is a correct way of naming an organism using the binomial system?

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

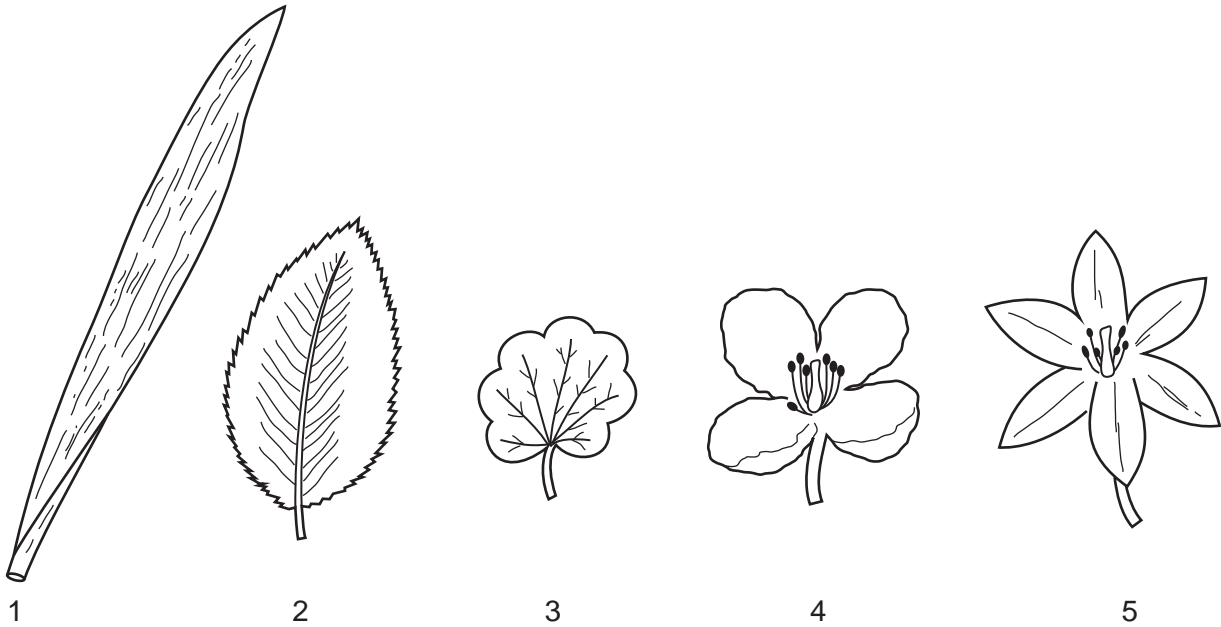
12. The diagram shows a leaf.



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



13. 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

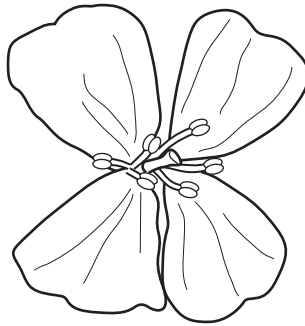
14. The list shows the scientific names for eight animals, using the binomial system.

- 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*

15. The diagram shows a flower seen from above.



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

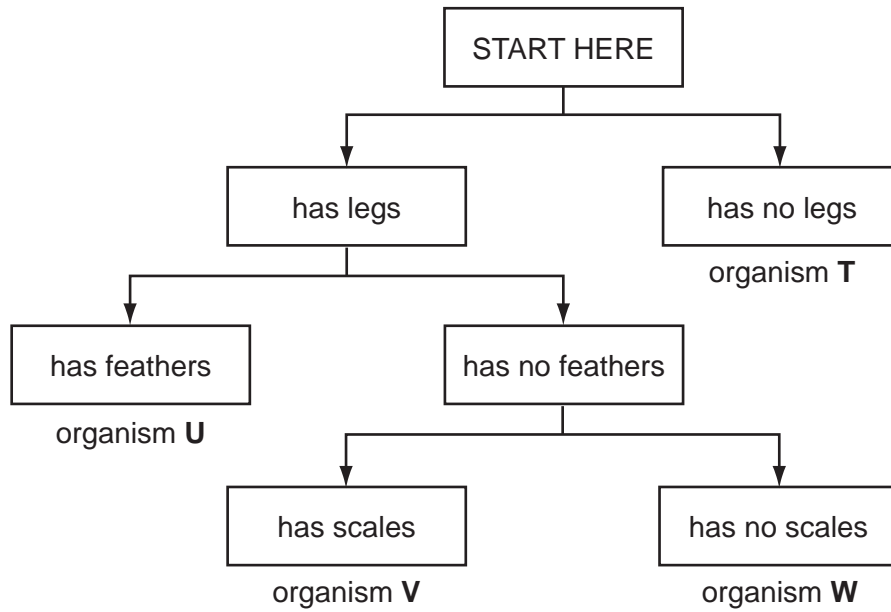
- 1 four petals go to 2
- five petals go to 3
- 2 two stamens **A** *Scrophulariaceae*
- six stamens **B** *Brassicaceae*
- 3 petals joined..... **C** *Caryophyllaceae*
- petals separate **D** *Rosaceae*

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

Which characteristic is shown?

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

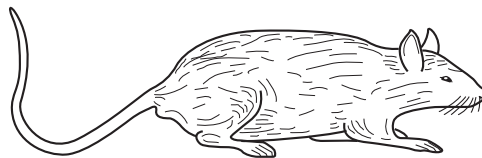
17. The diagram shows a key for five vertebrates.



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

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

18. 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

19. 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	✓	✓

20. 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

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

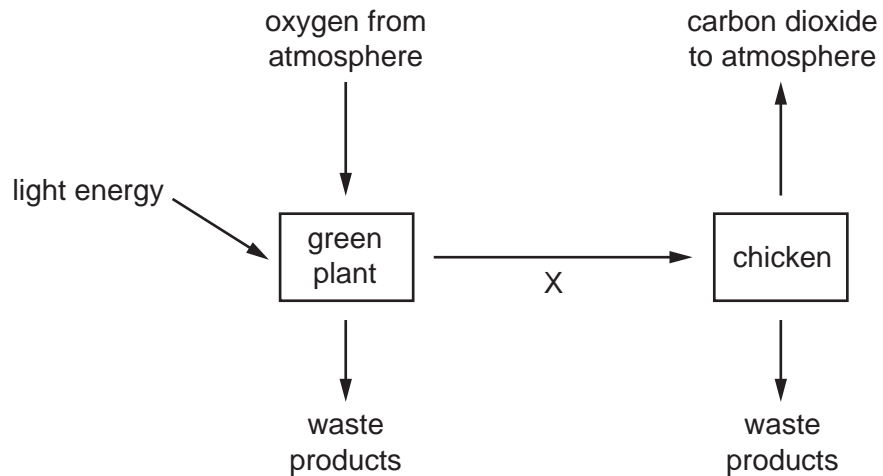
This is usually a characteristic of which vertebrate group?

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

22. 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 |

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



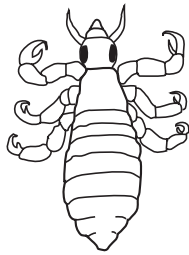
Which characteristic of living organisms is represented by arrow X?

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

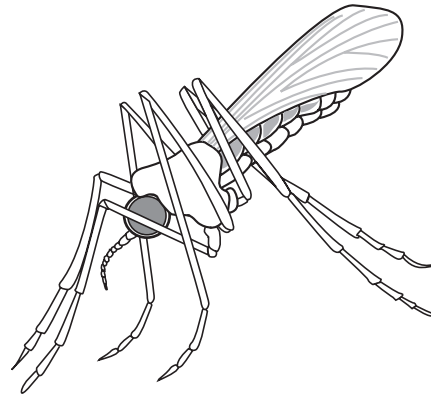
24. What is a correct way of naming a species, according to the binomial system?

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

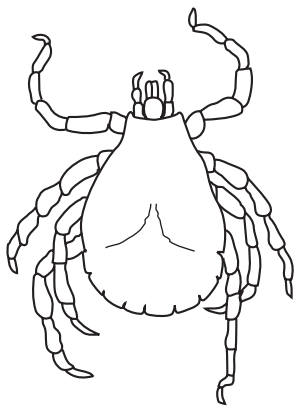
25. The diagram shows four arthropods.



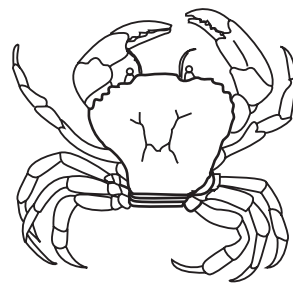
Pediculus ×20



Anopheles ×10



Dermacentor ×7



Carcinus ×0.5

How many of these arthropods are insects?

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

26. 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.

27. The diagram shows an animal.



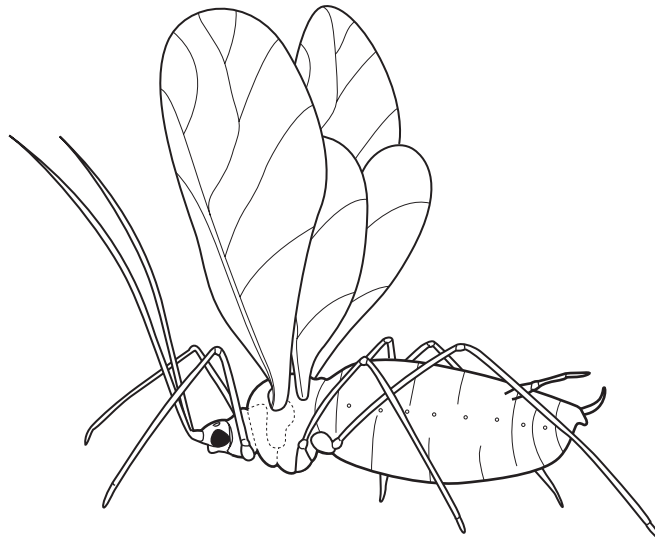
Use the key to identify this animal.

- 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**

28. All fish, all birds and all mammals are

- A animals with internal fertilisation.
- B carnivores.
- C vertebrates.
- D warm-blooded animals.

29. 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**

30. What is **not** a characteristic of all living organisms?

- A excretion
- B photosynthesis
- C reproduction
- D respiration

31. Which characteristics do bony fish have?

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

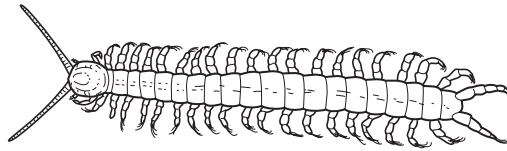
32. The diagram shows an animal whose scientific name is *Falco peregrinus*.



To which species does it belong?

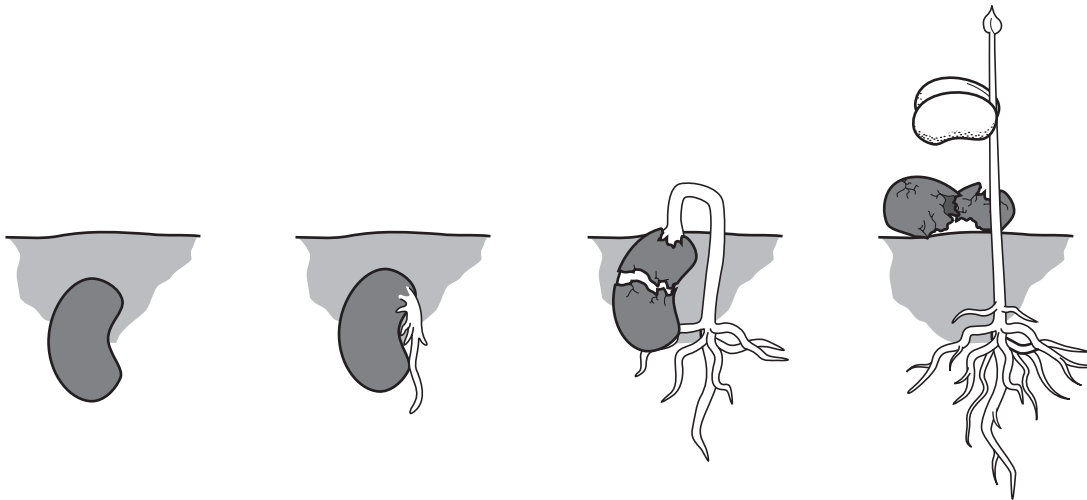
- A bird
- B *F. peregrinus*
- C *Falco*
- D vertebrate

33. 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**

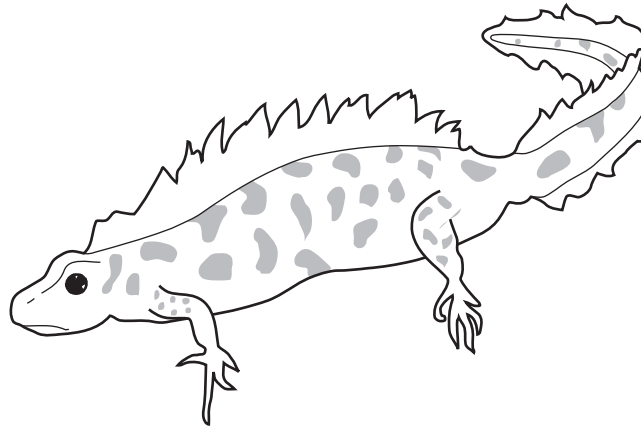
34. The diagram shows how a seed changes after it is planted in well-watered soil.



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

35. 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**