NOVA SCOTIA ADVANCED BIOLOGY 11 · UNIT A

# Matter and Energy for Life — Practice Test

**Nova Scotia Advanced Biology 11 • 25 questions**

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A respirometer shows 100 units of oxygen used. If 25 percent is used by muscle tissue, the muscle use, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A sample of 6 grams of tissue uses 45 units of oxygen per gram. The total, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **An advanced investigation measures 12 grams of leaf tissue producing 30 units of oxygen per gram. The total oxygen, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A culture produces 300 units of gas. If 20 percent is carbon dioxide, the carbon dioxide, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A hypothesis in an advanced investigation is a**

A testable prediction

B proven fact

C random guess with no basis

D final conclusion

Understand It with Pulse | Flag a mistake

6 **A large surface area to volume ratio favours**

- A slow diffusion only
- B no exchange
- C rapid exchange of materials
- D cell division only

Understand It with Pulse | Flag a mistake

7 **A leaf disc rises in 90 seconds in light and 30 seconds slower in shade. The shade time, in seconds, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **A rate graph that levels off suggests the enzyme is**

A denatured always

B absent

C inhibited fully

D saturated with substrate

Understand It with Pulse | Flag a mistake

9 **A researcher repeats trials mainly to check for**

A reliability of results

B a single answer

C faster work

D larger samples only

Understand It with Pulse | Flag a mistake

**10** **A stem cell differs from a specialised cell because it is**

- A dead
- B unable to divide
- C unspecialised and can differentiate
- D found only in plants

Understand It with Pulse | Flag a mistake

**11** **A valid control in an enzyme experiment**

- A changes every factor
- B removes all enzymes
- C isolates the effect of the variable tested
- D adds extra substrate

Understand It with Pulse | Flag a mistake

12 **An enzyme trial runs for 40 minutes and a second trial runs 15 minutes longer. The second trial, in minutes, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **An independent study question must be testable, which means it can be answered by**

A evidence from an experiment

B opinion only

C a single observation

D a textbook quote only

Understand It with Pulse | Flag a mistake

14 **Anaerobic respiration in muscle produces**

A glucose

B lactate

C oxygen

D carbon dioxide only

Understand It with Pulse | Flag a mistake

15 **ATP hydrolysis releases energy by breaking a bond between**

A carbon atoms only

B hydrogen atoms only

C phosphate groups

D sugar rings only

Understand It with Pulse | Flag a mistake

16 **Chemiosmosis in mitochondria uses a gradient of**

A sodium ions only

B glucose

C hydrogen ions

D oxygen atoms

Understand It with Pulse | Flag a mistake

17 **Competitive inhibition happens when an inhibitor binds to the**

A ribosome

B active site

C cell wall

D nucleus

Understand It with Pulse | Flag a mistake

18 **Denaturation of an enzyme usually results from extreme**

A temperature or pH

B light colour only

C water volume only

D cell size

Understand It with Pulse | Flag a mistake

19 **A respirometer shows 200 units of oxygen used. If 15 percent is used by muscle tissue, the muscle use, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A sample of 8 grams of tissue uses 35 units of oxygen per gram. The total, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **An advanced investigation measures 15 grams of leaf tissue producing 24 units of oxygen per gram. The total oxygen, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A culture produces 240 units of gas. If 25 percent is carbon dioxide, the carbon dioxide, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **A respirometer shows 80 units of oxygen used. If 50 percent is used by muscle tissue, the muscle use, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A sample of 10 grams of tissue uses 28 units of oxygen per gram. The total, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **An advanced investigation measures 20 grams of leaf tissue producing 18 units of oxygen per gram. The total oxygen, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

# ANSWER KEY

| | | | | | |
|---|---|---|---|---|---|
| **1.** | 25 | **10.** | C | **19.** | 30 |
| **2.** | 270 | **11.** | C | **20.** | 280 |
| **3.** | 360 | **12.** | 55 | **21.** | 360 |
| **4.** | 60 | **13.** | A | **22.** | 60 |
| **5.** | A | **14.** | B | **23.** | 40 |
| **6.** | C | **15.** | C | **24.** | 280 |
| **7.** | 120 | **16.** | C | **25.** | 360 |
| **8.** | D | **17.** | B | | |
| **9.** | A | **18.** | A | | |

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