

Markhor Junior Contest ®

Pioneer Level (Class VII & VIII) Science 2015

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

1. **An alchemist in the Middle Ages tried to turn lead into gold using secret recipes. Why is alchemy not considered true science?**
 - a) It used chemicals.
 - b) It lacked controlled experiments and testable evidence.**
 - c) It was too old to be science.
 - d) It did not use mathematics
2. **A scientist discovers a new strong material. An engineer uses it to design safer helmets. This shows:**
 - a) Science depends only on experiments.
 - b) Engineers work without scientific knowledge.
 - c) Science provides knowledge, engineering applies it.**
 - d) Technology and math are unnecessary
3. **Who developed the first smallpox vaccine in 1796?**
 - a) Louis Pasteur
 - b) Edward Jenner**
 - c) Alexander Fleming
 - d) Robert Koch
4. **Why are plants called producers in the food chain?**
 - a) They produce ATP in mitochondria.
 - b) They make their own food through photosynthesis.**
 - c) They consume other organisms.
 - d) They release carbon dioxide
5. **In a food web, which organisms can feed at multiple trophic levels?**
 - a) Producers only
 - b) Herbivores only
 - c) Omnivores**
 - d) Decomposers
6. **The first line of defense in the human body includes:**
 - a) Antibodies
 - b) White blood cells
 - c) Skin and mucous membranes**
 - d) Vaccines

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7. Which vaccine protects against tuberculosis (TB)?
 - a) Polio vaccine
 - b) MMR vaccine
 - c) BCG vaccine**
 - d) Hepatitis vaccine

8. The top predator in a food chain is called:
 - a) Primary consumer
 - b) Secondary consumer
 - c) Apex predator**
 - d) Producer

9. Soil pollution by excessive use of pesticides can lead to:
 - a) Stronger soil fertility
 - b) Loss of useful soil microbes**
 - c) Increase in fresh water
 - d) Oxygen production

10. Which of these is an effect of the melting polar ice caps?
 - a) More mountains form
 - b) Increase in deserts only
 - c) Rising sea levels and loss of habitats**
 - d) Earth's rotation speeds up

11. Which of the following is an advantage of renewable resources?
 - a) They run out quickly
 - b) They cause heavy pollution
 - c) They can be replenished naturally**
 - d) They are always expensive

12. Which farming method is sustainable?
 - a) Monoculture (one crop only)
 - b) Excessive pesticide use
 - c) Crop rotation**
 - d) Burning crop residues

13. Which element has 1 proton in its nucleus?
 - a) Helium
 - b) Hydrogen**
 - c) Oxygen
 - d) Lithium

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14. Which type of reaction releases a large amount of heat and light?
- a) Neutralization
 - b) Combustion**
 - c) Displacement
 - d) Precipitation
15. Red litmus paper turns blue in the presence of:
- a) Acid
 - b) Base**
 - c) Salt
 - d) Carbon dioxide
16. Which of the following is a heterogeneous mixture?
- a) Sugar solution
 - b) Brass
 - c) Oil and water**
 - d) Air
17. Energy stored in a stretched rubber band is:
- a) Kinetic energy
 - b) Elastic potential energy**
 - c) Chemical energy
 - d) Heat energy
18. The SI unit of frequency is:
- a) Joule
 - b) Newton
 - c) Hertz (Hz)**
 - d) Watt
19. Which part of the microscope focuses light onto the specimen?
- a) Eyepiece lens
 - b) Stage
 - c) Objective lens**
 - d) Mirror/illuminator
20. Sex cells (sperm or egg) have how many chromosomes compared to body cells?
- a) Same number as body cells
 - b) Half the number of body cells**
 - c) Double the number of body cells
 - d) Zero
21. Which of the following elements is more metallic?
- a) Sodium**
 - b) Fluorine

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- c) Oxygen
 - d) Carbon
22. **Why can salt (NaCl) conduct electricity when dissolved in water?**
- a) Water gives energy to atoms
 - b) Ions become free to move**
 - c) Electrons stop moving
 - d) Atoms gain mass
23. **A straw in a glass of water looks bent at the surface. This happens because:**
- a) Light slows down and bends when it passes from air to water**
 - b) The straw actually bends
 - c) Water magnifies the straw without bending light
 - d) Light travels faster in water than in air
24. **A student mixes vinegar (acid) with baking soda (base). Which observation will they most likely see?**
- a) Formation of a gas and fizzing**
 - b) Blue solution turning red
 - c) Solution turns opaque without bubbles
 - d) Nothing happens
25. **In an energy pyramid, why is there less energy at higher trophic levels?**
- a) Energy disappears magically
 - b) Energy is lost as heat at each level**
 - c) Producers store all the energy
 - d) Consumers do not eat enough