

Year 7 Science Half term 5 (18<sup>th</sup> April – 26<sup>th</sup> May)

Unit title	Lesson Title	Objectives	Keywords
Gravity and forces	Floating and sinking investigation - Required practical	Classify objects in terms of <b>density</b> . Explain the relationship between density and objects that float in water.	Density, matter, mass, upthrust, displacement
	Stretching - Required practical	Derive the meaning of the term 'elastic limit'. Find the elastic limit of a spring by plotting data on a graph together with a line of best fit.	Elastic, Hooke's Law
	Weight, mass and gravity ( $w = m \times g$ )	Distinguish between mass and weight. Record measurements of mass and weight using appropriate units. Derive and/or use the equation $w=mg$ .	Weight, mass, gravity
	Gravity	Identify the factors that affect gravitational force between objects. Describe examples where gravitational forces are useful.	Distance, mass, attractive forces
	Variations in Gravity (Extension Lesson)	Draw conclusions from data about orbits, based on how gravity varies with mass and distance. Suggest implications of gravity variances during a space mission.	Orbit, elliptical
	Types of forces	Identify forces acting on an object and their direction. Use arrows to show forces on objects.	Push, pull , twist,
	Balanced forces	Identify the forces that are balanced in a range of situations. Use arrows to scale to show balanced forces.	Gravity, weight, reaction, thrust, drag, friction, air resistance,
	Unbalanced forces	Identify the forces on an object and the direction in which they are acting. Demonstate an understanding of acceleration in terms of changing forces.	Speed, acceleration, resultant force
	Friction	Identify the factors that affect frictional force between surfaces. Describe examples where frictional forces are useful and/or inconvenient.	Smooth, rough, thermal energy, grip, lubricant

<b>Investigating friction - Required practical</b>	Identify which variables need to be kept constant in order to obtain reliable data. Systematically carry out a practical to achieve reproducible results.	Variables, reliable, reproducible
Writing a conclusion	Plot a suitable graph from data and explain what it shows.	Conclusion, evaluation
Revision	Revise for assessment	