

A quick guide linking IWM Learning Resources to the national curricular.

Each resource is mapped against some of the themes and content topics found in the curricula for England, Wales, Scotland and Northern Ireland

IWM Learning Resource	English National Curriculum	Curriculum for Wales	Curriculum for Northern Ireland	Curriculum for Excellence, Scotland
<p><b>Literacy</b>  <b>Refugees and evacuees:</b>  <b>Letters and poetry</b></p>	<p>This resource supports the teaching of <b>history at KS2</b>, in particular the study of: The challenges for Britain, Europe and the wider world 1901 to the present day.</p> <p>At <b>KS3</b> there are several links with the teaching of <b>English literature</b>, both pre-1914 and contemporary, including prose, poetry and drama. In <b>KS3 English</b>:</p> <ul style="list-style-type: none"> <li>the learning of new vocabulary, relating it explicitly to known vocabulary knowing the purpose, audience for and context of the writing and drawing on this knowledge to support comprehension</li> </ul> <p>would be supported by using this resource, in addition to helping students understand:</p> <ul style="list-style-type: none"> <li>how language, including figurative language, vocabulary choice, grammar, text structure and</li> </ul>	<p>This resource supports all four statements in the Area of <b>Languages, Literacy and Communication</b> and would empower learners to be creative writers.</p> <p>In the Area of <b>Humanities</b>, this resource would be very suitable for enabling students to meet the expectation that:</p> <ul style="list-style-type: none"> <li>Enquiry, exploration and investigation inspire curiosity about the world, its past, present and future.</li> </ul> <p>And to develop an understanding that:</p> <ul style="list-style-type: none"> <li>Events and human experiences are complex, and are perceived, interpreted and represented in different ways</li> </ul>	<p>At KS 2 this resource would particularly support the teaching of <b>Language and literacy</b>, particularly the requirement to:</p> <ul style="list-style-type: none"> <li>describe and talk about real experiences and imaginary situations and about people, places, events and artefacts.</li> </ul> <p>This resource also supports the teaching of curriculum objectives and key elements in <b>Language and Literacy at KS3</b> especially to:</p> <ul style="list-style-type: none"> <li>Engage, through language, with their peers and with fictional and real-life characters and situations, to explore their own emotions and develop creative potential</li> </ul> <p>And</p> <ul style="list-style-type: none"> <li>Explore the use of language and imagery in conveying and evoking a variety of powerful feelings.</li> </ul>	<p>This resource can develop the principles and practice in <b>Literacy and English</b> to support students as they learn to:</p> <ul style="list-style-type: none"> <li>communicate, collaborate and build relationships</li> <li>reflect on and explain literacy and thinking skills, using feedback to help improve and sensitively provide useful feedback for others</li> <li>engage with and create a wide range of texts in different media, taking advantage of the opportunities offered by ICT</li> <li>develop understanding of what is special, vibrant and valuable about their own and other cultures and their languages</li> <li>explore the richness and diversity of</li> </ul>

	<p>organisational features work</p> <p>and</p> <ul style="list-style-type: none"> <li>recognising a range of poetic conventions and understanding how these have been used</li> </ul> <p><b>KS3 Citizenship</b> expects that</p> <ul style="list-style-type: none"> <li>diverse national, regional, religious and ethnic identities in the United Kingdom and the need for mutual respect and understanding</li> </ul> <p>Is taught, as well as</p> <ul style="list-style-type: none"> <li>the different ways in which a citizen can contribute to the improvement of their community.</li> </ul>		<p>There is also potential for this resource to support the <b>Learning for Life and Work Area at Key Stage 3</b>. Particularly in the subject strands: <b>Local and Global Citizenship</b> and <b>Personal Development</b></p>	<p>language, the wide range of ways to be creative</p> <ul style="list-style-type: none"> <li>extend and enrich vocabulary through listening, talking, watching and reading</li> </ul>
<p><b>Health and Wellbeing Coping with Adversity: Memories of 9/11</b></p>	<p>The curriculum documents of England expect controversial issues to be addressed. The <b>Well-being and Health, PSHE and Citizenship</b> curricula recognise that if knowledge and skills are developed in relation to real world situations then young people are better prepared for the complexities of the modern world.</p> <p>For students working at upper KS 2 and KS3 this resource supports the teaching of <b>Well-being and Health</b>, in particular:</p>	<p><b>Health and Well-being Area:</b> All Statements of <b>What Matter</b> are covered by this resource, and in the <b>Humanities Area</b> in particular students will be supported to understand how:</p> <ul style="list-style-type: none"> <li>Human societies are complex and diverse, and shaped by human actions and beliefs</li> </ul> <p>And that:</p> <ul style="list-style-type: none"> <li>Informed, self-aware citizens engage with the challenges and opportunities that face humanity, and</li> </ul>	<p>In <b>Learning for Life and Work; Local and Global Citizenship</b> at KS3, this resource supports the teaching of:</p> <ul style="list-style-type: none"> <li>Human Rights and Social Responsibility</li> <li>Diversity and Inclusion; especially the requirement that: Pupils consider the range and extent of diversity and inclusion in local and global societies and identify the challenges and</li> </ul>	<p>The <b>Health and Well-being</b> curriculum in Scotland expects controversial issues to be addressed and recognises that if knowledge and skills are developed in relation to real world situations then young people are better prepared for the complexities of the modern world. In the <b>Well-being and Health</b> 3rd and 4th Level Experiences and Outcomes statements which this resource can be mapped against are:</p>

	<p><b>Mental wellbeing</b>, and:</p> <ul style="list-style-type: none"> <li>•how to talk about their emotions accurately and sensitively, using appropriate vocabulary</li> <li>•that happiness is linked to being connected to others</li> <li>•the benefits and importance of physical exercise, time outdoors, community participation and voluntary and service-based activities on mental wellbeing and happiness.</li> </ul> <p>This resource also supports the <b>PSHE curriculum: Core Theme 1</b> (Health and wellbeing) at KS3, in particular:</p> <ul style="list-style-type: none"> <li>•H2 - to understand what can affect wellbeing and resilience (e.g. life changes, relationships, achievements and employment)</li> <li>•H10 - a range of healthy coping strategies and ways to promote wellbeing and boost mood.</li> </ul>	<p>are able to take considered and ethical action.</p>	<p>opportunities this presents.</p> <p>And the area of <b>Equality and Social Justice</b> where students are expected to:</p> <ul style="list-style-type: none"> <li>• investigate the themes of equality and social justice, [so that] pupils learn that inequality and injustice exist and have an impact on individuals, groups and society. They begin to recognise that individuals, governments and society have responsibilities to promote equality and justice on a local and global level.</li> </ul>	<ul style="list-style-type: none"> <li>•develop my self-awareness, self-worth and respect for others</li> <li>•understand and develop my physical, mental and spiritual wellbeing and social skills</li> <li>•learn about where to find help and resources to inform choices</li> <li>•reflect on my strengths and skills to help me make informed choices when planning my next steps</li> <li>•acknowledge diversity and understand that it is everyone’s responsibility to challenge discrimination.</li> </ul>
<p><b>Art and Design</b> <b>Dazzle</b> <b>How to hide a ship</b></p>	<p>This resource can be mapped to the following aspects of <b>Art and Design</b> at KS3 where students are expected to:</p> <ul style="list-style-type: none"> <li>• produce creative work, exploring their ideas and recording their experiences</li> <li>• know about great artists, craft makers and designers, and understand the</li> </ul>	<p>This resource can be mapped to the <b>Expressive Arts Area</b>:</p> <ul style="list-style-type: none"> <li>• Exploring the expressive arts is essential to developing artistic skills and knowledge and it enables learners to become curious and creative individuals</li> </ul>	<p>This resource can support the following areas of <b>Art and Design</b> at KS2:</p> <ul style="list-style-type: none"> <li>• Investigate and talk about colours, lines, shapes, textures and pattern</li> <li>• Observe and respond to things seen, handled, remembered and imagined</li> </ul>	<p>Mapping this resource to 2nd and 3rd Levels means that it supports the outcome that:</p> <ul style="list-style-type: none"> <li>• through <b>art and design</b>, learners have rich opportunities to be creative and to experience inspiration and enjoyment.</li> <li>• they explore a wide range of two- and three-dimensional</li> </ul>

	<p>historical and cultural development of their art forms.</p> <p>Subject content at Key stage 3 also requires that pupils be taught to develop their creativity and ideas, and increase proficiency in their execution. They should develop a critical understanding of artists, architects and designers, expressing reasoned judgements that can inform their own work.</p> <p>This resource also supports aspects of teaching the <b>Sciences</b> at KS3 where students are expected to:</p> <ul style="list-style-type: none"> <li>• relate scientific explanations to phenomena in the world around them</li> </ul> <p>And to know about:</p> <ul style="list-style-type: none"> <li>• colours and the different frequencies of light, white light and prisms (qualitative only); and differential colour effects</li> </ul>	<ul style="list-style-type: none"> <li>• Responding and reflecting, both as artist and audience, is a fundamental part of learning in the expressive arts</li> <li>• Creating combines skills and knowledge, drawing on the senses, inspiration and imagination</li> </ul>	<ul style="list-style-type: none"> <li>• Look at and respond to a piece of work by artists, designers, illustrators or craft workers</li> </ul> <p>And in particular this resource would support pupils to achieve the following outcome whereby they should:</p> <ul style="list-style-type: none"> <li>• use what they have seen as a stimulus or starting point for individual ideas and personal interpretation</li> </ul>	<p>media and technologies through practical activities, and create, express, and communicate ideas.</p> <p>And that:</p> <ul style="list-style-type: none"> <li>• their studies of the works of artists and designers enhance their enjoyment and deepen their knowledge and understanding.</li> </ul> <p><b>Sciences</b> at 3rd Level expect learners to:</p> <ul style="list-style-type: none"> <li>• Develop curiosity and understanding of the environment and my place in the living, material and physical world</li> </ul>
<p><b>Health and Wellbeing</b> <b>Food and Nutrition:</b> <b>Memories of rationing</b></p>	<p>Within the KS2 <b>History</b> curriculum learning about the Second World War is a key part of the Programme of Study and looking at the impact of rationing and food distribution on the Home Front in the Second World War. This</p>	<p>This resource can be mapped to the <b>Humanities Area</b> to encourage:</p> <ul style="list-style-type: none"> <li>• Enquiry, exploration and investigation inspire curiosity about the world, its past, present and future</li> </ul>	<p><b>History</b> at KS2 is supported by the use of this resource especially the areas of: <b>Interdependence Place, and Change over time</b>, especially in supporting the exploration of:</p>	<p><b>Social Studies</b> is supported by this resource in the need for students to:</p> <ul style="list-style-type: none"> <li>• Understand People, past events and societies</li> </ul>

	<p>resource could be an excellent starting point for the curriculum's requirement that students should undertake a:</p> <ul style="list-style-type: none"> <li>• Study of an aspect of <b>social history</b></li> </ul>	<p>And to know that:</p> <ul style="list-style-type: none"> <li>• Events and human experiences are complex, and are perceived, interpreted and represented in different ways</li> </ul> <p>And the <b>Health and Well-being Area</b>:</p> <ul style="list-style-type: none"> <li>• Developing physical health and well-being has lifelong benefits</li> </ul>	<ul style="list-style-type: none"> <li>• The effects of a lack of basic resources on a place and on people's lives.</li> </ul>	<p>In <b>Health and Wellbeing</b> this resource supports this aspect of <b>Personal and social Education</b>:</p> <ul style="list-style-type: none"> <li>• Understanding aspirations and making future choices, food and diet, making informed choices</li> </ul>
<p><b>Health and Wellbeing</b> <b>What is home?</b> <b>Memories of a refugee</b></p>	<p>The curriculum documents of England expect controversial issues to be addressed. The Well-being and Health, PSHE and Citizenship curricula recognises that if knowledge and skills are developed in relation to real world situations then young people are better prepared for the complexities of the modern world.</p> <p>For students working at upper KS 2 and KS3 this resource supports the teaching of <b>Well-being and Health</b>, in particular: Mental wellbeing and understanding:</p> <ul style="list-style-type: none"> <li>• how to talk about their emotions accurately and sensitively, using appropriate vocabulary</li> <li>• that happiness is linked to being connected to others</li> </ul>	<p>In the <b>Health and Well-being Area</b>, all Statements of What Matter are covered by using this resource, and in the <b>Humanities Area</b>, this resource supports the development of knowledge that:</p> <ul style="list-style-type: none"> <li>• human societies are complex and diverse, and shaped by human actions and beliefs</li> <li>• Informed, self-aware citizens engage with the challenges and opportunities that face humanity, and are able to take considered and ethical action</li> </ul>	<p>In <b>Learning for Life and Work; Local and Global Citizenship</b> at KS3, the resource supports the teaching of:</p> <ul style="list-style-type: none"> <li>• Human Rights and Social Responsibility</li> <li>• Diversity and Inclusion;</li> </ul> <p>especially the requirement that:</p> <ul style="list-style-type: none"> <li>• pupils consider the range and extent of diversity and inclusion in local and global societies and identify the challenges and opportunities this presents.</li> </ul> <p>And in the area of <b>Equality and Social Justice</b> This resource is an opportunity to support pupils to understand that:</p> <ul style="list-style-type: none"> <li>• through investigating the themes of equality and social justice, pupils learn that</li> </ul>	<p>The <b>Health and Well-being</b> curriculum in Scotland expects controversial issues to be addressed and recognises that if knowledge and skills are developed in relation to real world situations then young people are better prepared for the complexities of the modern world.</p> <p><b>Well-being and Health 3rd and 4th Level Experiences and Outcomes</b> statements which this resource can be mapped against in particular are:</p> <ul style="list-style-type: none"> <li>• develop my self-awareness, self-worth and respect for others</li> <li>• understand and develop my physical, mental and spiritual wellbeing and social skills</li> <li>• learn about where to find help and resources to inform choices</li> </ul>

	<ul style="list-style-type: none"> <li>the benefits and importance of physical exercise, time outdoors, community participation and voluntary and service-based activities on mental wellbeing and happiness</li> </ul> <p>This resource also supports the <b>PSHE curriculum</b>: Core Theme 1 (Health and wellbeing) at KS3 especially in the areas of:</p> <ul style="list-style-type: none"> <li>H2 - to understand what can affect wellbeing and resilience (e.g. life changes, relationships, achievements and employment)</li> <li>H10 - a range of healthy coping strategies and ways to promote wellbeing and boost mood</li> </ul>		<p>inequality and injustice exist and have an impact on individuals, groups and society. They begin to recognise that individuals, governments and society have responsibilities to promote equality and justice on a local and global level.</p>	<ul style="list-style-type: none"> <li>reflect on my strengths and skills to help me make informed choices when planning my next steps</li> <li>acknowledge diversity and understand that it is everyone's responsibility to challenge discrimination.</li> </ul>
<p><b>Numeracy: Aircraft Technology - Forces of Flight</b></p>	<p>This resource can be used to support upper KS2 <b>maths</b> where students are expected to solve number problems and practical problems, and at KS 3 this resource can help students to meet one of the key aims in the Programme of Study in which students:</p> <ul style="list-style-type: none"> <li>should aim to solve problems by applying their mathematics to a</li> </ul>	<p>In the curriculum for <b>Mathematics and Numeracy</b> this resource particularly supports development in the following Statements of What Matters, particularly to know that:</p> <ul style="list-style-type: none"> <li><b>Geometry</b> focuses on relationships involving shape, space and position, and measurement focuses</li> </ul>	<p>The curriculum states that using <b>Mathematics</b> is one of the 'three Cross-Curricular Skills' and this resource provides students with the opportunity to develop their skills of applying mathematical concepts, processes and understanding appropriately in different contexts. This resource is also ideal for meeting the requirement that</p>	<p>This resource supports the development of experiences and outcomes for <b>Numeracy and Mathematics</b> enabling students to:</p> <ul style="list-style-type: none"> <li>develop a secure understanding of the concepts, principles and processes of mathematics and apply these in</li> </ul>

	<p>nonroutine problem, including breaking down problems into a series of simpler steps and persevering in seeking solutions.</p> <p>This resource will also support students to:</p> <ul style="list-style-type: none"> <li>• understand and use place value for decimals, measures and integers of any size</li> <li>• Use the four operations including formal written methods, applied to integers and decimals</li> <li>• Use conventional notation for the priority of operations, including brackets</li> <li>• Interpret fractions and percentages as operators</li> <li>• Use standard units of mass, length, time, money and other measures, including with decimal quantities</li> <li>• Round numbers and measures to an appropriate degree of accuracy for example to a number of decimal places</li> <li>• Use a calculator and other technologies to calculate results</li> </ul>	<p>on quantifying phenomena in the physical world.</p> <p><b>Geometry</b> involves playing with, manipulating, comparing, naming and classifying shapes and structures. The study of geometry encourages the development and use of <i>conjecture</i>, deductive reasoning and <i>proof</i>.</p> <ul style="list-style-type: none"> <li>• <b>Measurement</b> allows the magnitude of spatial and abstract features to be quantified, using a variety of standard and <i>non-standard units</i>. It can also support the development of numerical reasoning.</li> <li>• <b>Reasoning</b> about the sizes and properties of shapes and their surrounding spaces helps learners to make sense of the physical world and the world of mathematical shapes.</li> </ul> <p>And in particular this resource directly maps to knowing that: <b>Geometry and measurement</b> have applications in many fields, including art, construction,</p>	<p>these skills should be applied to 'relevant, real-life situations that require mathematical thinking'.</p> <p>This resource particularly offers students the chance to:</p> <ul style="list-style-type: none"> <li>• choose the appropriate materials, equipment and mathematics to use in a particular situation;</li> <li>• use mathematical knowledge and concepts accurately;</li> <li>• use mathematics to solve problems and make decisions;</li> <li>• explore ideas, make and test predictions and think creatively;</li> <li>• use mathematical understanding and language to ask and answer questions, talk about and discuss ideas and explain ways of working.</li> </ul> <p>In <b>Science and Technology</b> this resource would meet the requirement that:</p> <ul style="list-style-type: none"> <li>• Through relevant and stimulating contexts, this Area of Learning promotes an enquiry-based approach to learning.</li> </ul> <p>Using this resource supports the teaching of the <b>Science</b></p>	<p>different contexts, including the world of work</p> <ul style="list-style-type: none"> <li>• engage with more abstract mathematical concepts and develop important new kinds of thinking</li> <li>• understand the application of mathematics, its impact on our society past and present, and its potential for the future</li> <li>• develop essential numeracy skills which will allow me to participate fully in society</li> <li>• establish firm foundations for further specialist learning</li> <li>• interpret numerical information appropriately and use it to draw conclusions, assess risk, and make reasoned evaluations and informed decisions</li> <li>• apply skills and understanding</li> </ul>
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	<p>accurately and then interpret them appropriately</p> <ul style="list-style-type: none"> <li>• Consolidate their numerical and mathematical capability from Key Stage 2 and extend their understanding of the number system and place value to include decimals, fractions, powers and roots</li> <li>• Select and use appropriate calculation strategies to solve increasingly complex problems</li> <li>• Substitute values in expressions, rearrange and simplify expressions, and solve equations</li> <li>• Move freely between different numerical, algebraic, graphical and diagrammatic representations</li> <li>• Use language and properties precisely to analyse numbers, algebraic expressions, 2-D and 3-D shapes, probability and statistics</li> </ul> <p>In upper KS2 <b>Science</b> this resource provides an opportunity for students to:</p>	<p>science and technology, engineering, and astronomy</p> <p>In <b>Progression Steps 3</b> this resource supports students to:</p> <ul style="list-style-type: none"> <li>• use efficient methods for finding the perimeter and area of two-dimensional shapes, understanding how basic formulae are derived.</li> </ul> <p>In <b>Design thinking and engineering</b> this resource provides a context in which to <b>offer technical and creative ways to meet society's needs and wants</b> by:</p> <ul style="list-style-type: none"> <li>• applying their experiences, skills and knowledge, learners can design and shape innovative engineered solutions.</li> <li>• Being part of a user-centred design process will encourage them to use creativity to develop ideas, manage and mitigate risks, and minimise complexities.</li> </ul> <p>This resource also provides an example from which to:</p> <ul style="list-style-type: none"> <li>• draw inspiration to design from historical, cultural and other sources.</li> </ul>	<p>curriculum in the area of <b>Forces and Energy</b> where:</p> <ul style="list-style-type: none"> <li>• Pupils should have opportunities to develop creative and critical thinking in their approach to solving scientific problems</li> </ul> <p>It also maps comprehensively to <b>Technology and Design</b> where pupils are expected to have opportunities to explore a range of topics and develop Skills and Capabilities in:</p> <ul style="list-style-type: none"> <li>• Design</li> <li>• Communication</li> <li>• Manufacturing</li> <li>• Control</li> </ul> <p>This resource will enable students to:</p> <ul style="list-style-type: none"> <li>• Develop creative thinking and problem-solving skills by evaluating design proposals and selecting and using materials that are fit for purpose.</li> </ul> <p>And ensure that students:</p> <ul style="list-style-type: none"> <li>• should have opportunities to research and manage information effectively to investigate design issues.</li> </ul>	<p>creatively and logically to solve problems, within a variety of contexts</p> <ul style="list-style-type: none"> <li>• appreciate how the imaginative and effective use of technologies can enhance the development of skills and concepts.</li> </ul> <p>And in the <b>Sciences</b>, this resource will support the development of the following Experience and Outcomes so that students are able to:</p> <ul style="list-style-type: none"> <li>• demonstrate a secure knowledge and understanding of the big ideas and concepts of the sciences</li> <li>• develop skills for learning, life and work</li> <li>• develop the skills of scientific inquiry and investigation using practical techniques</li> <li>• recognise the impact the sciences make on my life, the lives of others, the environment and on society</li> <li>• recognise the role of creativity and inventiveness in the</li> </ul>
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	<ul style="list-style-type: none"> <li>record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs can be</li> </ul> <p>And in KS3 <b>Science</b> the resource can be used to help students to observe:</p> <ul style="list-style-type: none"> <li>other processes that involve energy transfer: changing motion, dropping an object, completing an electrical circuit, stretching a spring, metabolism of food, burning fuels.</li> </ul>			<p>development of the sciences</p> <ul style="list-style-type: none"> <li>develop as a scientifically-literate citizen with a lifelong interest in the sciences establish the foundation for more advanced learning and future careers in the sciences and the technologies</li> </ul>
<p><b>Numeracy: Team Spitfire! Working Scientifically</b></p>	<p>This resource can be used to support the teaching of upper KS2 <b>maths</b> where students are expected to solve number problems and practical problems, and at KS 3 this resource can help students to meet one of the key aims in the Programme of Study in which students:</p> <ul style="list-style-type: none"> <li>should aim to solve problems by applying their mathematics to a nonroutine problem, including breaking down problems into a series of simpler steps</li> </ul>	<p>In the curriculum for <b>Mathematics and Numeracy</b> this resource particularly supports the development of students in the following Statements of What Matters, particularly to know that:</p> <ul style="list-style-type: none"> <li><b>Geometry</b> focuses on relationships involving shape, space and position, and measurement focuses on quantifying phenomena in the physical world.</li> <li><b>geometry</b> involves playing with, manipulating, comparing, naming</li> </ul>	<p>The curriculum states that using <b>Mathematics</b> is one of the 'three Cross-Curricular Skills' and this resource provides students with the opportunity to:</p> <ul style="list-style-type: none"> <li>develop their skills of applying mathematical concepts, processes and understanding appropriately in different contexts.</li> </ul> <p>This resource is also ideal for meeting the requirement that these skills should be applied to 'relevant, real-life situations that require mathematical thinking'.</p>	<p>This resource supports the development of experiences and outcomes for <b>Numeracy and Mathematics</b> enabling students to:</p> <ul style="list-style-type: none"> <li>develop a secure understanding of the concepts, principles and processes of mathematics and apply these in different contexts, including the world of work</li> <li>engage with more abstract mathematical concepts and</li> </ul>

	<p>and persevering in seeking solutions.</p> <p>This resource will further support students learning to:</p> <ul style="list-style-type: none"> <li>• understand and use place value for decimals, measures and integers of any size</li> <li>• Use standard units of mass, length, time, money and other measures, including with decimal quantities</li> <li>• Use a calculator and other technologies to calculate results accurately and then interpret them appropriately</li> <li>• Consolidate their numerical and mathematical capability from Key Stage 2 and extend their understanding of the number system and place value to include decimals</li> </ul> <p>In upper KS2 <b>Science</b> this resource provides an opportunity for students to:</p> <ul style="list-style-type: none"> <li>• record data and results of increasing</li> </ul>	<p>and classifying shapes and structures.</p> <ul style="list-style-type: none"> <li>• the study of <b>geometry</b> encourages the development and use of <i>conjecture</i>, deductive reasoning and <i>proof</i>.</li> <li>• <b>measurement</b> allows the magnitude of spatial and abstract features to be quantified, using a variety of standard and <i>non-standard units</i>. It can also support the development of numerical reasoning.</li> <li>• <b>Reasoning</b> about the sizes and properties of shapes and their surrounding spaces helps learners to make sense of the physical world and the world of mathematical shapes.</li> </ul> <p>And in particular this resource directly supports students to know that:</p> <ul style="list-style-type: none"> <li>• <b>Geometry and measurement</b> have applications in many fields, including art, construction, science and technology, engineering, and astronomy</li> </ul>	<p>This resource particularly offers students the chance to:</p> <ul style="list-style-type: none"> <li>• choose the appropriate materials, equipment and mathematics to use in a particular situation;</li> <li>• use mathematical knowledge and concepts accurately;</li> <li>• use mathematics to solve problems and make decisions;</li> <li>• explore ideas, make and test predictions and think creatively;</li> <li>• use mathematical understanding and language to ask and answer questions, talk about and discuss ideas and explain ways of working.</li> </ul> <p>In <b>Science and Technology</b> this resource would meet the requirement that:</p> <ul style="list-style-type: none"> <li>• through relevant and stimulating contexts, this Area of Learning promotes an enquiry-based approach to learning.'</li> </ul> <p>Using this resource maps to the <b>Science</b> curriculum area of <b>Forces and Energy</b> where:</p> <ul style="list-style-type: none"> <li>• pupils should have opportunities to develop creative and</li> </ul>	<p>develop important new kinds of thinking</p> <ul style="list-style-type: none"> <li>• understand the application of mathematics, its impact on our society past and present, and its potential for the future</li> <li>• develop essential numeracy skills which will allow me to participate fully in society</li> <li>• establish firm foundations for further specialist learning</li> <li>• interpret numerical information appropriately and use it to draw conclusions, assess risk, and make reasoned evaluations and informed decisions</li> <li>• apply skills and understanding creatively and logically to solve problems, within a variety of contexts</li> <li>• appreciate how the imaginative and effective use</li> </ul>
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	<p>complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</p> <p>And at KS3 <b>Science</b> the resource will help students to observe:</p> <ul style="list-style-type: none"> <li>• other processes that involve energy transfer: changing motion, dropping an object, completing an electrical circuit, stretching a spring, metabolism of food, burning fuels.</li> </ul>	<p>In <b>Progression Steps 3</b> this resource supports students to:</p> <ul style="list-style-type: none"> <li>• use efficient methods for finding the perimeter and area of two-dimensional shapes, understanding how basic formulae are derived.</li> </ul> <p>In <b>Design thinking and engineering</b> this resource provides a context in which to <b>offer technical and creative ways to meet society's needs and wants</b> by helping students with:</p> <ul style="list-style-type: none"> <li>• applying their experiences, skills and knowledge, learners can design and shape innovative engineered solutions.</li> <li>• being part of a user-centred design process will encourage them to use creativity to develop ideas, manage and mitigate risks, and minimise complexities.</li> </ul> <p>This resource also provides an example from which to:</p> <ul style="list-style-type: none"> <li>• draw inspiration to design from historical, cultural and other sources.</li> </ul>	<p>critical thinking in their approach to solving scientific problems</p> <p>It also maps comprehensively to <b>Technology and Design</b> where pupils are expected to have opportunities to explore a range of topics and develop Skills and Capabilities in:</p> <ul style="list-style-type: none"> <li>• Design</li> <li>• Communication</li> <li>• Manufacturing</li> <li>• Control</li> </ul> <p>This resource will enable students to:</p> <ul style="list-style-type: none"> <li>• Develop creative thinking and problem-solving skills by evaluating design proposals and selecting and using materials that are fit for purpose.</li> </ul> <p>And offer students:</p> <ul style="list-style-type: none"> <li>• opportunities to research and manage information effectively to investigate design issues.</li> </ul>	<p>of technologies can enhance the development of skills and concepts.</p> <p>And in the <b>Sciences</b>, this resource will support the development of the following Experience and Outcomes so that students are able to:</p> <ul style="list-style-type: none"> <li>• demonstrate a secure knowledge and understanding of the big ideas and concepts of the sciences</li> <li>• develop skills for learning, life and work</li> <li>• develop the skills of scientific inquiry and investigation using practical techniques</li> <li>• recognise the impact the sciences make on my life, the lives of others, the environment and on society</li> <li>• recognise the role of creativity and inventiveness in the development of the sciences</li> <li>• develop as a scientifically-literate citizen with a lifelong interest in the sciences</li> </ul>
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