



EYFS DT Knowledge

PD / EAD curriculum area

Children in Reception will be learning to:

AUTUMN:

Physical development

Fine Motor

- Children can hold scissors correctly to cut along a straight line.

Health & Hygiene

- Children can wash their hands with supervision.

EAD

- Creating with Materials - Children can use PVA, pritt stick, flour and water to join a range of materials with large, flat surfaces.
- Children can weave paper/pipe cleaners on a simple loom.
- Children combine boxes/shaped dough to build simple models.
- Children can say "I am going to..." (**Plan Do Review**- activity or area)
- Children can say "I have been/made..." (Plan Do **Review**)

PSED

- Self-regulation - Children can say "I am going to..." (**Plan Do Review**- activity or area)
- Children can say "I have been/made..." (Plan Do **Review**)
- Children are encouraged to ask for help if needed with support.

SPRING:

Physical development

Fine motor

- Children can hold scissors correctly to cut along a range of curved lines.
- Children can use individual fingers during dough disco (pinch, piano play- Tommy Thumb, Peter Pointer, Toby Tall, Ruby Ring, Baby Small).
- Children can begin to use moulding tools to make marks in dough/sand.

Health and Hygiene

- Children can wash their hands independently.

EAD

Creating with materials:

- Children demonstrate ability to join using tape, masking tape then sellotape.
- Children can use elastic bands, folding card or paper and blue-tac.
- Children can also join items using both paperclips and a stapler.
- Children can weave fabrics/thread on a simple loom.

PSED

Self-regulation

- Children can say "I am going to..." "I will need..." (**Plan Do Review**- activity or area)
- Children can say "I have been/made..." "I used..." (Plan Do **Review**)
- Children independently ask for help and support.
- Children can listen carefully to and follow simple two step instructions.

SUMMER:

Physical development:

Fine motor

- Children can cut neatly around a range of different shapes and lines.
- Children use clay tools with control to make sand/dough models.

Health and Hygiene

- Children can talk about what foods are healthy for us.

EAD

- Creating with materials:
- Children can talk about what their model needs to have (function) to make it (dough/modelling)
- Encourage the children to use a hole punch, single and double.
- Children will be able to effectively use split pins and treasury tags.
- Children demonstrate more complex folding
- Children can join using a hole punch and wool and extend to using a darning needle.
- Children to use equipment and media with increased confidence (painting, dough, printing, collage, modelling, drawing)

PSED:

Self-regulation

- Children can talk in detail about what they are going to do and what they will need (**Plan Do Review**- activity or area)
- Children can say "I have been/made..." "I used..." "I am really proud of" Children talk about improvements they have made (Plan Do **Review**)



Mechanisms				
National Curriculum Aims	KS1 – explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products			
	KS2 – understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]			
	Y1/2		Y3/4	Y5/6
Technical Knowledge	<ul style="list-style-type: none"> YEAR A – safari vehicle Know the vocabulary: up, down, left, right, vertical and horizontal to describe movement Know what mechanism makes a toy or vehicle roll forwards Know that for a wheel to move it must be attached to an axle 	YEAR B – Moving monster <ul style="list-style-type: none"> Know that mechanisms are a collection of moving parts that work together in a machine Know that there is an input and output in a mechanism Know how to identify mechanisms in everyday objects Know that a lever is something that turns on a pivot Know that a linkage is a system of levers that are connected by pivots 	<ul style="list-style-type: none"> Know that car designs have developed over many years Know that a chassis is the frame of a car on which everything else is built Know that all moving things have kinetic energy Know that kinetic energy is the energy that something has by being in motion 	<ul style="list-style-type: none"> Knows and identifies the different types of mechanisms (gears, pulleys, cams, levers, linkages) in existing pop up books Knows that an input is the motion used to start a mechanism Knowing that output is the motion that happens as a result of starting the input Knowing that mechanisms control movements Knows that different shaped cams produce different follower movements Knows how linkages change the direction of a force and how things move at the same time
Designing	<ul style="list-style-type: none"> Know how to design a vehicle that includes wheels, axles and axle holders, which will allow the wheels to move Know how to clearly label drawings which illustrate movement 	<ul style="list-style-type: none"> Know how to create a class design criteria for a moving monster Know how to design a moving monster for a specific audience in accordance with a design criteria Know how to select a suitable linkage system to produce the desired motions Know how to select appropriate materials 	<ul style="list-style-type: none"> Know how to design a suitable car body to cover a chassis Know how to draw a net to create a structure Know which shapes increase or decrease the speed of the car as a result of air resistance Know that adding graphics will personalise a design 	<ul style="list-style-type: none"> Knows how to design a pop- up book which uses a mixture of structures and mechanisms Knows how to create a Storyboard of ideas for a book Knows how to create a design for a pop up book based on a choice of cam to create a desired movement



		based on their properties		
Making	<ul style="list-style-type: none"> • Know how to follow a design to create moving models that use wheels and axles • Know how to adapt mechanisms 	<ul style="list-style-type: none"> • Know how to make linkages using card for levers and split pins for pivots • Know how to experiment with linkages adjusting the widths, lengths and thicknesses of card used • Know how to cut and assemble components neatly 	<ul style="list-style-type: none"> • Know how to make a chassis by accurately cutting and gluing wood. • Know how to measure, mark and cut panels (nets) against the dimensions of my chassis. • Know that adding tabs to a net will help secure it to a chassis • Know techniques that help stiffen and strengthen card 	<ul style="list-style-type: none"> • Knows how to follow a design brief to make a pop up book, neatly and with focus on accuracy • Knows how to make mechanisms and/or structures using sliders, pivots and folds to produce movement • Knows how to use layers and spacers to hide the workings of mechanical parts for an aesthetically pleasing result • Knows how to Measure, mark and cut components accurately using a ruler and scissors • Knows how to use a bench hook to saw safely and effectively • Knows how to assemble components accurately to make a stable frame, considering right angles
Evaluating	<ul style="list-style-type: none"> • Know how to test a finished product, seeing whether it moves as planned and if not, explaining why and how it can be fixed • Know how to review the success of a product by testing it with its intended audience • Know how to test mechanisms, identifying what stops wheels from turning, • Know that a wheel needs an axle in order to move 	<ul style="list-style-type: none"> • Know how to evaluate own design against design criteria • Know how to use peer feedback to modify Know how to evaluate different designs • Know how to test and adapt a design 	<ul style="list-style-type: none"> • Know how to use the views of others to improve designs • Know how to test the speed of the car • Know how to modify the outcome, suggesting improvements 	<ul style="list-style-type: none"> • Know how to evaluate the work of others and use this to improve on own work • Knows how to suggest points for improvement and apply these • Knows how to describe the changes they would make/do if they were to do the project again
Key Vocabulary	<ul style="list-style-type: none"> • Mechanism • Lever, slider • Up, down, left, right, 	<ul style="list-style-type: none"> • Pivot • Linkages • Width, Length, Thickness 	<ul style="list-style-type: none"> • Chassis • Net • Kinetic energy 	<ul style="list-style-type: none"> • Control • Structures • Input



	vertical, horizontal <ul style="list-style-type: none">• Axle, turn		<ul style="list-style-type: none">• Energy• Air resistance• Net• Increase/decrease speed	<ul style="list-style-type: none">• Output• Storyboarding• Cams• Frame• Right angles
--	---	--	---	--



Textiles			
National Curriculum Aims	KS1 – select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics		
	KS2 – 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		
	Y1/2	Y3/4	Y5/6
Technical Knowledge	<ul style="list-style-type: none"> Know different ways in which to join fabrics together: pinning, stapling, gluing. Know how to sew running stitch to join fabric 	<ul style="list-style-type: none"> Know how to thread needles with greater independence Know how to tie knots with greater independence Know how to sew cross stitch and applique Know how to count the thread on a piece of even weave fabric in each direction to create uniform size and appearance Know that fabrics can be layered for affect Know how to join items using fabric glue or stitching Know how to sew running stitch, with evenly spaced, neat, even stitches to join fabric Know how to neatly pin and cut fabric using a template Know how to draw and manipulate 2D shapes, using computer-aided design, to produce a button 	<ul style="list-style-type: none"> Know how to sew blanket stitch to join fabric Know how to apply blanket stitch so the spaces between the stitches are even and regular Know how to thread needles independently Know and understand that there are different types of fastenings and what they are Know and articulate the benefits and disadvantages of different fastening types Know different decorative stitches Know how to sew accurately with even regularity of stitches
Designing	<ul style="list-style-type: none"> Know the importance of a clear design criteria Know how to include individual preferences and requirements in a design Know how to use a template to create a design for a puppet 	<ul style="list-style-type: none"> Know how to design and make a template from an existing fabric bag and apply individual design criteria. 	<ul style="list-style-type: none"> Know how to design a stuffed toy considering the main component shapes required and creating an appropriate template Know how to consider proportions of individual components Know how write a design criteria for a product, articulating decisions made. Knows how to annotate designs
Making	<ul style="list-style-type: none"> Know how to cut fabric neatly with scissors Know how to use joining methods to decorate a puppet 	<ul style="list-style-type: none"> Know how to follow design criteria to create a cushion Know how to select and cut fabrics with 	<ul style="list-style-type: none"> Know how to create a 3D stuffed toy from a 2D design Know how to measure, mark and cut



	<ul style="list-style-type: none"> • Know how to sequence steps for construction 	<p>ease using fabric scissors</p> <ul style="list-style-type: none"> • Know how to sew cross stitch to join fabric • Know how to decorate fabric using appliqué • Know how to complete design ideas with stuffing and sewing the edges 	<p>fabric accurately and independently</p> <ul style="list-style-type: none"> • Know how to create strong and secure blanket stitches when joining fabric • Know how to use applique to attach pieces of fabric decoration • Know how to use template pinning panels onto fabric • Know how to mark and cut fabric accurately, in accordance with a design • Know how to sew a strong running stitch, making small, neat stitches and following the edge • Know how to tie strong knots
Evaluating	<ul style="list-style-type: none"> • Know how to reflect on a finished product, explaining likes and dislikes • Know how to discuss, as a class, the success of their stitching against the success criteria • Know how to identify aspects of their peers' work that they particularly like and why 	<ul style="list-style-type: none"> • Know how to evaluate an end product and think of the other ways in which to create similar items • Know how to troubleshoot scenarios posed by a teacher • Know how to evaluate the quality of the stitching on other's work 	<ul style="list-style-type: none"> • Know how to test and evaluate an end product and give points for further improvements • Know how to evaluate the work continually as it is created.
Key Vocabulary	<ul style="list-style-type: none"> • Fabric • Pinning • Stapling • Gluing • Sequence • Thread • Running stitch • Decorate • Quality 	<ul style="list-style-type: none"> • Knot • Applique • Cross stitch • Stuffing • CAD • Fastening • Modify • Mark 	<ul style="list-style-type: none"> • Blanket stitch • Regular stitches • Components • Proportions • Secure • Panels • Annotate • Appendage



Structures			
National Curriculum Aims	KS1 – build structures, exploring how they can be made stronger, stiffer and more stable		
	KS2 – apply their understanding of how to strengthen, stiffen and reinforce more complex structures		
	Y1/2	Y3/4	Y5/6
Technical Knowledge	<ul style="list-style-type: none"> • Know how to describe the purpose of structures • Know how to turn 2D nets into 3D structures • Know natural and man-made materials • Know when a structure is more or less stable than another • Know that shapes and structures with wide, flat bases or legs are the most stable • Know that the shape of a structures affects its strength • Know that materials can be manipulated to improve strength and stiffness • Know how to build a strong and stiff structure by folding paper 	<ul style="list-style-type: none"> • Know what photo frames are and their purpose Know and build on their prior knowledge of net structures and broaden knowledge of frame structures. • Know that designers consider shape, decoration and stability. • Know how to implement frame and shell structure knowledge • Know and consider effective and ineffective designs 	<ul style="list-style-type: none"> • Know that structures can be strengthened by manipulating materials and shapes • Know and identify shell structure in everyday life (cars, aeroplanes, tins, cans) • Know and discuss the workings of 4 different types of bridge – truss, suspension, beam, cantilever • Know and identify stronger and weaker structures • Know different ways to reinforce structures
Designing	<ul style="list-style-type: none"> • Know how to generate and communicate ideas using sketching and modelling • Know about different types of historical structures found in and around Ropsley. 	<ul style="list-style-type: none"> • Know how to design a stable frame structure that is aesthetically pleasing and selecting materials to create a desired effect • Know how to build frame structures designed to support weight, with focus on triangulation. 	<ul style="list-style-type: none"> • Know how to design a longhouse featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.
Making	<ul style="list-style-type: none"> • Know how to make a structure according to design criteria • Know how to create joints and structures from paper/card and tape/glue. • Know how to follow instructions to cut and assemble. 	<ul style="list-style-type: none"> • Know how to construct a range of 3D geometric shapes using nets • Know how to create special features for individual designs • Know how to create a range of different shaped frame structures • Know how select appropriate materials to build a strong structure and for the cladding • Know how to reinforce corners to strengthen a structure 	<ul style="list-style-type: none"> • Know how to build a range of house structures drawing upon new and prior knowledge of structures • Know how to measure, mark and cut wood to create a range of structures • Know how to use a range of materials to reinforce and add decoration to structures



		<ul style="list-style-type: none"> • Know how to create a design in accordance with a plan • Know how to create different textural effects 	
Evaluating	<ul style="list-style-type: none"> • Know how to explore the features of structures • Know how to compare the stability of different shapes • Know how to test the strength of own structures • Know how to identify the weakest part of a structure • Know how to evaluate the strength, stiffness and stability of own structure • Know how to suggest points for improvements • Know how to evaluate according to the design criteria 	<ul style="list-style-type: none"> • Know how to evaluate their own work and the work of others based on the aesthetic of the finished product and in comparison to the original design • Know how to suggest points for modification of the individual designs • Know how to evaluate structures made by the class • Know how to describe what characteristics of a design and construction made it the most effective • Know how to consider effective and ineffective designs 	<ul style="list-style-type: none"> • Know how to improve a design plan based on peer evaluation • Know how to test and adapt a design to improve it as it is developed • Know how identify what makes a successful structure
Key Vocabulary	<ul style="list-style-type: none"> • Structures • Nets • Strength • Stiffness • Purpose • Stability/Stable • Base • Man-made/natural • Templates • Joints 	<ul style="list-style-type: none"> • Design criteria • Natural • Structure • Innovative • 3D shapes • Reinforce • Cladding • Aesthetics • Evaluation • Frame structure • Function • Inspiration • Target audience • Target customer • Texture • Theme 	<ul style="list-style-type: none"> • Beam • Arch • Compression • Tension • Reinforce • Beam • Arch • Truss • Suspension bridges • Triangulation • Constraints • Prototypes • Manipulate • Sustainable • Peer evaluation



Electronics		
National Curriculum Aims	KS1 – N/A KS2 – understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] - apply their understanding of computing to program, monitor and control their products.	
	Y3/4	Y5/6
Technical Knowledge	Know what static electricity is and how it moves objects through attraction or repulsion Know how to generate static electricity independently and use this to make objects move in a desired way Know how electrical items work, identifying electrical products Know what electrical conductors and insulators are Know that a battery contains stored electricity and can be used to power products Know the main features of a torch	Know the key components used to create a functioning circuit Know that graphite is a conductor and can be used as part of a circuit Know the difference between series and parallel circuits Know that breaks in a circuit will stop it from working Know that batteries contain acid, which can be dangerous if they leak Know that when electricity enters a magnetic field it can make a motor
Designing	Know how to design a torch, giving consideration to the target audience Know how to create both design and success criteria focusing on features of an individual design idea	Know how to design an electronic game with a simple electrical control circuit, with all components labelled Know how to create a labelled design showing positive and negative parts in relation to the LED and the battery Know how to draw a design from three different perspectives Know to model ideas through prototypes Know to map out where different components of the circuit will go Know how to draw and manipulate 3D shapes, using computer-aided design, to produce a shield motif
Making	Know how to use a wider range of materials and equipment safely Know how to make a torch with a working electrical circuit and switch Know how to use appropriate equipment to cut and attach materials Know how to assemble a torch according to the design and success criteria	Know how to construct a stable base for an electromagnetic game Know to accurately cut, fold and assemble a net Know to decorate the base/outer of the net to a high quality finish Know how to make and test a circuit, incorporating a circuit into a base
Evaluating	Know how to evaluate electrical products Know how to test and evaluate the success of a final product and taking inspiration from the work of peers Know how to give constructive criticism on own work and the work of others Know how to test the success of a product against the original design criteria and justify opinions	Know how to test own and others finished games, identifying what went well and make suggestions for improvements Know how to evaluate a completed product against the original design sheet and look at modifications that could be made to improve the reliability or aesthetics of it Know how to gather images and information about existing children’s electronic toy cars Know how to analyse a selection of existing children’s toy games
Key Vocabulary	<ul style="list-style-type: none"> • Conductor • Insulator • Switch 	<ul style="list-style-type: none"> • Reliability • Aesthetics • Series circuits



- Static
- Attraction
- Repulsion
- Target audience
- Constructive criticism
- Justify
- Circuit

- Parallel circuits
- LED
- Components
- Assembling
- Motif
- Graphite
- Motor
- Prototypes
- Perspectives
- Stable
- Net
- Assemble



Food and Nutrition						
National Curriculum Aims	<p>KS1 – use the basic principles of a healthy and varied diet to prepare dishes</p> <ul style="list-style-type: none"> - understand where food comes from. <p>KS2 – understand and apply the principles of a healthy and varied diet</p> <ul style="list-style-type: none"> - prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques - understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed 					
	Y1/2 (Cycle A) <i>Fruit salad</i>	Y1/2 (Cycle B) <i>Healthy Sandwich</i>	Y3/4 (Cycle A) <i>Biscuits</i>	Y3/4 (Cycle B) <i>Seasonal tart</i>	Y5/6 (Cycle B) <i>Bolognese</i>	Y5/6 (Cycle A) <i>Greek salad</i>
Technical Knowledge	<p>Know the difference between fruits and vegetables</p> <p>Know how to describe and group fruits by texture and taste</p> <p>Know whether a food is a fruit or a vegetable</p> <p>Know where and how fruits and vegetables grow</p>	<p>Know what makes a balanced diet</p> <p>Know where to find the nutritional information on packaging</p> <p>Know the five food groups</p>	<p>Know how to work with cooking equipment safely and hygienically</p> <p>Know and understands the impact of the cost and importance of budgeting while planning ingredients</p> <p>Know how to use, store and clean a knife safely</p> <p>Know that we weigh ingredients in grams and liquids in millilitres.</p>	<p>Know the environmental impact on future product and cost of production</p> <p>Know that vegetables and fruit grow in certain seasons</p> <p>Know that imported foods travel from far away and this can negatively impact the environment</p> <p>Know that climate affects food growth</p> <p>Know that each fruit and vegetable gives us nutritional benefits</p>	<p>Know and understand the impact of the cost and importance of budgeting while planning for a recipe</p> <p>Know and understand the combinations of food that will complement one another</p> <p>Know and understand where food comes from, describing the process of ‘Farm to Fork’ for a given ingredient</p>	<p>Know how to research a recipe</p> <p>Know how to record the relevant ingredients and equipment needed</p> <p>Know and understand the impact of the cost and importance of budgeting while planning</p>
Designing	<p>Know how to combine fruits to make a fruit salad.</p> <p>Know how to write an ingredients list</p> <p>Knows how to draw their design and label it.</p>	<p>Know how to design a healthy sandwich based on a food combination which work well together.</p> <p>Know how to label ingredients on a design.</p>	<p>Know how to adapt a traditional recipe, understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients</p> <p>Know how to write an amended method for a</p>	<p>Know how to consider the taste, texture, smell and appearance when designing a dish.</p> <p>Know how to write an amended method for a recipe to incorporate the relevant changes to ingredients</p> <p>Know how to design an</p>	<p>Know how to write a recipe, explaining the key steps, method and ingredients</p> <p>Know how to include facts and drawings from research undertaken</p> <p>Know how to design</p>	<p>Know how to write a recipe, explaining the key steps, method and ingredients</p> <p>Know how to include facts and drawings from research undertaken</p> <p>Know how to design</p>



			<p>recipe to incorporate the relevant changes to ingredients</p> <p>Know how to design an appealing packaging to reflect a recipe</p> <p>Know how to adapt a recipe</p>	<p>appealing packaging to reflect a recipe</p>	<p>within a budget.</p>	<p>within a budget.</p>
Making	<p>Know how to slice food safely using the bridge or claw grip</p> <p>Know to work hygienically to create the finished product</p>	<p>Know to work safely when using equipment to construct a sandwich</p> <p>Know to work hygienically to create the finished product</p>	<p>Know how to prepare and cut food items safely, including knives, hot pans and hobs</p> <p>Know how to follow a step by step method carefully to make a recipe</p> <p>Know how to cook safely, following basic hygiene rules</p> <p>Know how to follow the instructions within a recipe</p>	<p>Know how to cut and prepare vegetables safely, including knives, hot pans and hobs</p> <p>Know how to avoid cross contamination</p> <p>Know how to follow a step by step method carefully to make a recipe</p> <p>Know how to cook safely, following basic hygiene rules</p> <p>Know how to follow the instructions within a recipe</p>	<p>Know how to follow a recipe, including using the correct quantities of each ingredient</p> <p>Know how to adapt a recipe based on research</p> <p>Know how work to given timescale</p> <p>Know how to work safely and hygienically with independence</p>	<p>Know how to follow a recipe, including using the correct quantities of each ingredient</p> <p>Know how to adapt a recipe based on research</p> <p>Know how work to given timescale</p> <p>Know how to work safely and hygienically with independence</p>
Evaluating	<p>Know how to evaluate different food combinations, thinking about appearance, smell and taste</p> <p>Know which information could be included on packaging</p>	<p>Know vocabulary to describe the taste, texture and smell of fruit and vegetables</p> <p>Know how to taste test food combinations and final products</p> <p>Know which information could be included on packaging</p> <p>Know to talk about which grip was most effective</p>	<p>Know how to identify the nutritional differences between different products and recipes</p> <p>Know how to establish and use design criteria to help test and review dishes</p> <p>Know how to evaluate a recipe considering: taste, smell, texture and appearance</p>	<p>Know how to identify and describe healthy benefits of food groups</p> <p>Know how to describe the benefits of seasonal fruits and vegetables and the impact on the environment</p> <p>Know how to evaluate a recipe considering: taste, smell, texture and appearance</p>	<p>Know how to evaluate a recipe, considering: taste, smell, texture and origin of the food group</p> <p>Know how to taste testing and scoring final products</p> <p>Know how to suggest and write up points of improvements in productions</p> <p>Evaluate health and safety in production to</p>	<p>Know how to evaluate a recipe, considering: taste, smell, texture and origin of the food group</p> <p>Know how to taste testing and scoring final products</p> <p>Know how to suggest and write up points of improvements in productions</p> <p>Evaluate health and safety in production to</p>



					minimise cross contamination	minimise cross contamination
Key Vocabulary	<ul style="list-style-type: none"> Hygienically Prepare Fruit Vegetable Design Cut Taste Texture Appearance Smell 	<ul style="list-style-type: none"> Balanced diet Nutritional information Food groups Slice – Bridge/claw grip Design brief Construct Label 	<ul style="list-style-type: none"> Budget Taste test Modification Bake Grams = g Millilitres = ml Adapt 	<ul style="list-style-type: none"> Climate Imported Environment Seasonal Savoury Bake Grate Environmental impact 	<ul style="list-style-type: none"> Complement Farm to Fork Quantity Timescale Processed meat Reared Nutritional calculator Adapt Substitute Package Cross-contamination Step by step method Unit of measurement 	<ul style="list-style-type: none"> Collaboration Cookbook Flavour Method Preparation Recipe Target audience Unit of measurement