

Unit 4. Grouping and Identifying Organisms

Extended Questions:

1. How do scientists determine if two organisms belong to the same species?

2. What is a classification key?

3. What is a dichotomous key?

4. How do you use a dichotomous key?

5. Why are classification keys important in biology?

6. What is the purpose of constructing a classification key?

7. How do viruses reproduce?

8. What is the basic structure of a virus?

9. Can viruses be treated with antibiotics?

10. Define a species.

11. What does 'fertile offspring' mean?

12. Why can't a horse and a donkey produce fertile offspring?

13. What are the seven characteristics of living organisms?

14. How can you distinguish between living, dead, and non-living things?

15. Is a car considered a living thing? Why or why not?

16. What is respiration in living organisms?

17. Why is reproduction important for living organisms?

18. Are viruses considered living organisms?

Complete the following using the given words:

1- Some things are living, while others have never lived.

Write down each word in the correct box in the table

Kangaroo – rat – rock – sand – seaweed

Living things	Things that have never lived

2- **Species – fertile – variations – offspring – infertile – identical**

a) A group of organisms that reproduce together to give fertile offspring is called -----

b) Exactly the same -----

c) Differences between organisms that belong to the same species -----

d) Not able to reproduce -----

e) Able to reproduce -----

f) A scientific term for the 'children' of a plant or an animal -----

Which statement about viruses is correct? Tick one box

1- Viruses are made of cells ☐

2- Viruses can move, grow and respire on their own ☐

3- Viruses can only reproduce while in another cell ☐

4- Viruses excrete carbon dioxide ☐

Fahad is writing a key to identify several species of snake. The pictures show two of the snake species included in Fahad's key.



Arizona black
rattlesnake



Tiger rattlesnake

Write a question that Fahad could put into the key that distinguishes between these two snake species.

Circle the correct answer:

1- Which process is defined as "releasing energy from food inside cells"?

- A) Nutrition
- B) Respiration
- C) Excretion
- D) Growth

2- Why do many scientists classify viruses as "non-living"?

- A) They do not contain DNA.
- B) They cannot reproduce without a host cell.
- C) They are too small to be seen.
- D) They do not have a nucleus

3-Nutrition is

- A) The breaking down of nutrients to release energy
- B) Changing the position of part or all of the body
- C) Taking in materials from the environment for energy and growth
- D) Detecting changes in the environment

4-How do viruses affect the infected cell of the host?

- A) Nothing happens to the cell
- B) The cell becomes stronger
- C) The cell feeds the virus
- D) The cell dies

5-When a horse reproduces with a donkey, the offspring will be

- A) A horse
- B) A mule
- C) A donkey
- D) unknown