# Contents

# Chapter 1

# Characteristics and classification of living organisms

## 1.1 Characteristics of living organisms

1. 0610_m20_qp_22 Q: 1

Which characteristic do **all** living organisms show?

**A** breathing

**B** excretion

**C** photosynthesis

**D** tropism

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2. 0610_m19_qp_22 Q: 1

A living organism, X, can make its own food, get rid of toxic materials and detect and respond to stimuli.

What **other** four processes must organism X carry out to stay alive?

**A** excretion, growth, movement, sensitivity

**B** excretion, growth, nutrition, respiration

**C** growth, movement, reproduction, respiration

**D** movement, reproduction, respiration, sensitivity

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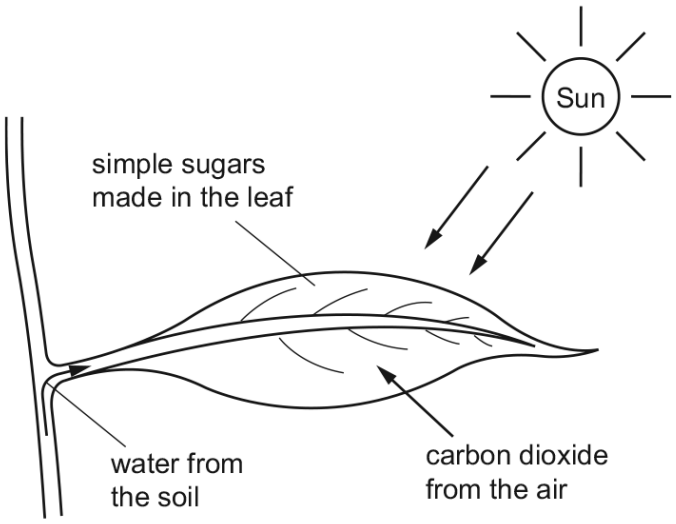
3. 0610_s19_qp_21 Q: 1

The diagram shows a leaf on a plant.




Which characteristic of life is represented by this diagram?

**A** excretion

**B** nutrition

**C** respiration

**D** sensitivity

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4. 0610_s19_qp_22 Q: 1

Carbon dioxide diffuses into a leaf.

Which characteristic of living things requires this?

**A** excretion

**B** movement

**C** nutrition

**D** respiration

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5. 0610_s19_qp_23 Q: 1

Students find a small organism in a pond. They catch it and put it into a large jar of water. They see that the organism swims away from light. It lays some eggs before they put it back into the pond.

Which characteristics of living things did the students see in this organism?

**A** excretion, growth and respiration

**B** growth, nutrition and sensitivity

**C** movement, reproduction and sensitivity

**D** movement, reproduction and respiration

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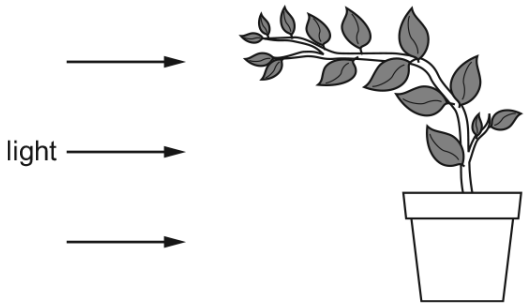
6. 0610_w19_qp_21 Q: 1

The diagram shows a plant.




Which characteristic of living organisms is shown by the plant in the diagram?

**A** excretion

**B** reproduction

**C** respiration

**D** sensitivity

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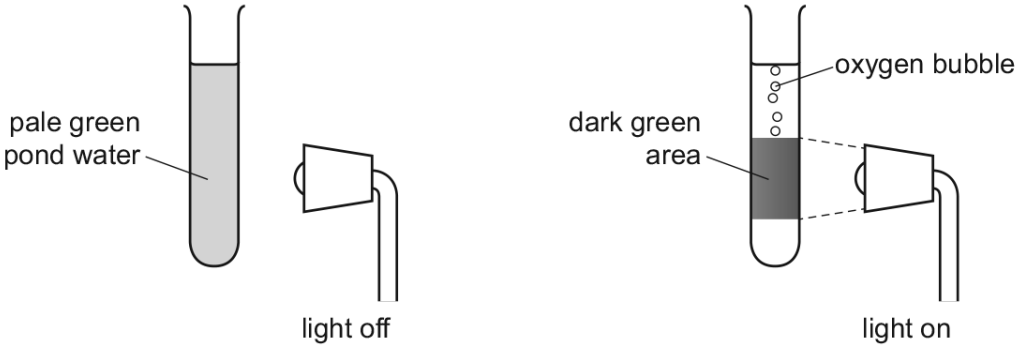
7. 0610_w19_qp_22 Q: 1

The diagrams show a test-tube containing pond water. The green colour is caused by microorganisms that have chloroplasts.




Which characteristics of living organisms are shown?

**A** excretion, growth and movement

**B** movement, nutrition and sensitivity

**C** nutrition, reproduction and respiration

**D** reproduction, sensitivity and growth

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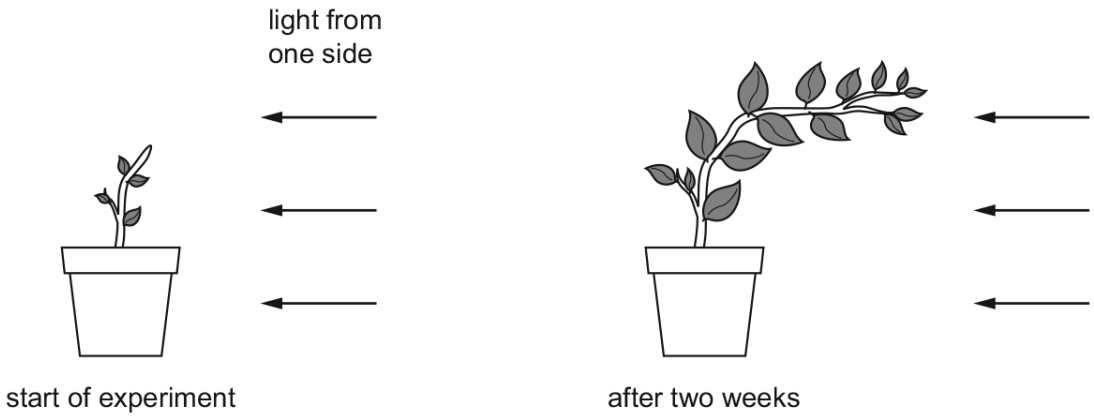
8. 0610_w19_qp_23 Q: 1

The diagrams show a plant at the start of an experiment, and the same plant two weeks later.




Which characteristics of living organisms are demonstrated by this experiment?

**A** excretion, growth, movement

**B** excretion, movement, reproduction

**C** growth, movement, sensitivity

**D** sensitivity, growth, respiration

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9. 0610_m18_qp_22 Q: 1

Biology is the study of living things.

Which characteristic applies to all forms of life?

**A** able to move from place to place

**B** able to reproduce

**C** carry out photosynthesis

**D** possess a nervous system

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10. 0610_s18_qp_21 Q: 1

Which organisms carry out respiration, growth, movement and excretion?

**A** all animals and all plants

**B** animals only

**C** arthropods and flowering plants only

**D** plants only

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11. 0610_w18_qp_21 Q: 1

The sundew is a carnivorous plant that can trap small insects with sticky hairs and then digest them. When an insect gets stuck, other nearby sticky hairs bend over to trap the insect.

Which characteristics of living organisms are demonstrated when the sundew traps insects?

**A** growth and excretion

**B** growth and sensitivity

**C** movement and excretion

**D** movement and sensitivity

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12. 0610_w18_qp_22 Q: 1

A person drinks a glass of iced water and the volume of sweat they secrete decreases.

This is an example of which characteristic of living organisms?

**A** growth

**B** movement

**C** respiration

**D** sensitivity

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13. 0610_w18_qp_23 Q: 1

The Venus flytrap is a plant that feeds on insects. When a fly lands on the leaf, the leaf folds very quickly and traps the fly. The leaves produce enzymes which digest the fly.

Which characteristics of living organisms are involved?

**A** excretion, growth, nutrition

**B** movement, excretion, nutrition

**C** movement, sensitivity, growth

**D** movement, sensitivity, nutrition

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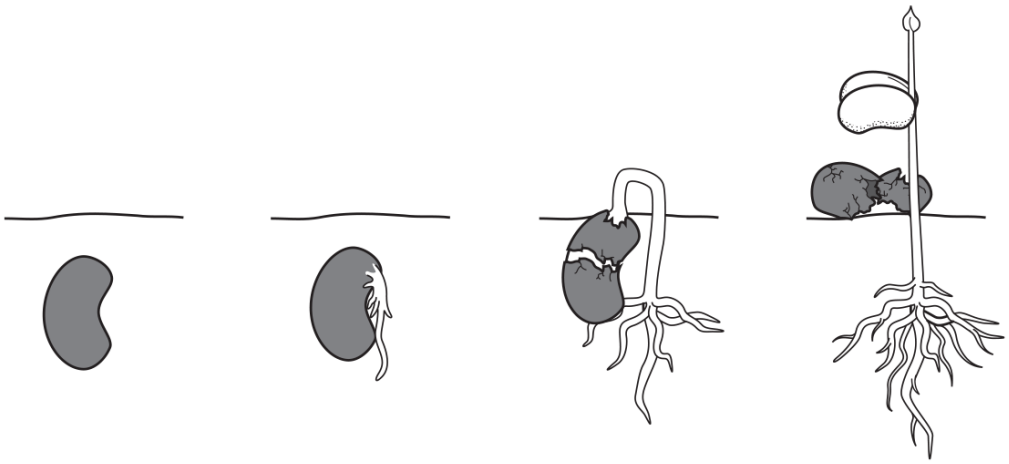
14. 0610_m17_qp_22 Q: 2

The diagram shows how a seed changes after it is planted in soil and watered.



Which characteristics of living things are demonstrated by this sequence?

**A** excretion and growth

**B** growth and sensitivity

**C** nutrition and reproduction

**D** nutrition and sensitivity

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15. 0610_w17_qp_21 Q: 1

Which term is defined as all the chemical reactions that occur in cells?

**A** photosynthesis

**B** protein synthesis

**C** respiration

**D** metabolism

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1118. 0610_w17_qp_23 Q: 40

The table shows the ability of three species of fish and their eggs to survive in water at different pH levels.

If the eggs do not survive offspring cannot be produced.

| | pH | | | | | |
|---|---|---|---|---|---|---|
| | 6.5 | 6.0 | 5.5 | 5.0 | 4.5 | 4.0 |
| trout | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ |
| sea bass | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ |
| perch | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ |
| fish eggs | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ |

key

✓ = survive

✗ = do not survive

A lake at pH 6.0 contains breeding populations of all three fish.

If acid rain causes the pH to fall to 5.0, which outcome would be likely to occur?

**A** Trout and perch will survive and produce offspring.

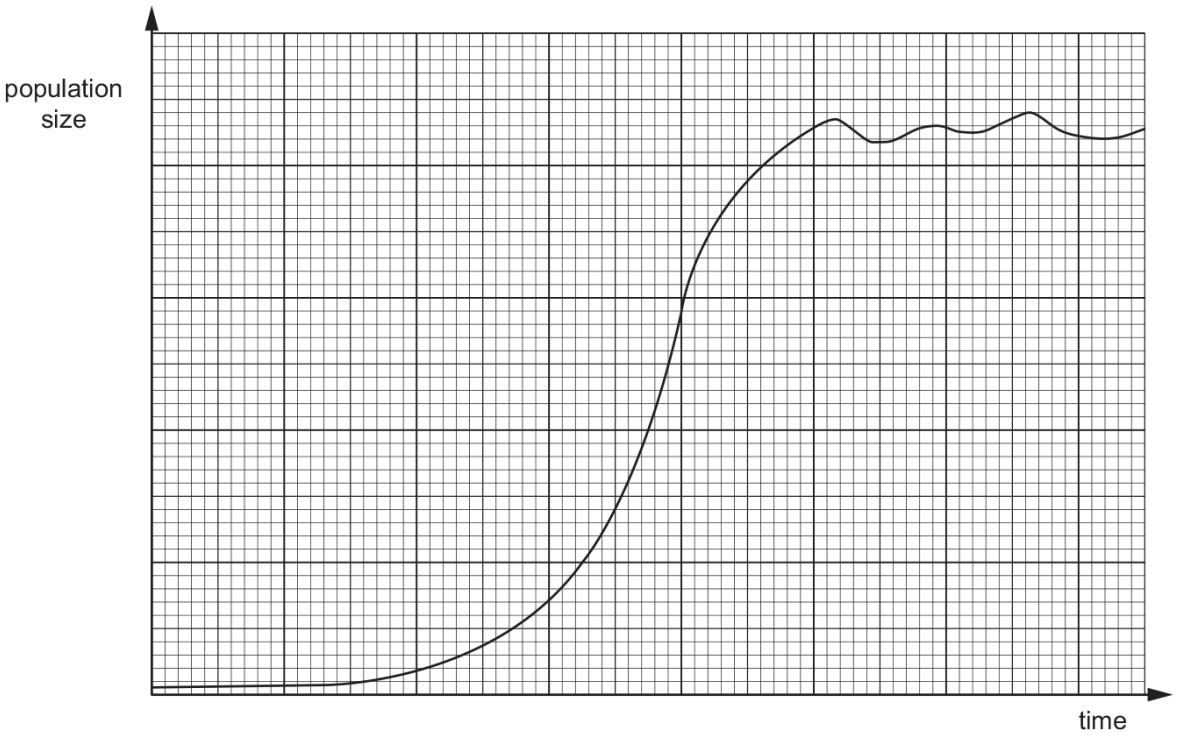
**B** Trout and perch will survive but only perch will produce offspring.

**C** Trout and perch will survive but produce no offspring.

**D** Trout, sea bass and perch will survive but produce no offspring.

1119. 0610_p16_qp_20 Q: 37

Some rabbits colonised an island for the first time. The graph shows how their population size changed over the next few years.




What explains the way the size of the rabbit population changed during the exponential (log) phase?

**A** birth rate and death rate in equilibrium

**B** increasing number of rabbits able to reproduce

**C** increase in the number of predators

**D** limiting factors begin to take effect

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1120. 0610_w16_qp_21 Q: 40

What is **not** a reason for having conservation programmes?

**A** introducing species to new environments

**B** maintaining resources

**C** protecting vulnerable environments

**D** reducing extinction

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# Appendix A

# Answers