

iNewittAll — KS3 Biology

The 7 Life Processes (MRS GREN): Complete Worksheet

Name: _____ Class: _____ Date: _____

Total Marks: ____ / 100

Section 1: Knowledge Recall (30 marks)

This section tests your understanding of key facts about MRS GREN and the 7 life processes.

1. What does the letter M stand for in MRS GREN? [2]
A) Minerals
B) Movement
C) Metabolism
D) Mitochondria
2. Which life process is the chemical reaction that happens inside cells to release energy from food? [2]
A) Breathing
B) Digestion
C) Respiration
D) Excretion
3. A sunflower turns to face the sun during the day. Which life process does this demonstrate? [2]
A) Movement
B) Sensitivity
C) Growth
D) Nutrition
4. What is excretion? [2]
A) Breathing out carbon dioxide only
B) Going to the toilet
C) Getting rid of waste products from chemical reactions in cells
D) Sweating during exercise
5. Which of the following is an example of something that is DEAD (not never been alive)? [2]
A) A plastic bottle
B) A brick
C) A wooden table
D) A glass of water
6. For movement to be a sign of life, which TWO requirements must be met? [2]
A) The organism must move quickly and make noise
B) The organism must move itself (not be moved by something else)
C) The organism must move to achieve something that helps it survive
D) The organism must move in a straight line

Circle TWO letters for full marks.

7. State whether each of the following statements is TRUE or FALSE.

[8]

Statement	True or False
Respiration is the same thing as breathing	
Plants respire just like animals do	
A car moving down the road is a sign of life	
All living organisms carry out all 7 life processes at some point in their life cycle	
A seed is not alive because it doesn't move or reproduce	
Bacteria are too small to move themselves	
Excretion means getting rid of waste products from chemical reactions	
Growth only means getting bigger	

8. Complete the table below by writing what each letter in MRS GREN stands for and giving one example for each.

[6]

The first one has been done for you.

Letter	What it stands for	Example
M	Movement	A frog hopping to escape danger
R		
S		
G		
R		
E		
N		

1 mark per correctly completed row (2 marks total per letter - 1 for name, 1 for valid example). 6 rows to complete = 6 marks.

Section 2: Application & Understanding (40 marks)

This section tests your ability to apply what you've learned about MRS GREN to different situations.

9. Explain the difference between respiration and breathing. Why is it important not to confuse the two?

[6]

10. A Venus flytrap is a plant that can snap its leaves shut to trap insects. Explain which life processes this demonstrates and how.

[8]

You should mention at least THREE different life processes in your answer.

11. A frog goes through several stages in its life cycle: frogspawn (eggs), tadpole, froglet, and adult frog.

[8]

a) Explain why a frogspawn egg is still considered alive even though it cannot move, excrete waste, or reproduce at that stage.

[4]

b) Name TWO life processes that happen at ALL stages of the frog's life cycle and explain why these must always happen.

[4]

12. Different organisms get their nutrition in different ways.

[8]

a) Describe how animals get their nutrition.

[2]

b) Describe how plants get their nutrition.[2]

c) Explain why all organisms need nutrition, even though they get it in different ways.[4]

13. A car moves down the road. A frog hops across a pond. Explain why the frog's movement is a sign of life but the car's movement is not. [6]

Your answer should refer to the two requirements for movement to be a sign of life.

14. Look at the three items below:[6]

- A wooden table
- A plastic chair
- A dead leaf

Sort these items into the categories "dead" and "never been alive" and explain your reasoning for each.

Section 3: Extension & Analysis (30 marks)

This section requires you to think deeply and apply your knowledge to new situations.

15. An acorn is the seed of an oak tree. At the seed stage, it respires to get energy, it is sensitive to moisture and temperature, and it can grow into a seedling. However, it does not move by itself, it does not excrete waste, and it does not reproduce. [10]

Using your knowledge of life processes and life cycles, write a detailed explanation of why an acorn is still considered to be alive.

Your answer should include: what makes something alive, which life processes the acorn DOES carry out, why it doesn't carry out all 7 processes yet, and what will happen when it grows into a mature tree.

16. Imagine you are a scientist who has discovered a mysterious object on another planet. You need to determine whether this object is living, dead, or has never been alive. [10]

Describe the tests or observations you would carry out to check for each of the 7 life processes. For each process, explain what result would indicate that the object is alive.

Make sure you cover all 7 life processes: Movement, Reproduction, Sensitivity, Growth, Respiration, Excretion, and Nutrition.

17. Plants carry out photosynthesis to make their own food, but they also respire just like animals do. Many students find this confusing.[10]

Write a clear explanation that would help another student understand:

- What photosynthesis is and why plants do it
- What respiration is and why plants need it
- Why plants need to do BOTH processes
- How the two processes are different from each other

Use examples to make your explanation clear.