

Markhor Junior Contest ®

Pioneer Level (Class VII & VIII) Science 2017

There are 25 questions, and each question carries two marks.

1. **Why is the scientific method considered a cycle rather than a straight line?**
 - a) Because experiments never end.
 - b) Because all steps must be repeated once.
 - c) Because new results often lead back to new questions.**
 - d) Because it always starts and ends with observation
2. **A biomedical engineer creates an artificial limb. Which two STEM areas are most obviously working together here?**
 - a) Science and math
 - b) Engineering and technology**
 - c) Art and science
 - d) Math and literature
3. **Michael Faraday contributed to electricity by:**
 - a) Naming the electron
 - b) Discovering electromagnetic induction**
 - c) Inventing the light bulb
 - d) Explaining static electricity
4. **What is the primary product of cellular respiration that provides energy for cell activities?**
 - a) Oxygen
 - b) Water
 - c) ATP (adenosine triphosphate)**
 - d) Carbon dioxide
5. **Which organism gets the least energy in an energy pyramid?**
 - a) Producers
 - b) Primary consumers
 - c) Secondary consumers
 - d) Tertiary consumers**
6. **Which scientist(s) first described the structure of DNA as a double helix?**
 - a) Mendel
 - b) Watson and Crick**
 - c) Darwin
 - d) Rosalind Franklin and Aristotle
7. **Homozygous recessive means:**
 - a) TT
 - b) Tt**

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- c) tt
- d) AA

8. **CRISPR was discovered as a defense system in:**

- a) Plants
- b) Humans
- c) **Bacteria**
- d) Animals

9. **Vaccines help protect against infectious diseases by:**

- a) Killing all pathogens directly
- b) Removing toxins from blood
- c) **Training the immune system to recognize and fight pathogens**
- d) Increasing body temperature

10. **Which disease was completely eradicated worldwide by vaccination?**

- a) Polio
- b) Malaria
- c) **Smallpox**
- d) Cholera

11. **In a food chain, the primary consumers are:**

- a) Producers
- b) **Herbivores**
- c) Carnivores
- d) Decomposers

12. **Which disease can be caused by drinking polluted water?**

- a) Asthma
- b) **Cholera**
- c) Diabetes
- d) Arthritis

13. **Which of these is a consequence of global warming?**

- a) Decreased rainfall everywhere
- b) Slower plant growth only
- c) **Melting glaciers and rising sea levels**
- d) Stronger ozone layer

14. **Composting kitchen waste is an example of:**

- a) Pollution
- b) Mining
- c) **Recycling organic matter**
- d) Fossil fuel use

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15. Which of these particles is found outside the nucleus?

- a) Proton
- b) Neutron
- c) Electron**
- d) Nucleon

16. Which of the following is a halogen element?

- a) Sodium
- b) Chlorine**
- c) Calcium
- d) Helium

17. Which ion is responsible for the basic nature of a solution?

- a) H^+ ion
- b) OH^- ion**
- c) K^+ ion
- d) CO_3^{2-} ion

18. Which separation method is used for separating colors in ink?

- a) Evaporation
- b) Filtration
- c) Chromatography**
- d) Distillation

19. Newton's Third Law of Motion can be observed when:

- a) A car slows down
- b) A rocket launches (action: gases down, reaction: rocket up)**
- c) A ball stays at rest
- d) A book lies on a table

20. The maximum displacement of particles from the rest position in a wave is:

- a) Frequency
- b) Amplitude**
- c) Wavelength
- d) Speed

21. Which type of lens is used in a magnifying glass?

- a) Concave lens
- b) Convex lens**
- c) Plane lens
- d) Prism

22. Which of the following is a clean renewable energy source?

- a) Coal
- b) Diesel
- c) Wind energy**
- d) Oil

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23. Which of the following is a property of metals?

- a) Brittle and non-conductive
- b) Malleable and conducts electricity
- c) Dissolves easily in water
- d) Transparent

24. When zinc reacts with copper sulfate solution, what happens?

- a) Zinc dissolves and copper forms
- b) Water is produced
- c) Gas is released
- d) Nothing happens

25. What is the energy stored in an object lifted above the ground called?

- a) Kinetic energy
- b) Gravitational potential energy**
- c) Thermal energy
- d) Elastic energy