

Forces (KS3)

Section A – Recall (1–2 marks each)

Q1 (1 mark)
What is a force?

Q2 (1 mark)
What unit is used to measure force?

Q3 (1 mark)
Name the force that opposes motion between two surfaces.

Q4 (1 mark)
What is the turning effect of a force called?

Q5 (1 mark)
Which non-contact force pulls objects towards Earth?

Q6 (2 marks)
State TWO examples of non-contact forces.

Q7 (2 marks)
State TWO effects a force can have on an object.

Q8 (2 marks)
What happens when forces acting on an object are balanced?

Q9 (1 mark)
Name a piece of equipment used to measure force or stretch.

Q10 (2 marks)

State TWO examples of forces caused by fluids.

Section B – Understanding (2-3 marks each)

Q11 (3 marks)

Explain the difference between balanced and unbalanced forces.

Q12 (3 marks)

Explain how using force arrows can help us show forces.

Q13 (3 marks)

Explain how friction affects moving objects.

Q14 (3 marks)

A student at *Learntit* stretches a spring. Explain what happens to the spring.

Q15 (2 marks)

Explain what is meant by Hooke's Law.

Q16 (3 marks)

Explain how moments cause objects to turn and how the moment can be increased.

Q17 (3 marks)

Explain why objects moving through water or air experience resistance forces.

Section C – Application (4–5 marks each)

Q18 (4 marks)

A box full of *Learnit* exam papers is pushed with a force of 20 N to the right. Friction acts with a force of 20 N to the left. Explain what will happen to the motion of the box.

Q19 (4 marks)

A student stretches a spring by adding larger weights. Describe the relationship between force and extension, as well as how a graph would represent this.

Q20 (4 marks)

A door is pushed near its hinges and then pushed near its handle using the same force. State whether the door turns more easily or more difficulty when pushed near the handle and explain your answer.

Q21 (5 marks)

A parachutist jumps from a plane. Explain the forces acting on the parachutist as they fall.

Q22 (5 marks)

A car travelling forwards suddenly brakes.
Explain how forces change the motion of the car.

Q23 (4 marks)

A magnet is brought close to some iron nails.

Explain what happens and identify the type of force involved.

Section D – Extended Response (6 marks each)

Q24 (6 marks)

Discuss contact and non-contact forces. Include:

- what contact forces are
- what non-contact forces are
- examples of each type of force
- how these forces affect objects

Q25 (6 marks)

Create a plan for a Hooke's Law practical. Include:

- apparatus needed
- method
- variables (independent, dependent, control)
- how results will be recorded
- safety considerations
- what pattern you expect to see in results

Total: ____ / 72

Percentage: ____%