

The Microscopic World Quiz

Try to see how much you remember from the course. Answers are on the last page.

1. What is the smallest distance that a human eye can distinguish without magnification?
 - a) 1 metre
 - b) 5 cm
 - c) 1 cm
 - d) 0.1 cm
 - e) 0.001 cm

2. What is Magnification?

3. What is Resolution?

4. Who was known as the father of the modern microscope?
 - a) Patrick Pearse
 - b) Galileo Galilei
 - c) Robert Hooke
 - d) Antoni van Leeuwenhock

5. What is a cell?

6. Do bacteria have one cell (unicellular) or more than one cell (multicellular)?

7. What is a bacterial flagella and what does it do?

8. How do bacterial cells replicate?
 - a) Unary fission
 - b) Binary fission
 - c) Ternary fission
 - d) Quaternion fission

9. What is the name given to the bacteria that live in our body including in our intestines?

10. What animals spread The Black Death?
11. Should antibiotics be taken for a cold/flu? (Yes/No)
12. Are viruses counted as being alive? (Yes/No)
13. What is a zoonotic infection?
- a) A place to see animals
 - b) An infection that normally exists in animals but can infect humans
 - c) An infection that is only spread in zoos
14. What animal do we think the novel coronavirus (SARS-CoV-2)(COVID-19) started in?
- a) Bats
 - b) Donkeys
 - c) Dogs
 - d) Ferrets
15. What is the Immune System?
16. What are the two sections of the Immune System? The I----- Immune system and the A----- Immune system?
17. Who began vaccination after infecting a boy with cowpox so he wouldn't get smallpox?
- a) Edward Jenner
 - b) Blossom the cow
 - c) Sarah Nelves
 - d) James Phipps
18. What are the 4 main blood types?
19. Who is called the father of genetics?
- a) Leo Varadkar
 - b) Gregor Mendel
 - c) Isaac Newton
 - d) James Watson

20. Who discovered the structure of DNA?
21. What woman did they steal data from without crediting?
22. What DNA bases would match this code? **ATTCAGGGTCTAATGATCGTGTGA**
23. What are the 4 types of DNA mutations? I-----, D-----, I-----, S-----
24. What does Broca's area in the brain control?
- a) Speech
 - b) Breathing
 - c) Reading
 - d) Digestion
25. What region of the brain controls involuntary movements i.e. movements we don't think about e.g. heartbeat, digestion?
- a) Cerebrum
 - b) Cerebellum
 - c) Spinal Cord
 - d) Brain stem
26. What is the name for chemical released at the end of a neuron?
27. What part of your body is the most sensitive
- a) Elbow
 - b) Calf
 - c) Knee
 - d) Hands
28. For what research did the two researchers (James Allison and Tasuku Honjo) win the Nobel Prize in 2018?
29. How long did the Human Genome Project take and how much did it cost?
30. What physicist said in 1959, "one day we will be able to swallow the surgeon"?

Answers

1. What is the smallest distance that a human eye can distinguish without magnification?
0.1 cm
2. What is magnification? Magnification is making an image appear larger
3. What is resolution? Resolution is the ability to distinguish between two objects as being separate
4. Who was known as the father of the modern microscope? Robert Hooke
5. What is a cell? Cells are the building blocks that make up an organism
6. Do bacteria have one cell (unicellular) or more than one cell (multicellular)? Bacteria only have one cell. They are unicellular but they often grow together in large groups
7. What is a bacterial flagella and what does it do? A bacterial flagella is a whip-like tail that extends from the bacteria and helps it to move
8. How do bacterial cells replicate? Binary fission
9. What is the name given to the bacteria that live in our body including our intestines?
Microbiome
10. What animals spread The Black Death? Fleas living on rats
11. Should antibiotics be taken for a cold/flu? No. Antibiotics can only treat bacterial infections and are no good at treating viral infections
12. Are viruses counted as being alive? – No. Viruses are not technically alive. They need to be inside a living organism to survive.
13. What is a zoonotic infection? An infection that normally exists in animals but can infect humans
14. What animal do we think the novel coronavirus (SARS-CoV-2)(COVID-19) started in? Bats
15. What is the Immune System? The Immune system is our body's defence against pathogens
16. What are the two sections of the Immune System? The Innate Immune system and the Adaptive Immune system?
17. Who began vaccination after infecting a boy with cowpox so he wouldn't get smallpox?
Edward Jenner
18. What are the 4 main blood types? A, B, AB, O
19. Who is called the father of genetics? Gregor Mendel
20. Who discovered the structure of DNA? James Watson and Francis Crick
21. What woman did they steal data from without crediting? Rosalind Franklin
22. What DNA bases would match this code? **TAAGTCCCAGATTACTAGCACACT**
23. What are the 4 types of DNA mutations? Insertion Deletion, Inversion, Substitution
24. What does Broca's area in the brain control? Speech
25. What region of the brain controls involuntary movements i.e. movements we don't think about e.g. heartbeat, digestion? Brain Stem
26. What is the name for chemical released at the end of a neuron? Neurotransmitters
27. What part of your body is the most sensitive? Hands
28. For what research did the two researchers (James Allison and Tasuku Honjo) win the Nobel Prize in 2018? Immunotherapy
29. How long did the Human Genome Project take and how much did it cost? 13 years and 5 billion dollars
30. In 1959, Richard Feynman made the famous assertion that one day we will be able to swallow the surgeon? Richard Feynman