

## **Grade 8 - Science Unit Test**

**Chapters:** Force, Pressure, Sound, and Light

**Total Marks:** 40

**Time:** 1 Hours

### **Section A: Multiple Choice Questions (MCQs) (1 mark each)**

**[8 marks]**

1. The SI unit of force is:  
(a) Newton  
(b) Joule  
(c) Pascal  
(d) Watt
2. The force per unit area is called:  
(a) Pressure  
(b) Force  
(c) Energy  
(d) Work
3. Which of the following mediums can sound not travel through?  
(a) Air  
(b) Vacuum  
(c) Water  
(d) Metal
4. A concave mirror is used in:  
(a) Rearview mirrors  
(b) Shaving mirrors  
(c) Both (a) and (b)  
(d) None of these
5. The property of a sound wave that determines its pitch is:  
(a) Amplitude  
(b) Frequency  
(c) Wavelength  
(d) Speed
6. An object submerged in a fluid experiences an upward force called:  
(a) Friction  
(b) Buoyant force  
(c) Gravitational force  
(d) Magnetic force
7. A rainbow is formed due to:  
(a) Reflection  
(b) Refraction and Dispersion  
(c) Absorption  
(d) Interference
8. The sound heard after reflection from a surface is called:  
(a) Noise  
(b) Vibration  
(c) Echo  
(d) Resonance

**Section B: General Questions (2 marks each)****[12 marks]**

9. Define force. List two effects of force on an object.
10. Why do we feel more pressure when we stand on one foot compared to both feet?
11. What are ultrasonic waves? State one use of ultrasonic waves.
12. Explain how a hydraulic lift works using the concept of pressure.
13. What is dispersion of light? Name the natural phenomenon associated with it.
14. Write the laws of reflection of light.

**Section C: Thinking-Based Questions (3 marks each)****[12 marks]**

15. A truck and a car are moving with the same speed. Which one will require more force to stop and why?
16. Why are astronauts unable to hear each other in space even if they are very close?
17. Explain why:
  - (a) Sound travels faster in solids than in gases.
  - (b) Water boils faster at higher altitudes.
18. A ray of light falls on a mirror at an angle of  $30^\circ$ . What will be the angle of reflection? Explain the law used.

**Section D: Long-Answer Questions (4 marks each)****[8 marks]**

19. With the help of a labeled diagram, explain the working of a human ear.
20. (a) What is atmospheric pressure?  
(b) Why does a plastic bottle get crushed when air is removed from it?

**Instructions to Students:**

1. Write neatly and draw diagrams wherever required.
2. Attempt all questions.
3. Read the questions carefully before answering.