

Ford End Primary School 2021-2022 Foundation Planning

Teacher

Class 2

Term 2

English	ICT	MFL	Science	History	Geography	RE	Art	D & T	Music	PE & Sport	PSHE/SMSC	MATHS

Sequence, week or progression	Learning Objective and Success Criteria	Knowledge and Skills	Learning Tasks & Activities	Resources / ICT	Links to the Arts
1	Identify products which incorporate a pulley and drive belt and are driven by a motor or are computer controlled.	Identify control systems in everyday life and name the key elements of a system.	Visit a fair ground or use a power point and photographs (TES) that have rotating parts. Discuss the children's experiences of such rides. How does the ride turn? Can you see the mechanism? Examine a collection of toys and appliances in which there are electrical motors eg toy vehicles and a battery operated fan. Look at mechanisms in which a belt and pulley is used eg car fan belt, electric sewing machine.	Tts-group.co.uk/blog/2018/12/07/ks2-merry-go-round.html (for ideas, make your own merry go round.)	science
2	Model ideas for their fairground ride using mechanisms. (lessons 3-6)	Model their ideas for their own ride using mechanisms, by using construction kits or making a model from a set of instructions. Learn how to include an electric motor to a simple circuit. Learn how the direction of rotation and speed of an electric motor can be controlled.	Ch in pairs or small groups, investigate different ways of making a framework to hold the model. (baseboard, card and straws, construction kit.) Consider how to support the rotating part on a well supported axle or spindle.	Construction kits or card wood	Literacy science

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'With God all things are possible' Matthew 19:26*

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		<p>How rotation can be transferred from one part of a model to another by using pulleys and a belt.</p> <p>How a belt and pulley system can reverse the direction of rotation.</p> <p>How a belt and pulley system can increase or decrease the speed of rotation.</p>			
3			<p>Show the children how a model can be controlled with a computer. Motor speed and direction can be controlled and a sequence of operations can be developed by the children writing a simple programme of instructions.</p>	<p>Batteries</p> <p>Motors with small pulleys</p> <p>Elastic bands (up to 20cm)</p> <p>Switches</p> <p>Crocodile connecting leads</p> <p>Aluminium foil</p> <p>Construction kits</p> <p>Cotton reels</p> <p>Wooden scraps for the base</p> <p>Construction material suitable for making a framework (wood and card)</p> <p>Dowelling for spindles and axles</p> <p>Variety of materials for making the ride.</p>	<p>Science computing</p>

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				Assorted paper, ribbon, string, paper plates, Adhesive, Sticky tape, Saws and drills Cutting and shaping tools Computer and interface connection	
4			Use elastic bands and pulley eg cotton reels on spindles to investigate transferring movement from 1 axle to another.		
5			The children use construction kit components to investigate and to change the speed of rotation, using belts and pulleys.		
6			The children use a pulley on an electric motor with an elastic band to produce rotation of cotton reels on a spindle or a drinks can on an axle. Hold the electric motor in different positions to discover the best arrangement.		
7	To make decisions with regard to the fairground ride they will make.	Decide which ride they will make. Apply what they have learnt to their designs.	Discuss the type of ride the children will make. Roundabout (horizontal rotation,) Ferris wheel (vertical rotation.) restrict the	Sketch books	Science computing

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			<p>children’s choice to one of these for manageability. Explain to the children the aspects of the design that are set, due to available materials.</p> <p>In sketch books, list their design criteria and how they will finish their model.</p>		
8	<p>Make a product in which an electric motor successfully drives a rotating part.</p>	<p>To make modifications as they go along.</p> <p>To evaluate against their original criteria and suggest ways that their ride could be improved.</p> <p>Evaluate the effectiveness of their design and adjust it to improve effectiveness.</p>	<p>Make the rotating part of their ride first.</p> <p>Ensure it can be rotated freely by hand.</p> <p>Add the electric motor and drive belt.</p> <p>Finish their ride by adding colour, sets etc.</p>	As above	<p>Computing Science literacy</p>

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