



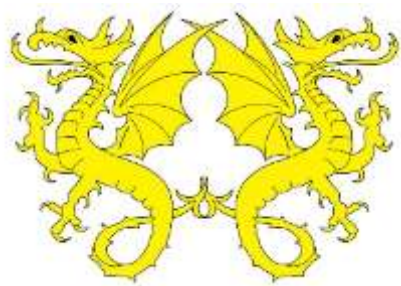
Dore Primary School

Y5 Learning Journey 4



Who Do We Think We Are? Part 2 – Normans

<p>Purpose of Learning Journey (ENDPOINTS): Substantive knowledge children will know: Disciplinary knowledge children will know how to/ will be able to:</p>	<p>DT Design use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups <i>- through research and consideration, knowing what the design brief for a working model trebuchet requires.</i> <i>- by knowing what the design brief for a component of the Bayeux Tapestry requires.</i> generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design. <i>- through knowing the requirements of a concept drawing, exploded diagram and a working drawing and communicating their designs accordingly.</i> <i>- through experimentation and prototyping, knowing that triangular bracing increases the strength of joins.</i> <i>- through research and consideration, knowing that triangular structures and adding additional bracing will increase the strength and rigidity of structures.</i> <i>- through research and experimentation, knowing the different aesthetic properties of stitching techniques (running, back, square and chain)</i> Make select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities <i>- through manufacturing a working model of a trebuchet, knowing the appropriate materials and joining techniques for specific outcomes (e.g. square cut wood for structural beams, hot glue for joins with increased strength.) and knowing which tool is appropriate for a given task (e.g. workbenches required for accurate, mitred cuts.)</i> <i>- through manufacturing a component of a Y5 Bayeux Tapestry knowing what a seam allowance is, that fabrics can be stitched over each other to create appliques effects and that accurate stitching (equal stitch length) is necessary for a good aesthetic outcome.</i> Evaluate investigate and analyse a range of existing products understand how key events and individuals in design and technology have helped shape the world <i>- through research and consideration, knowing what the requirements of a design brief for a working model of a trebuchet and a component of a Y5 Bayeux Tapestry should be.</i> evaluate their ideas and products against their own design criteria and consider the views of others to improve their work <i>- through evaluating the performance of model trebuchets, understanding the importance of only changing certain variables and the steps necessary to ensuring a fair test.</i> Technical knowledge apply their understanding of how to strengthen, stiffen and reinforce more complex structures <i>- see "make"</i> understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] <i>- through research and consideration, knowing that a longer lever and a heavier weigh (throwing arm and counter-weight) will create the best outcomes in terms of throwing a payload.</i> Science Forces <ul style="list-style-type: none"> Recap LKS2 e.g. gravity, friction, magnetism 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. <i>- children know the effect of different size levers and different forces on the movement of a machine.</i> <i>- through research and consideration, knowing that a longer lever and a larger force (throwing arm and counter-weight) will create the best outcomes in terms of throwing a payload.</i> Properties and changes of materials <ul style="list-style-type: none"> compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic demonstrate that dissolving, mixing and changes of state are reversible changes explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda Living things and their habitats <ul style="list-style-type: none"> describe the life process of reproduction in some plants and animals— starting the Y5 growing project </p>
Links to Prior Knowledge:	History – build on Anglo-Saxons/Vikings learning; Science – forces; DT – joining materials, cutting and measuring materials, stitching and cutting fabric, applique
Links for Relevance and Currency:	STEM skills – growing skills and sustainability.
Immersion Event / Activity:	‘Playing with toys’ / Gardening / Trebuchet videos



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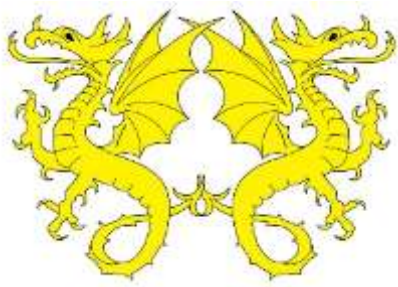
Y5 Learning Journey 4

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Celebration of Learning:	Normans day – assault on castle with woodwork trebuchets, completion of tapestry, shelter building and cooking of soup on fires.
English Links:	Explanation text
Maths Links:	Measurements

Subject	Lesson	Key Knowledge or Skill (Taken from Chris Quigley Milestone or scheme of work)	Substantive and Disciplinary knowledge and Skills embedded through:	Outcomes	Links to Curriculum Drivers				
					Values	Outdoor Learning	P4C	Global / Rights	TASC
Science – forces Immersion	1	Understand movement, forces and magnets	Exploration of children's toys which require different forces to work.	Scientific diagrams with forces labelled accurately.					x
Science – forces	2	Describe the forces of gravity, friction and air resistance	Looking at the world around them and how these forces act on us Links back to Space topic – moon's gravity, escaping Earth's gravitational pull for space travel	Understand the forces of gravity, friction, air resistance in the context of their trebuchet project as well as in the wider world					
Science – forces	3	Pupils might find out how scientists, (Isaac Newton) helped to develop the theory of gravitation.	Input and discussion in relation to theory of gravity . Comprehension activity on Isaac Newton	Learn about the life and work of Isaac Newton observing gravity and making sense of its effect on life on Earth					
Science – forces	4	Pulleys- recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	Practical investigation to show that levers allow us to move heavier objects more easily – force meters	Know that a lever can be used to create a greater force with less effort.					
Science – forces	5	Levers - recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect	Practical experimentation using pulleys – force meters	Know that a lever can be used to create a greater force with less effort.					
DT	DT1	Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). (M2) Design with the user in mind, motivated by the service a product will offer (rather than simply for profit). Make products through stages of prototypes, making continual refinements.	Children are introduced to the Normans' technological skill in building fortifications and the requirement for technology to assault these castles. Shown videos of trebuchet reproductions and diagrams of key features. Discuss relevant forces in action. Discuss problems of building trebuchets and key requirements – Strength (re-inforce, non-flexible, join), Stability (base, anchor). Children will be introduced to the materials used and the potential techniques for joining materials, the materials themselves and various shapes. Building up information to choose suitable techniques. Children use some joining strategies to test next lesson.	Children secure background knowledge of the product, intended purpose, method of operation, forces involved, potential materials and building strategies.	X				x



Dore Primary School

Y5 Learning Journey 4

Who Do We Think We Are? Part 2 – Normans



			Children complete basic information gathering form.					
DT	DT2	<p>Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</p> <p>Make products through stages of prototypes, making continual refinements.</p> <p>Use prototypes, cross-sectional diagrams and computer aided designs to represent designs</p> <p>Combine elements of design from a range of inspirational designers throughout history, giving reasons for choices.</p>	<p>Children recap learning in relation to requirements of the product and key factors to remember when designing their trebuchets.</p> <p>They test the strength of the joins that they created last lesson – adding details to their information sheets.</p> <p>They begin to design their trebuchet bases in order to produce designs of the two side-pieces and a 3d diagram of how they will be joined, with annotations.</p> <p>Children are encouraged to measure and cut lengths of paper to assess how big the pieces will be in real life.</p> <p>Children share designs during a learning walk round the class before updating their designs.</p>	Children will have added to their understanding of the materials, joins and shapes that they will make use of and have created a detailed and accurate diagram.	x			x
DT	DT3	<ul style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit) • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding) • Cut materials with precision and refine the finish with appropriate tools 	<p>Show children images of tools/materials and get them to discuss how they will use them, what tasks they need to do and how to work safely.</p> <p>Full tool talk.</p> <p>Children work from their plans in their groups to build their models. Recap emphasis on accurate measurement and their learning on types of join.</p> <p>Recap key consideration: stability, strength.</p> <p>Model safety practices for hot glue guns, saws, saw blocks and craft knives. Set expectations for sensible working.</p> <p>Stop periodically to model good learning</p>	Children will have constructed a strong, stable and purposeful base for their trebuchest.	x			x
DT	DT4	<ul style="list-style-type: none"> • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit) • Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding) • Cut materials with precision and refine the finish with appropriate tools 	<p>Continuation of last lesson.</p> <p>Full Tool Talk.</p> <p>Children remind themselves of their designs and learning thus far. Children cut materials for and build their frames.</p> <p>Children evaluate their designs based on the features/properties that they decided their design needed</p>	Children will have constructed a strong, stable and purposeful base for their trebuchest.	x			x



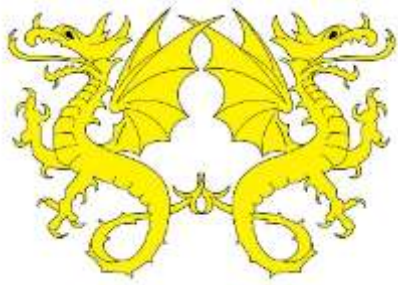
Dore Primary School

Y5 Learning Journey 4

Who Do We Think We Are? Part 2 – Normans



		• Evaluate the design of products so as to suggest improvements to the user experience.						
DT	DT5	<p>Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). (M2)</p> <p>Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).</p> <p>Make products through stages of prototypes, making continual refinements.</p>	<p>Children shown details of the mechanism of the throwing arm. Define key components: arm, axel, sling/basket, counter-weight.</p> <p>Children shown various models of arm (long- heavy weight, short – light weight etc) and are asked to make predictions on their performance. These are then tested on the prototype trebuchet and children use their observations to inform their design choices.</p> <p>Children look back at their frames to think about measurement.</p> <p>Children then do an annotated component diagram of their throwing arm. Groups that has designed and constructed their trebuchets thus far are encouraged to construct a design with a sling for the projectile.</p>		x			x
DT	DT6	<p>• Use scientific knowledge of the transference of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears). (M2)</p> <p>• Design with the user in mind, motivated by the service a product will offer (rather than simply for profit)</p> <p>• Develop a range of practical skills to create products (such as cutting, drilling and screwing, nailing, gluing, filing and sanding)</p> <p>• Cut materials with precision and refine the finish with appropriate tools</p>	<p>Full Tool Talk.</p> <p>Children remind themselves of their designs and learning thus far. Children cut materials for and build their throwing arms.</p> <p>Children evaluate their designs based on the features/properties that they decided their design needed</p>	Children have added a working throwing arm to their frame to produce a working trebuchet.	x			x
DT	DT7	• Evaluate the design of products so as to suggest improvements to the user experience.	Celebration and evaluation – children take part in outdoor learning Normans afternoon with shelter building to build a “camp” before setting up their trebuchets to measure the distance that they can fire and whether they can destroy a small wall made of maths blocks.					
DT	DT7		Cooking activity to go with Normans Day. TO BE COMPLETED					
DT			Communication – trebuchet advice sheet for a new Y5 – See English planning.					
							X	
Science - Materials	1		Changing states		x			
					X		X	X



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Y5 Learning Journey 4



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Science - Living things and their habitats			Gardening						
RE		Religion - Christianity Theme - Easter Key question - How significant is it for Christians to believe God intended Jesus to die? Concept - Salvation	Learning to question whether God intended Jesus to be Crucified or whether Jesus' crucifixion was the consequence of events during Holy Week.	<ul style="list-style-type: none"> To be able to give an example of someone with a strong sense of purpose for their life and give their opinions on this. To start to explain whether God intended Jesus to be crucified or whether Jesus' crucifixion was the consequence of events during Holy Week. To start to express their opinion about Jesus' crucifixion being his destiny/purpose. 	X				