



Science Department Curriculum and Assessment Map

	Half Term 1	Half-Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Year 7	Energy stores and transfers		Forces		Motion	
Fundamental Knowledge	<ol style="list-style-type: none"> 1. State the units of measurement for temperature and energy. 2. Recall the different ways in which energy can be stored. 3. Describe the different ways in which energy is transferred and identify situations in which an energy transfer is taking place. 4. Recall the law of conservation of energy. 5. Identify examples of 'useful' and 'wasted' energy. 6. Describe what efficiency means and calculate energy efficiency. 7. State what is meant by a non-renewable energy resource. 8. Describe what fossil fuels are and how they formed. 9. Describe the advantages and disadvantages of using fossil fuels. 10. Describe how nuclear fuels are used to generate electricity in nuclear power stations and discuss its advantages and disadvantages. 11. State what is meant by a renewable energy resource. 12. Describe how different renewable energy resources are used to generate electricity (hydroelectricity, geothermal, solar, wind, tidal, biofuels). 13. Describe the advantages and disadvantages of different renewable energy sources. 		<ol style="list-style-type: none"> 1. Name the three states of matter and give examples of each state. 2. Name forces and classify them as contact or non-contact forces. 3. Represent the size and direction of forces using arrows. 4. Identify balanced and unbalanced forces and describe the effects balanced and unbalanced forces on stationary and moving objects. 5. Work out the resultant of two forces acting along the same line. 6. Describe how mass and weight are measured and state their units. 7. State what 'extension' and 'compression' means. 8. Describe how the extension of a spring depends on the force applied. 9. Investigate how the extension of a spring depends on the force applied and plot a graph to show force vs. extension and draw a line of best fit 10. Key Practical Skill: Use standard units of measurement. 11. State what is meant by friction. 12. Explain some ways in which friction can be changed. 13. State what is meant by pressure and how it depends on force and area. 14. Calculate pressure and recall its units. 		<ol style="list-style-type: none"> 1. Describe the meaning of speed. 2. Explain how the distance travelled and the time taken affects the speed. 3. Use the formula relating speed, distance and time. 4. Represent simple journeys on a distance-time graph. 5. Describe changes of speed shown on a distance-time graph. 6. Calculate speeds from the gradient of a distance-time graph. 7. Explain why the maximum speed on a journey is usually greater than the mean speed. 8. Explain what relative speed means. 9. Calculate the relative speed between two objects moving along the same line. 10. Change the subject of a simple mathematical formula. 11. Calculate the gradient of a line on a graph. 	

Learning Checkpoint Tasks	<ul style="list-style-type: none"> • Energy stores and transfers • Non-renewable energy resources • Renewable energy resources 	<ul style="list-style-type: none"> • Contact and non-contact forces • Mass and weight • Pressure 	<ul style="list-style-type: none"> • Calculating speed • Interpret distance-time graphs • Gradient of a line
Common Assessment Task	Year 7: Common Assessment 1	Year 7: Common Assessment 2	
Mock Exam (if applicable)	N/A	N/A	N/A
Interleaved Knowledge	<p>Key knowledge acquired previously: From KS2 most students will be able to:</p> <ul style="list-style-type: none"> • Recall that temperature is a measure of how hot or cold something is and be able to use thermometers to measure temperature. • Describe some materials as thermal conductors and some as thermal insulators have seen materials burning and understand that burning is an irreversible change. • Recall that plants need sunlight to grow and that animals, including humans, need food. 	<p>Key knowledge acquired previously:</p> <ul style="list-style-type: none"> • Forces from KS2: Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. • Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. 	<p>Key knowledge acquired previously:</p> <ul style="list-style-type: none"> • Identify forces on stationary and moving objects. • Describe the effects of balanced and unbalanced forces on objects. • Recall ways in which energy can be stored and transferred and identify energy stores and transfers in different situations.