ASM TUITION ACADEMY

PHYSICS

YEAR 7

TOPIC: What Is a Lever?

TEST QUESTIONS

TOTAL MARKS: 55

TIME: 45 MINUTES

Section A: Multiple-Choice Questions

Choose the correct answer. (10 × 1 = 10 marks)

Q1. What is a lever? [1]

A. A liquid used to reduce friction
B. A solid beam that pivots around a fulcrum
C. A type of electrical circuit
D. A material that stretches permanently

Q2. What is another name for the fulcrum? [1]

A. Load
B. Effort
C. Pivot
D. Beam

Q3. What is the effort in a lever? [1]

A. The force applied to the lever
B. The object being moved
C. The point around which the lever turns
D. The length of the beam

Q4. What is the load? [1]

A. The person applying the force
B. The object that needs to be moved
C. The pivot point
D. The turning direction

Q5. Which part of a lever does the beam pivot around? [1]

A. Load
B. Effort

C. Fulcrum
D. Handle

Q6. In a lever used to move a boulder, what can act as the fulcrum? [1]

A. A small stone
B. The boulder itself in every case
C. The person's hand only
D. A rope

Q7. Which tool acts as a lever when tightening a nut? [1]

A. Thermometer
B. Spanner
C. Measuring cylinder
D. Magnet

Q8. In a wheelbarrow, what acts as the fulcrum? [1]

A. The soil
B. The handles
C. The axle through the middle of the wheel
D. The gardener's hands

Q9. How can the turning force on a load be increased? [1]

A. Decrease the effort force
B. Increase the distance between the effort and fulcrum
C. Increase the distance between the load and fulcrum
D. Remove the fulcrum

Q10. A lever can turn in which directions? [1]

A. Clockwise only
B. Anticlockwise only
C. Clockwise or anticlockwise
D. Neither direction

Section B: Fill in the Blanks

Complete each sentence. (10 × 1 = 10 marks)

Q11. A lever consists of a solid beam and a _____. [1]

Q12. Another name for a beam is a bar or _____. [1]

Q13. The point around which a lever pivots is called the _____. [1]

Q14. The force applied to a lever is called the _____. [1]

Q15. The object being moved by a lever is called the _____. [1]

Q16. A lever produces a _____ force on the load. [1]

Q17. In a wheelbarrow, the axle acts as the _____. [1]

Q18. The effort force can turn a lever clockwise or _____. [1]

Q19. The distance between the effort and the fulcrum can be increased to increase the _____ force. [1]

Q20. The effort moves through a greater distance than the _____. [1]

Section C: Short-Answer Questions

Answer all questions. (35 marks)

Q21. Name the three main parts of a lever and explain the function of each part. [6]

Q22. Explain how a lever helps a person move a heavy boulder. [4]

Q23. A person uses a long metal rod and a small stone to move a boulder. Identify the beam and fulcrum, and explain where the effort should be applied. [4]

Q24. Explain how a spanner acts as a lever when tightening a nut on a bolt. [4]

Q25. Explain how a wheelbarrow acts as a lever when lifting a heavy load of soil. [4]

Q26. State three ways to increase the turning force exerted by a lever on a load. [3]

Q27. Explain the relationship between the distance moved by the effort and the distance moved by the load. [3]

Q28. A gardener wants to lift a heavy load using a lever. Explain why placing the load closer to the fulcrum makes lifting easier. [3]

Q29. A lever is difficult to use because the effort force is too small. Describe two changes that could increase the turning force on the load, and explain why they work. [4]