

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Autumn 1 - Year 2 - Textiles

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none">- To know that sewing is a more permanent method of joining fabric.- To know that different stitches can be used when sewing.- To understand the importance of tying a knot after sewing the final stitch.	<ul style="list-style-type: none">- Threading a needle.- Sewing running stitch, with evenly spaced, neat, even stitches to join fabric.- Cutting fabric using a template.- Decorating a puppet using fabric glue or running stitch.	decorate fabric fabric glue knot needle needle threader running stitch sew template thread

Autumn 2 - Year 1 - Food and Nutrition

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none">-Tasting and evaluating different food combinations.-Describing appearance, smell and taste.- Suggesting information to be included on packaging.-Understanding the difference between fruits and vegetables-Know that a blender is a machine which mixes ingredients together into a smooth liquid	<ul style="list-style-type: none">- Designing smoothie carton packaging by-hand.- Chopping fruit and vegetables safely to make a smoothie.	fruit vegetable seed leaf root stem smoothie healthy carton design flavour peel slice

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Autumn 2 - Year 3 - Mechanical Systems

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none"> -Understand how pneumatic systems work. -To know that pneumatic systems operate by drawing in, releasing and compressing air. -Selecting materials due to their functional and aesthetic characteristics. 	<ul style="list-style-type: none"> -Developing design criteria from a design brief. -Generating ideas using thumbnail sketches and exploded diagrams to explain ideas clearly. -Using syringes and balloons to create different types of pneumatic systems to make a functional and appealing pneumatic toy. 	<ul style="list-style-type: none"> mechanism lever pivot linkage system pneumatic system input output component thumbnail sketch research adapt properties reinforce motion

Autumn 2 - Year 4 - Textiles

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none"> - Know that a fastening is something which holds two pieces of material together (zipper, toggle, button, press stud and velcro) and are useful for different purposes - Know that creating a mock up (prototype) of their design is useful for checking ideas and proportions 	<ul style="list-style-type: none"> -Writing design criteria for a product -Designing a personalised book sleeve. -Making and testing a paper template with accuracy and in keeping with the design criteria. -Measuring, marking and cutting fabric using a paper template. -Selecting a stitch style to join fabric. -Working neatly by sewing small, straight stitches. -Incorporating a fastening to a design. -Suggesting modifications for improvement. -Testing and evaluating an end product against the original design criteria. 	<ul style="list-style-type: none"> Criteria Fastening Mock-up Fabric Fix Stitch Template

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Autumn 2 - Year 5 - Structures

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none"> -To understand some different ways to reinforce structures, including triangles - To know the importance of materials and their properties -To understand how triangulation adds stability to a structure. 	<ul style="list-style-type: none"> - Use triangles to create truss bridges. -Independently measuring and marking wood accurately. - Using the correct techniques to saw safely. - Identifying where a structure needs reinforcement and using card corners for support. -Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary. 	<ul style="list-style-type: none"> beam bridge arch bridge truss bridge strength stiffness rigid factors bench hook/vice tenon saw/coping saw reinforce accuracy <ul style="list-style-type: none"> stability aesthetics joints mark out hardwood softwood wood file/rasp sandpaper/glasspaper

Autumn 2 - Year 6 - Food and Nutrition

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none"> -Know that 'flavour' is how a food or drink tastes -Know that many countries have 'national dishes' -Know what processed food means -Understand the importance of washing fruit and vegetables before eating - Understand the journey of a certain food from Farm to Fork. 	<ul style="list-style-type: none"> -Writing a recipe, explaining the key steps, method and ingredients. -Following and adapting their own recipe, including using the correct quantities of each ingredient. -Working to a given timescale. -Working safely and hygienically with independence. -Evaluating a recipe, considering: taste, smell, texture and origin of the food group. -Taste testing and scoring final products. -Suggesting and writing up points of improvements -Evaluating health and safety in production to minimise cross contamination. 	<ul style="list-style-type: none"> flavours ingredients method recipe bridge method cookbook cross-contamination farm to fork preparation

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Spring 1 - Year 2 - Food and Nutrition

Key knowledge	Key skills	Key vocabulary
<p>-Know that 'diet' means the food and drink that a person or animal usually eats</p> <p>-Understand what makes a balanced diet, the five main food groups and where to find nutritional information</p> <p>-Know that 'ingredients' means the items in a mixture or recipe</p>	<p>-Designing a healthy wrap based on a food combination which works well together.</p> <p>-Slicing food safely using the bridge or claw grip.</p> <p>-Constructing a wrap that meets a design brief.</p> <p>-Describing the taste, texture and smell of fruit and vegetables.</p> <p>-Taste testing food combinations and final products.</p> <p>-Describing the information that should be included on a label.</p> <p>-Evaluating which grip was most effective.</p>	<p>balanced diet</p> <p>balance</p> <p>carbohydrate</p> <p>dairy</p> <p>fruit</p> <p>ingredients</p> <p>oils</p> <p>sugar</p> <p>protein</p> <p>vegetable</p> <p>design criteria</p>

Spring 1 - Year 4 - Food and Nutrition

Key knowledge	Key skills	Key vocabulary
<p>-Know that the amount of an ingredient in a recipe is known as the 'quantity'</p> <p>-Know that it is important to use oven gloves when removing hot food from an oven</p> <p>-Know the following cooking techniques: sieving, creaming, rubbing method, cooling</p> <p>-Understand the importance of budgeting while planning ingredients for biscuits</p>	<p>-Cooking safely, following basic hygiene rules.</p> <p>-Adapting a recipe to improve it or change it to meet new criteria</p> <p>-Evaluating a recipe, considering: taste, smell, texture and appearance.</p> <p>-Describing the impact of the budget on the selection of ingredients.</p> <p>-Evaluating and comparing a range of food products.</p> <p>-Suggesting modifications to a recipe</p>	<p>design criteria</p> <p>research</p> <p>texture</p> <p>innovative</p> <p>aesthetic</p> <p>measure</p> <p>cross-contamination</p> <p>diet</p> <p>processed</p> <p>packaging</p>

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Spring 1 - Year 6 - Structures/Electrical Systems

Key knowledge	Key skills	Key vocabulary
<p>-To know how to create a circuit and apply this knowledge to a working structure. -Know that structures can be strengthened by manipulating materials and shapes</p>	<ul style="list-style-type: none">- Designing a playground featuring a variety of different structures, giving careful consideration to how the structures will be used, considering effective and ineffective designs.- Building a range of play apparatus structures drawing upon new and prior- knowledge of structures.- Measuring, marking and cutting wood to create a range of structures.- Using a range of materials to reinforce and add decoration to structures.- Improving a design plan based on peer evaluation.- Testing and adapting a design to improve it as it is developed.- Identifying what makes a successful structure.	<p>apparatus design criteria equipment playground landscape features cladding</p>

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Spring 2 - Year 1 - Mechanisms

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none">-Know that wheels need to be round and attached to an axle to rotate and move-To know that the the frame of a vehicle (chassis) needs to be balanced- Identifying what stops the wheels from turning, and recognising that a wheel needs an axle in order to move.	<ul style="list-style-type: none">-Creating clearly labelled drawings that illustrate movement.-Adapting mechanisms when they do not work as they should and to improve how they work after testing their vehicle.	<ul style="list-style-type: none">axleaxle holderchassisdiagramdowelequipmentmechanismwheel

Spring 2 - Year 3 - Food and Nutrition

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none">- Knowing how to prepare themselves and a work space to cook safely in, learning the basic rules to avoid food contamination.-Know that vegetables are grown in different countries (imported and exported) due to climate, season, etc.-Know that cooking instructions are known as a 'recipe'-Know that each fruit and vegetable gives us nutritional benefits because they contain vitamins, minerals and fibre-Know safety rules for using, storing and cleaning a knife safely	<ul style="list-style-type: none">-Creating a healthy and nutritious recipe for a savoury tart using seasonal ingredients, considering the taste, texture, smell and appearance of the dish.- Following the instructions within a recipe.- Establishing and using design criteria to help test and review dishes.-Describing the benefits of seasonal fruits and vegetables and the impact on the environment.- Suggesting points for improvement when making a seasonal tart.	<ul style="list-style-type: none">ClimateImportedNaturalRearedSeasonalDietIngredientsProcessedRecipeSeasons

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Spring 2 - Year 5 - Food and Nutrition

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none">-Understand where meat comes from, including key welfare issue-Know that I can adapt a recipe to make it healthier by substituting ingredients-Understand 'cross-contamination'-Identifying the nutritional differences between different products and recipes.-Identifying and describing healthy benefits of food groups	<ul style="list-style-type: none">-Understanding that the nutritional value of a recipe alters if you remove, substitute or add additional ingredients.- Writing an amended method for a recipe to incorporate the relevant changes to ingredients.- Designing appealing packaging to reflect a recipe using computer software.	beef reared processed ethical diet ingredients supermarket farm balanced

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Summer 1 - Year 1 - Structures

Key knowledge	Key skills	Key vocabulary
<p>-To know that the shape of materials can be changed to improve the strength and stiffness of structure (cylinders). -Axles make parts turn in a circle.</p>	<p>-Making stable structures from card, tape and glue . -Learning how to turn 2D nets into 3D structures. - Evaluating a windmill according to the design criteria, testing whether the structure is strong and stable and altering it if it isn't. - Suggesting points for improvements.</p>	<p>axle bridge design design criteria model net packaging structure template unstable stable strong weak</p>

Summer 1 - Year 2 - Textiles

Key knowledge	Key skills	Key vocabulary
<p>-Know that sewing, using different stitches, is a method of joining fabric - Understand importance of tying a final knot after sewing final stitch and that a thimble can be used to protect fingers when sewing</p>	<p>-Designing a pouch. -Selecting and cutting fabrics for sewing. -Threading a needle. -Sewing running stitch, with evenly spaced, neat, even stitches to join fabric. -Neatly pinning and cutting fabric using a template. -Decorating a pouch using fabric glue or running stitch. -Evaluating the quality of the stitching on others' work.</p>	<p>decorate fabric fabric glue knot needle needle threader running stitch sew template thread</p>

Key knowledge, skills and vocabulary for Design Technology 2023-2024

	<ul style="list-style-type: none"> -Discussing as a class, the success of their stitching against the success criteria. -Identifying aspects of their peers' work that they particularly like and why. 	
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Summer 1 - Year 5 - Textiles

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none"> -Know that blanket stitch is useful to reinforce the edges of a fabric material or join two pieces of fabric -Know that soft toys are often made by creating appendages separately and then attaching them to the main body -Know that small, neat stitches which are pulled taut are important 	<ul style="list-style-type: none"> -Designing a stuffed toy, considering the main component shapes required and creating an appropriate template. -Considering the proportions of individual components. -Creating a 3D stuffed toy from a 2D design. -Measuring, marking and cutting fabric accurately and independently . - Creating strong and secure blanket stitches that are even and regular when joining fabric. - Using appliqué to attach pieces of fabric decoration. 	<ul style="list-style-type: none"> accurate annotate appendage blanket-stitch design criteria detail evaluation fabric sew shape stuffed toy stuffing template

Summer 1 - Year 6 - Mechanical Systems

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none"> -Understand that the mechanism in an automata uses a system of cams, axles and followers -Understand that different shaped cams produce different outputs -Understanding how linkages change the direction of a force. 	<ul style="list-style-type: none"> -drawing cross-sectional diagrams to show the inner-workings -Measuring, marking and checking the accuracy of dowel pieces required. -Assembling components accurately to make a stable frame. -Understanding that for the frame to function 	<ul style="list-style-type: none"> accurate assembly-diagram automata axle bench hook cam clamp dowel drill bits exploded-diagram finish follower frame function

Key knowledge, skills and vocabulary for Design Technology 2023-2024

	effectively the components must be cut accurately and the joints of the frame secured at right angles.	component cutting list diagram right-angle set square tenon saw	hand drill jelutong linkage mark out measure mechanism model research
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Key knowledge, skills and vocabulary for Design Technology 2023-2024

Summer 2 - Year 1 - Textiles

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none">-Know that 'joining technique' means connecting two pieces of material together (staples, glue or pins)-Know that there are various temporary methods of joining fabric-Understand that different techniques for joining materials can be used for different purposes	<ul style="list-style-type: none">-Using a template to create a design for a seed bag.-Cutting fabric neatly with scissors.- Using joining methods to decorate a seed bag.-Sequencing steps for construction.-Reflecting on a finished product, explaining likes and dislikes.	<ul style="list-style-type: none">decoratedesignfabricgluemodelsafety pinstaplestenciltemplate

Summer 2 - Year 2 - Mechanical Systems

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none">- Know that mechanisms are a collection of moving parts that work together as a machine to produce movement- There is always an input and output in a mechanism-Know what a lever and linkage is	<ul style="list-style-type: none">-Creating a class design criteria for a moving monster.-Designing a moving monster for a specific audience in accordance with a design criteria.-Making linkages using card for levers and split pins for pivots.-Experimenting with linkages adjusting the widths, lengths and thicknesses of the card used.-Cutting and assembling components neatly.-Evaluating one's own designs against design criteria.-Using peer feedback to modify a final design.	<ul style="list-style-type: none">axledesign criteriainputlinkagemechanicaloutputpivotwheel

Key knowledge, skills and vocabulary for Design Technology 2023-2024

Summer 2 - Year 4 - Structures

Key knowledge	Key skills	Key vocabulary
<ul style="list-style-type: none">- Understand what a frame and free-standing structure is- Knowing what is considered an effective and ineffective design.	<ul style="list-style-type: none">-Designing a stable structure that is aesthetically pleasing and selecting materials to create a desired effect.-Building frame structures from a given design to support weight-Creating a range of different shaped frame structures.-Making a variety of free standing frame structures of different shapes and sizes.- Selecting appropriate materials to build a strong structure and cladding.- Reinforcing corners.-Evaluating structures made by the class.-Describing what characteristics of a design and construction made it the most effective.	<ul style="list-style-type: none">3D shapesDesign CriteriaNaturalCladdingInnovativeReinforceStructure