

Pressure in Fluids (KS3)

Section A – Recall (1–2 marks each)

Q1 (1 mark)
What is pressure?

Q2 (1 mark)
What unit is pressure measured in?

Q3 (1 mark)
What happens to atmospheric pressure as height increases?

Q4 (1 mark)
What causes atmospheric pressure?

Q5 (2 marks)
State TWO factors that affect pressure.

Q6 (2 marks)
What is upthrust?

Section B – Understanding (3 marks each)

Q7 (3 marks)

Explain how and why atmospheric pressure changes with height.

Q8 (3 marks)

Explain how and why pressure changes with depth in a liquid.

Q9 (3 marks)

Explain how upthrust affects floating and sinking.

Q10 (3 marks)

Explain what is meant by pressure in a fluid acting normal to a surface. In your answer, include what direction the force acts and what happens in a fluid.

Section C – Application (3-4 marks)

Q11 (3 marks)

A force of 60 N acts on an area of 12 m². Calculate the pressure.

Use: pressure = force ÷ area

Q12 (3 marks)

A force of 150 N acts on an area of 30 m². Calculate the pressure.

Q13 (3 marks)

A force of 200 N acts on an area of 40 m². Calculate the pressure.

Q14 (3 marks)

A force of 300 N acts on an area of 15 m². Calculate the pressure.

Q15 (4 marks)

A pressure of 50 Pa acts on an area of 6 m². Calculate the force.

Use: pressure = force ÷ area (rearrange)

Q16 (4 marks)

A force of 180 N creates a pressure of 60 Pa. Calculate the area and state the rearranged formula you use to calculate it.

Section D – Extended Response (6 marks)

Q17 (6 marks)

Explain how atmospheric pressure changes with height, how liquid pressure changes with depth, and how upthrust affects floating and sinking. Include reference to force, area and direction of pressure.

Total: ____ / 46

Percentage: ____%