



## Education Programme Curriculum Links

### Tours

#### **150 Years of the Clifton Suspension Bridge**

Our guided walking tour of the bridge is designed to engage pupils in learning about the fascinating story behind this iconic landmark. The tour combines interactive elements, storytelling, and hands-on activities to make history come alive for pupils.

Key Stage 1	Key Stage 2
<p>Science &amp; Design and Technology</p> <ul style="list-style-type: none"> <li>• Knowledge, understanding and skills to engage in an iterative process of design and making. (DT)</li> <li>• Building structures – exploring how they can be stiffer, stronger and more stable (S)</li> <li>• Find out how the shapes of solid objects can be changed (S)</li> </ul> <p>History:</p> <ul style="list-style-type: none"> <li>• The lives of significant individuals in the past who have contributed to national and international achievements</li> <li>• Significant historical events, people and places in their own locality</li> <li>• How Brunel fits within a chronological framework</li> </ul> <p>Local history:</p> <ul style="list-style-type: none"> <li>• Events beyond living memory that are significant nationally and globally</li> <li>• Significant historical events, people and places in their own locality</li> </ul>	<p>Science &amp; Design and Technology</p> <ul style="list-style-type: none"> <li>• Experience forces that make things begin to move, get faster or slow down (S)</li> <li>• Explore the effect of levers, pulleys and simple machines on movement (S)</li> <li>• Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect (S)</li> <li>• Explore falling objects (S)</li> <li>• Apply understanding of how to strengthen, stiffen and reinforce more complex structures (S)</li> <li>• Understand and use mechanical and electrical systems (DT)</li> <li>• Compare and group together different types of rock and other materials (S)</li> <li>• Know that some materials will dissolve in liquid to form a solution. (S)</li> <li>• Learn about great architects (DT)</li> </ul>

- The lives of significant individuals in the past who have contributed to national and international achievements

#### Geography

- Develop knowledge about the United Kingdom and the locality.
- Begin to use geographical skills, including first-hand observation, to enhance their locational awareness.

#### Maths

- Sequencing events in chronological order, recognising dates.

#### Art

- Learn about a range of artists and designers, use drawing painting and sculpture to develop and share their ideas.

#### English

- Writing narratives about personal experiences and those of others, writing about real events.

#### History:

- A significant turning point in British History
- An aspect in British History that extends pupils' chronological knowledge

#### Local history:

- Provides an in-depth study linked to an aspect of local history dating from a period beyond 1066 that is significant in the locality.
- A significant turning point in British history.

#### Geography

- Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features and land-use patterns; and understand how some of these aspects have changed over time.
- Describe and understand key aspects of physical geography, including rivers.

#### Maths

- Compare duration of events.

#### Art

- Improve their mastery of art and design techniques, learn about great architects.

#### English

- Opportunity to listen to stories, poems and non-fiction.

History workshops will help pupils to understand historical concepts, understand methods of historical enquiry and gain an historical perspective by placing their knowledge of Bristol/Brunel into national and international contexts. They will also aid understanding of how Britain has influenced and been influenced by the wider world.

Key Stage 3	Key Stage 4
<p>History</p> <ul style="list-style-type: none"> <li>• Know and understand how people’s lives have shaped this nation and how Britain has influenced by the wider world.</li> <li>• Gain historical perspective by placing their growing knowledge into different contexts, understanding the connections between local, regional and international history; between cultural, economic, military, political, religious and social history; and between short and long-term timescales.</li> <li>• Understand ideas, political power, industry and empire in Britain from 1745-1901.</li> <li>• Understand local history to link to wider historical concepts.</li> </ul>	<p>AQA GCSE: BB Britain: Power and the People: c1170 to the present day</p> <ul style="list-style-type: none"> <li>• See how ideas, events or developments in the wider world affected the course of Britain’s political development.</li> <li>• How factors worked together to bring about particular developments at a particular time and their impact upon society.</li> <li>• The impact of reform acts upon local societies.</li> </ul> <p>OCR GCSE: History A: Explaining the Modern World</p> <ul style="list-style-type: none"> <li>• Understanding of change, including causes and consequences of change, nature of change, rate of change and extent of change.</li> <li>• Develop and extend knowledge and understanding of key events, periods and societies in local, British and wider world history.</li> <li>• Develop the ability to ask relevant questions about the past, to investigate issues critically.</li> <li>• Develop an awareness of why people, events and developments have been accorded historical significance, and how and why different interpretations have been constructed about them.</li> </ul>

- Organise and communicate their historical knowledge and understanding in different ways and reach substantiated conclusions.

OCR GCSE: History Around Us

Understand the following:

- The reasons for the location of the site within its surroundings
- When and why people first created the site
- The ways in which the site has changed over time
- How the site has been used throughout its history
- The diversity of activities and people associated with the site
- The reasons for changes to the site and to the way it was used
- Significant time in the site's past: peak activity, major developments, turning points
- The significance of specific features in the physical remains at the site
- The importance of the whole site either locally or nationally, as appropriate
- The typicality of the site based on a comparison with other similar sites
- What the site reveals about everyday life, attitudes and values in particular periods of history
- How the physical remains may prompt questions about the past and how historians frame these as valid historical enquiries



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|  | <ul style="list-style-type: none"><li>• How the physical remains can inform artistic reconstructions and other interpretations of the site</li><li>• The challenges and benefits of studying the historic environment</li></ul> |
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## Giants and Geology Tour

Our guided walking tour of the bridge is designed to engage pupils in learning about the fascinating story behind this iconic landmark. The tour combines interactive elements, storytelling, and hands-on activities to make history come alive for pupils.

Key Stage 1	Key Stage 2
<p><b>Geography</b></p> <ul style="list-style-type: none"> <li>Name, locate and identify characteristics of the four countries and capital cities of the UK.</li> <li>Use basic geographical vocabulary to refer to cliff, river, soil, valley, vegetation, weather, city, town etc.</li> <li>Use aerial photographs and plan perspectives to recognise landmarks and basic human and physical features.</li> <li>Use fieldwork and observational skills to study the geography of the area.</li> </ul> <p><b>Maths – Geometry</b></p> <ul style="list-style-type: none"> <li>Pupils are taught to recognise shapes.</li> <li>Pupils learn to describe position, direction and movement.</li> <li>Using mathematical vocabulary to describe position, direction and movements.</li> <li>Working with patterns of shapes.</li> </ul> <p><b>Maths – Money</b></p> <ul style="list-style-type: none"> <li>Pupils learn to recognise and know the value of different denominations of coins and notes.</li> </ul> <p><b>Maths – Grouping/Counting</b></p> <ul style="list-style-type: none"> <li>Pupils learn distance between and difference, addition, subtraction, multiplication and division, fractions, measurements.</li> <li>Pupils learn measurement – comparing, describing and solving problems for heights, lengths, mass and weights.</li> </ul>	<p><b>Geography</b></p> <ul style="list-style-type: none"> <li>Name local regions of the UK, identify their human and physical characteristics, key topographical features and land use patterns.</li> <li>Understand geographical similarities and differences through the study of human and physical geography.</li> <li>Describe and locate features studied on a map.</li> <li>Use fieldwork to observe, measure, record and present the human and physical features in the local area using sketch maps, plans, graphs and digital technologies.</li> </ul> <p><b>Maths – Geometry</b></p> <ul style="list-style-type: none"> <li>Measuring and scaling contexts.</li> <li>Draw 2D shapes/make 3D shapes and recognise 3D shapes.</li> <li>Recognise angles as a property of a shape/turn.</li> <li>Compare and classify geometric shapes.</li> <li>Calculate and compare areas of rectangles, estimating volume, solving problems converting between units of time.</li> <li>Recognise shapes of the same areas can have different perimeters.</li> <li>Use, read, write and convert between standard units.</li> <li>Draw shapes and nets accurately.</li> </ul> <p><b>Maths – Grouping/Counting</b></p>

- Sequence events in chronological order.
- Pupils learn to use appropriate standard units to estimate and measure, e.g. m/cm, kg/g.
- Pupils compare measures such as half as high, twice as long.

- Measure, compare, add and subtract lengths.
- Compare duration of events.
- Solve one step and two step questions.
- Convert between different units of metric measurements.
- Understand and use approximate equivalences between metric units and common imperial units.
- Convert between miles and kilometres.



## Life and Work of Brunel

Our Life and Work of Brunel tour brings to life the remarkable achievements of this legendary engineer. The tour aims to inspire pupils' curiosity and foster an appreciation for engineering and innovation through storytelling, visuals and interactive elements.

Key Stage 1	Key Stage 2
<p>Science &amp; Design and Technology</p> <ul style="list-style-type: none"> <li>• Knowledge, understanding and skills to engage in an iterative process of design and making. (DT)</li> <li>• Building structures – exploring how they can be stiffer, stronger and more stable. (S)</li> <li>• Find out how the shapes of solid objects can be changed. (S)</li> </ul> <p>History</p> <ul style="list-style-type: none"> <li>• The lives of significant individuals in the past who have contributed to national and international achievements.</li> <li>• Significant historical events, people and places in their own locality.</li> <li>• How Brunel fits within a chronological framework.</li> </ul> <p>Local history</p> <ul style="list-style-type: none"> <li>• Events beyond living memory that are significant nationally and globally.</li> <li>• Significant historical events, people and places in their own locality.</li> <li>• The lives of significant individuals in the past who have contributed to national and international achievements.</li> </ul> <p>Geography</p> <ul style="list-style-type: none"> <li>• Develop knowledge about the United Kingdom and the locality.</li> </ul>	<p>Science &amp; Design and Technology</p> <ul style="list-style-type: none"> <li>• Experience forces that make things begin to move, get faster or slow down. (S)</li> <li>• Explore the effect of levers, pulleys and simple machines on movement. (S)</li> <li>• Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. (S)</li> <li>• Explore falling objects. (S)</li> <li>• Understand and use mechanical and electrical systems. (DT)</li> <li>• Compare and group together different types of rock and other materials. (S)</li> <li>• Know that some materials will dissolve in liquid to form a solution. (S)</li> <li>• Give reasons based on evidence from comparative and fair tests for the particular uses of everyday materials, including metals, wood and plastic. (S)</li> <li>• Learn about great architects (DT)</li> </ul> <p>History</p> <ul style="list-style-type: none"> <li>• A significant turning point in British history.</li> <li>• An aspect in British history that extends pupils' chronological knowledge.</li> </ul> <p>Local history</p>



<ul style="list-style-type: none"> <li>• Begin to use geographical skills, including first-hand observation, to enhance their locational awareness.</li> </ul> <p>Maths</p> <ul style="list-style-type: none"> <li>• Sequencing events in chronological order, recognising dates.</li> </ul> <p>Art</p> <ul style="list-style-type: none"> <li>• Learn about a range of artists and designers, use drawing, painting and sculpture to develop and share their ideas.</li> </ul> <p>English</p> <ul style="list-style-type: none"> <li>• Writing narratives about personal experiences and those of others, writing about real events.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides an in-depth story linked to an aspect of local history dating from a period beyond 1066 that is significant in the locality.</li> <li>• A significant turning point in British history.</li> </ul> <p>Geography</p> <ul style="list-style-type: none"> <li>• Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features and land-use patterns; and understand how some of these aspects have changed over time.</li> <li>• Describe and understand key aspects of physical geography, including rivers.</li> </ul> <p>Maths</p> <ul style="list-style-type: none"> <li>• Compare duration of events.</li> </ul> <p>Art</p> <ul style="list-style-type: none"> <li>• Improve their mastery of art and design techniques, learn about great architects.</li> </ul> <p>English</p> <ul style="list-style-type: none"> <li>• Opportunity to listen to stories, poems and non-fiction.</li> </ul>
<p>Key Stage 3</p>	<p>Key Stage 4</p>
<p>History</p> <ul style="list-style-type: none"> <li>• Know and understand how people’s lives have shaped this nation and how Britain has influenced and been influenced by the wider world.</li> <li>• Gain historical perspective by placing their growing knowledge into different contexts, understanding the connections between local, regional and international history; between cultural, economic, military, political,</li> </ul>	<p>AQA GCSE: BB Britain: Power and the People: c1170 to the present day</p> <ul style="list-style-type: none"> <li>• See how ideas, events or developments in the wider world affected the course of Britain’s political development.</li> <li>• How factors worked together to bring about particular developments at a particular time and their impact upon society.</li> <li>• The impact of reform acts upon local societies.</li> </ul>

religious and social history; and between short and long-term timescales.

- Understand ideas, political power, industry and empire in Britain from 1745-1901.
- Understand local history to link to wider historical concepts.
- Understand historical concepts such as continuity and change, cause and consequence, similarity, difference and significance, and use them to make connections, draw contrasts, analyse trends, frame historically valid questions and create their own structured accounts, including written narratives and analyses.
- Gain historical perspective by placing their growing knowledge into different contexts, understanding the connections between local, regional, national and international history; between cultural, economic, military, political, religious and social history; and between short- and long-term timescales.
- Deepen chronologically secure knowledge and understanding of British, local and world history, to provide a well-informed context for wider learning.

OCR GCSE: History A: Explaining the Modern World

- Understanding of change, including causes and consequences of change, nature of change, rate of change and extent of change.
- Develop and extend knowledge and understanding of key events, periods and societies in local, British and wider world history.
- Develop the ability to ask relevant questions about the past, to investigate issues critically.
- Develop an awareness of why people, events and developments have been accorded historical significance, and how and why different interpretations have been constructed about them.
- Organise and communicate their historical knowledge and understanding in different ways and reach substantiated conclusions.

## Workshops

### **Bridge Building Challenge:**

Our bridge building workshop encourages problem-solving, creativity and teamwork, whilst introducing basic engineering concepts to the pupils in an engaging and hands-on way.

Key Stage 1	Key Stage 2
<p>Science and DT:</p> <ul style="list-style-type: none"> <li>• Knowledge, understanding and skills to engage in an iterative process of design and making. (S)</li> <li>• Design purposeful, functional, appealing products for themselves and other users based on design criteria (DT)</li> <li>• Generate and develop ideas through drawing, talking, mock-ups and ICT. (DT)</li> <li>• Building structures – exploring how they can be stiffer, stronger and more stable (DT)</li> <li>• Distinguish between an object and the material from which it is made (S)</li> <li>• Identify and name a variety of everyday materials (S)</li> <li>• Describe the simple physical properties of a variety of everyday materials (S)</li> <li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties. (S)</li> <li>• Pupils explore and experiment with a wide range of materials. (S)</li> </ul>	<p>Science and DT:</p> <ul style="list-style-type: none"> <li>• Recognise how secondary sources might help to answer questions that cannot be answered through practical investigations.</li> <li>• Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect (S)</li> <li>• Explore falling objects (S)</li> <li>• Apply understanding of how to strengthen, stiffen and reinforce more complex structures (DT)</li> <li>• Understand and use mechanical and electrical systems (DT)</li> <li>• Experience forces that make things begin to move, get faster or slow down (S)</li> <li>• Explore the effect of levers, pulleys and simple machines on movement (S)</li> <li>• Compare and group together different types of rock and other materials (S)</li> <li>• Know that some materials will dissolve in liquid to form a solution. (S)</li> </ul>

- Identify and compare suitability of a variety of everyday materials (s) (DT)
- Find out how the shapes of solid objects can be changed (S)
- Use a range of materials creatively to design and make products (DT)
- Generate, develop, model and communicate their ideas through talking, drawing templates, mock-ups and ICT (DT)

Art:

- Use a range of materials creatively to design and make products.

Maths:

- Pupils identify, compare and sort shapes on the basis of their properties.

- Give reasons based on evidence from comparative and fair tests for the particular uses of everyday materials, including metals, wood and plastic (S)
- Learn about great architects (DT)

Maths:

- Add and subtract numbers mentally.
- Knowledge of the properties of shapes.

Key Stage 3	Key Stage 4
<p>Design and Technology</p> <ul style="list-style-type: none"> <li>• Identify and solve their own design problems and understand how to reformulate problems given to them.</li> <li>• Select from and use a wider, more complex range of materials, components and ingredients, considering their properties.</li> </ul>	<p>AQA Design and Technology:</p> <ul style="list-style-type: none"> <li>• Develop, communicate, record and justify design ideas.</li> <li>• How to select and use materials and components appropriate to the task.</li> <li>• The importance of planning the cutting and shaping of material to minimise waste.</li> </ul> <p>Pearson Edexcel</p> <ul style="list-style-type: none"> <li>• To apply knowledge and understanding of working properties, characteristics, applications, advantages and disadvantages of types of materials, in order to be able to discriminate between them and select appropriately.</li> <li>• Develop, communicate, record and justify design ideas, applying suitable techniques.</li> <li>• When designing or modifying a product, students should be able to apply their knowledge and understanding of materials, components and manufacturing processes.</li> </ul>



**Be the Bridge Master:**

In this workshop, pupils take on the role of Bridge Master and become responsible for the maintenance of the bridge. They'll be presented with budgeting challenges and will evaluate the pros/cons of projects for all stakeholders.

Key Stage 3	Key Stage 4 + 5
<p><b>Maths:</b></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>• Develop their mathematical knowledge, in part through solving problems and evaluating the outcomes, including multi-step problems</li> <li>• Develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics</li> <li>• Begin to model situations mathematically and express the results using a range of formal mathematical representations</li> <li>• Select appropriate concepts, methods and techniques to apply to unfamiliar and nonroutine problems</li> <li>• Use a calculator and other technologies to calculate results accurately and then interpret them appropriately</li> </ul> <p><b>Design and Technology:</b></p> <ul style="list-style-type: none"> <li>• Identify and solve their own design problems and understand how to reformulate problems given to them</li> <li>• Analyse the work of past and present professionals and others to develop and broaden their understanding</li> </ul>	<p><b>Engineering:</b></p> <p><b>AQA Curriculum Links</b></p> <ul style="list-style-type: none"> <li>• To know the comparative costs of different materials within and across these groups e.g. copper vs gold for use as electrical components or timber vs steel for structural components</li> <li>• Engineered lifespans, planned obsolescence, sealed parts and maintenance requirements</li> <li>• Students will understand the need for maintenance of engineered products to ensure safety in operation and enable efficiency of operation</li> <li>• Students will also understand the reasons for the following types of maintenance work</li> <li>• How user requirements affect material choice and manufacturing process</li> <li>• Solve problems through a logical, systematic approach</li> <li>• Analyse and evaluate existing solutions to problems</li> <li>• Produce a plan considering: materials, processes, time and safety</li> </ul> <p><b>Pearson Edexcel: Level 1/Level 2 Tech Award</b></p> <ul style="list-style-type: none"> <li>• Develop knowledge and understanding of the engineering industry, the interconnections within engineering sectors, and how these are integrated to</li> </ul>

enable organisations to find solutions to real-life problems

- Identify an organisation and investigate how it is organised and, the different departments in the organisation and the links between them

Pearson Edexcel: BTEC Higher Nationals in Engineering

- Introduce students to the techniques and best practices required to successfully create and manage an engineering project
- Reflecting on their role in a wider ethical, environmental and sustainability context to start the process of becoming a professional engineer
- Begin to explain quality control processes
- Introduce students to engineering management principles and practices
- Explain management and leadership theories and techniques used within engineering organisations
- Introduce students to the importance of equipment maintenance programmes, the benefits that well-maintained equipment brings to an organisation and the risk factors it faces if maintenance programmes and processes are not considered or implemented



## History Detectives:

This workshop combines historical exploration, visual analysis and hands-on writing; it provides pupils with a unique and immersive learning experience on the history of postcards.

Key Stage 1	Key Stage 2
<p>History:</p> <ul style="list-style-type: none"> <li>• The lives of significant individuals in the past who have contributed to national and international achievements</li> <li>• Significant historical events, people and places in their own locality</li> <li>• How Brunel fits within a chronological framework</li> </ul> <p>Local history:</p> <ul style="list-style-type: none"> <li>• Events beyond living memory that are significant nationally and globally</li> <li>• Significant historical events, people and places in their own locality</li> <li>• The lives of significant individuals in the past who have contributed to national and international achievements</li> </ul> <p>Maths:</p> <ul style="list-style-type: none"> <li>• Sequencing events in chronological order, recognising dates.</li> </ul> <p>Art</p> <ul style="list-style-type: none"> <li>• Learn about a range of artists and designers.</li> <li>• Use drawing, painting and sculpture to develop and share their ideas.</li> </ul> <p>English</p> <ul style="list-style-type: none"> <li>• Writing narratives about personal experiences and those of others, writing about real events.</li> </ul>	<p>History:</p> <ul style="list-style-type: none"> <li>• A significant turning point in British History</li> <li>• An aspect in British History that extends pupils' chronological knowledge</li> </ul> <p>Local history:</p> <ul style="list-style-type: none"> <li>• Provides an in-depth study linked to an aspect of local history dating from a period beyond 1066 that is significant in the locality.</li> <li>• A significant turning point in British history.</li> </ul> <p>Maths:</p> <ul style="list-style-type: none"> <li>• Complete duration of events.</li> </ul> <p>Art:</p> <ul style="list-style-type: none"> <li>• Improve their mastery of art and design techniques, learn about great architects.</li> </ul> <p>English:</p> <ul style="list-style-type: none"> <li>• Opportunity to listen to stories, poems and non-fiction.</li> </ul>





History workshops will help pupils to understand historical concepts, understand methods of historical enquiry and gain an historical perspective by placing their knowledge of Bristol/Brunel into national and international contexts. They will also aid understanding of how Britain has influenced and been influenced by the wider world.



**If the Bridge had Ears:**

This educational day is an exploration of sound through the ears of the Clifton Suspension Bridge and consists of an interlinked bridge tour and workshop sessions. During the day, pupils will explore the history of the Clifton Suspension Bridge through sound, developing an appreciation of the world of sound around us. The day tackles problem-solving and physical principles, as well as encouraging active listening and an appreciation of the changing world through sound.

Key Stage 1	Key Stage 2	Key Stage 3
<p>Music:</p> <ul style="list-style-type: none"> <li>• Listen with concentration and understanding to a range of high-quality live and recorded music</li> <li>• Experiment with, create, select and combine sounds using the inter-related dimensions of music.</li> </ul> <p>Science and DT</p> <ul style="list-style-type: none"> <li>• Knowledge, understanding and skills to engage in an iterative process of design and making. (S)</li> <li>• Distinguish between an object and the material from which it is made (S)</li> <li>• Identify and name a variety of everyday materials (S)</li> <li>• Pupils explore and experiment with a wide range of materials. (S)</li> </ul>	<p>Music:</p> <ul style="list-style-type: none"> <li>• Listen with attention to detail and recall sounds with increasing aural memory use and understand staff and other musical notations</li> <li>• Appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians</li> <li>• Develop an understanding of the history of music</li> <li>• Learn to identify different materials</li> <li>• Identify how sounds are made, associating them with something vibrating</li> <li>• Recognise that vibrations from sounds travel through a medium to the ear</li> <li>• Find patterns between the pitch of a sound and features of the object that produced it</li> </ul>	<p>Music:</p> <ul style="list-style-type: none"> <li>• Play and perform confidently in a range of solo and ensemble contexts using their voice, playing instruments musically, fluently and with accuracy and expression</li> <li>• Improvise and compose; and extend and develop musical ideas by drawing on a range of musical structures, styles, genres and traditions</li> <li>• Use staff and other relevant notations appropriately and accurately in a range of musical styles, genres and traditions</li> <li>• Identify and use the inter-related dimensions of music expressively and with increasing sophistication, including use of tonalities, different types of scales and other musical devices</li> </ul>

	<ul style="list-style-type: none"> <li>• Find patterns between the volume of a sound and the strength of the vibrations that produced it</li> <li>• Recognise that sounds get fainter as the distance from the sound increases</li> <li>• Identify the effects of air resistance, water resistance and friction, that act between moving surfaces</li> </ul> <p>Science and DT</p> <ul style="list-style-type: none"> <li>• Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect (S)</li> <li>• Apply understanding of how to strengthen, stiffen and reinforce more complex structures (DT)</li> <li>• Understand and use mechanical and electrical systems (DT)</li> <li>• Experience forces that make things begin to move, get faster or slow down (S)</li> </ul>	<ul style="list-style-type: none"> <li>• Understand frequencies of sound waves (measured in Hz) echoes, reflection and absorption of sound</li> <li>• Understand that sound needs a medium to travel</li> <li>• Understand that sound carries at different speeds through air, water and solids 2</li> <li>• Understand the conveyance of sound, from emitter to detection</li> <li>• Understand that sound waves are longitudinal</li> <li>• Understand the auditory range of humans and animals</li> </ul> <p>Science and DT</p> <ul style="list-style-type: none"> <li>• To use a range of techniques and media (DT)</li> <li>• To increase their proficiency in the handling of different materials (DT)</li> <li>• About the history of design and architecture, including periods, styles and major movements from ancient times up to the present day (DT)</li> </ul>
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