West Rainton Primary School

Key assessment priorities in

Design and Technology

Mapping document 2025/26

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# EYFS

## Nursery (2/3yr provision)

| EYFS framework strand | Assessment criteria (and term of focus) |
|---|---|
| Physical development | I can build independently with a range of appropriate resources. 2<br>I am beginning to learn to use equipment safely, developing manipulation and control. 2<br>I am learning to be healthy. 3<br>I am developing my gross/fine motor skills 123<br>I am learning how to follow instructions for safety and hygiene |
| Expressive arts and design | I am starting to make marks intentionally 2<br>I can make simple models which express my ideas. 1<br>I can explore paints using fingers and other parts of my body as well as brushes and other tools. 2 |
| Understanding the World | I can explore a range of materials and learn new words to describe them. 1/2<br>I can explore a range of natural phenomena. 1/2 |
| Mathematics | I can build with a range of resources.2<br>I can complete a simple jigsaw. 1/2<br>I can explore and recognise some 2d shapes and colours. 2/3<br>I can compere sizes, weights etc using gestures and some language such as bigger, little and smaller. 2/3 |

## Nursery (3/4yr provision)

| EYFS framework strand | Assessment criteria (and term of focus) |
|---|---|
| Physical development | I can choose the right equipment and resources to do a challenge safely and use scissors to snip. 2<br>I can ask others to help me solve a challenge that I am struggling physically to solve. 2/3<br>I can choose healthy options, such as screen time, sleep and eating. 1,2<br>I can use a dominant hand to make marks. 1<br>I am a confident runner and I can climb safely, jump off safe apparatus and take risks. 1 |
| Expressive arts and design | I can build with purpose. 2<br>I can think about what I am creating. 2<br>I can tell you why I chose the resources to make the item. 3 |
| Understanding the World | I can use my senses and talk about them. 1<br>I can explore materials and investigate their different properties. 2<br>I can ask 'how does this work?' and I can explore how things work. 1/2/3<br>I enjoy baking with a variety of ingredients and recipes. 1/2/3<br>I can explore a range of technology, such as cameras, ipads, phones etc 1,2,3 |
| Personal, Social and Emotional Development | I can choose equipment for my play and I can tell you why I am using it. 2<br>I can think about my play and extend my challenges. 3<br>I can use tools and equipment correctly. 2<br>I can tell an adult when I need help. 1,2,3 |
| Mathematics | I can name and talk about the properties of a 2D shape using the words sides, flat and straight. 2<br>I understand positional language. 1/2/3<br>I can use the language of size, length and weight. Big, small, long, short, heavy, light. 1/2/3<br>I can sort objects by shape, colour and size. 1 |

# Reception

| EYFS framework strand | Assessment criteria (and term of focus) |
|---|---|
| Physical development | I can cut shapes with scissors. 1,2,3<br>I can confidently move around an obstacle course. 1,2,3<br>I can climb, run and avoid obstacles. 1,2,3<br>I can throw, kick and catch a ball. 1,2,3<br>I can write using letters and I can hold my pencil correctly. 2,3<br>I understand the five a day rule.<br>I can use a range of tools safely and explain why. 123 |
| Expressive arts and design | I can safely use and explore a variety of materials, tools and techniques. 1,2,3<br>I can share my creations, explaining the process I have used. 1,2,3<br>I can use construction kits to build towers, walls, frameworks, shell structures and wheeled vehicles. 1,2,3 |
| Understanding the World | I can use my senses to explore the natural world. 1,2,3<br>I can show you I'm interested in the outdoors. 1,2,3 |
| Personal, Social and Emotional Development | I can choose a healthy snack and I understand why I need fruit and veg.<br>I can talk about the different factors that support my overall health and wellbeing:<br>- regular physical activity<br>- healthy eating (5 a day)<br>- tooth brushing<br>- sensible amounts of 'screen time'<br>- having a good sleep routine<br>- being a safe pedestrian |
| Mathematics | I can use measuring skills when creating products as well as using estimation and comparison. 1,2,3<br>I can apply the understanding of shape and space when describing the position of a range of components or the direction of movement in a mechanical product. 1,2,3<br>I can apply the knowledge and understanding of skills in numbers, shape, space and measures through practical activities. 1,2,3 |

| ELG | Assessment criteria |
|---|---|
| Physical development<br>Fine motor skills | • Use a range of small tools, including scissors, paintbrushes and cutlery. |
| Expressive arts and design<br>Creating with materials | • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.<br>• Share their creations, explaining the process they have used. |
| Understanding the World | • Explore the natural world around them, making observations and drawing pictures of animals and plants.<br>• Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.<br>• Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. |
| Personal, Social and Emotional Development<br>Managing Self/Building Relationships | • Be confident to try new activities and show independence, resilience and perseverance in the face of challenge.<br>• Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices.<br>• Work and play co-operatively and take turns with others. |

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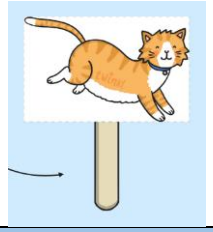
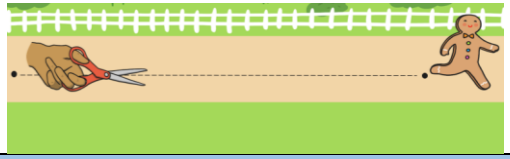
| Mathematics | • Compare quantities in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.<br>• Explore and represent patterns. |

# Year 1

| autumn | | |
|---|---|---|
| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Moving Pictures | • Year 1 children will be able to look at and discuss how a product is made up by de-composing a range of moving pictures/books. NC/D1.2<br>• They will be able to design a working product thinking about who it is for and what it needs. NC/D1.1<br>• They will be able to say which part of their picture will move. NC/D1.2<br>• They will be able to sketch their design and label it to show the mechanisms and materials. NC/D1.2<br>• Y1 children will be able to use a slider to make a picture move. NC/M1.1/1.2<br>• They will be able to measure and cut accurately to make a scene for a picture. NC/M1.1<br>• They will be able to fix a slider to the character that is going to move. NC/M1.1<br>• Y1 children will be able to explain what a slider mechanism is. NC/TK1.2<br>• They will be able to explain what the moving part does. NC/TK1.1/1,2<br>• Y1 children will be able to say what they did well. NC/E1.2<br>• They will be able to think about how they could improve their work. NC/E1.2<br>• They can explore and evaluate an existing product. NC/E1.1 | What type of measurement did you use for your slider?<br><br>What safety measures were involved in this project?<br><br>What is the correct name for these tools?<br><br>  <br><br>What is the correct name for this mechanism?<br><br>  <br>  |

| Spring | | |
|---|---|---|
| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Textiles – make a puppet | • Y1 children will be able to explore a range of puppets and how they are joined together to make them fit for purpose. NC/D1.1<br>• They will be able to develop their ideas using templates to create mock-ups. NC/D1.2<br>• They will be able to make simple drawings of existing products labelling the fabric, fastenings and techniques used. | Why is it important to look at other products before you start designing your product? How are they joined? How many parts is it made up of? How is it finished?<br><br>Why do we use puppets? |

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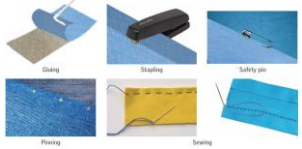
|---|---|---|
| | • Y1 children will be able to use prepared teaching aids (eg threading with boards) to demonstrate how to do a running stitch. NC/M1.1/1.2<br>• They will be able to use prepared teaching aids to demonstrate joining techniques e.g. running stitch including threading own needle. NC/M1.1<br>• They will be able to use tools safely and appropriately. NC/M1.1<br>• Y1 children will be able to explain what the purpose of their product will be. NC/TK1.1<br>• They will understand how to join fabrics using different techniques eg running stitch, glue, over stitch, stapling. NC/TK1.1<br>• They will know and use technical vocabulary related to the project. NC/TK1.1<br>• Y1 children will be able to say what they did well. NC/E1.2<br>• They will be able to identify strengths in their product choices and how they could improve these to refine their product in the future. NC/E1.2<br>• They can explore and evaluate an existing product. NC/E1.1 | Can you name 2/3 ways to join fabrics?<br>  <br>What is this tool called?<br>  <br>Is your puppet fit for purpose? How do you know this? |

# summer

| Unit of study | Key knowledge to assess<br>Investigative and evaluation (IEAs), focused tasks (FTs), design, make and evaluate assignment (DMEA) | Fast four questions |
|---|---|---|
| Sensational Salads/Fruit Kebabs | • Year 1 children will be able to name at least 5 different fruit or vegetables. C&N1.1/1.2<br>• They will know some fruit and vegetables grow underground and some above ground. C&N1.2<br>• They will taste a range of fruit and vegetables and explain what they like/dislike about them, including sensory characteristics. C&N1.1<br>• They understand that fruit and vegetables are one of the five food groups from the 'Eatwell guide'. C&N1.1<br>• They will understand and adhere to food hygiene rules when preparing food.<br>• They will know how to use equipment and tools safely.<br>• They will be able to use the 'bridge', 'claw' and 'fork secure' methods to prepare foods.<br>• They will understand there are a variety of ways to prepare foods e.g. chopping, grating, peeling, slicing and juicing.<br>• Children in year 1 will be able to carry out a survey to establish which ingredients are suitable for their design.<br>• They will be able to design their dish for a purpose/event and with a particular user in mind. | List 4 different hygiene rules that you need to follow before starting a food topic.<br>Can you name this type of grip?<br>  <br>Can you name a way to prepare fruit and vegetables?<br>Can you name some root vegetables?<br>Can you name a food group from the 'Eatwell guide'?<br>How many fruit and vegetables should we eat in a day? |

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| | • They will be able to sketch their design and list the equipment, tools, methods and ingredients they will use.<br>• They will be able to assemble and combine ingredients.<br>• They will be able to evaluate the end dish against their design specification saying what the user liked/disliked and how they could improve in the future. | |

# Year 2

| autumn | | |
|---|---|---|
| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Moving vehicles | • Year 2 children will be able to de-compose a range of vehicles to find out how they are constructed. They will be able to use construction materials to show examples of parts of a vehicle. NC/E1.1<br>• They will draw an example of a wheeled product, stating the user and purpose, and labelling the main parts e.g. body, chassis, wheels, axles and axle holders. NC/D1.1/1.2<br>• They will be able to use non-fiction books that include wheeled products to learn relevant vocabulary. NC/D1.2<br>• Y2 children will be able to select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. NC/M1.1<br>• They will be able to select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics. NC/M1.2<br>• Children in Y2 should be able to explain what each part of their vehicle is, using the technical vocabulary e.g. wheel, axle, axle holder, chassis, body, cab. NC/TK1.2<br>• They will be able to talk about how to use the equipment safely e.g. hacksaw, glue gun. NC/TK1.1/1.2<br>• They will be able to mark out, hold, cut and join materials and components correctly. NC/TK1.2<br>• Y2 children will be able to talk about the purpose of their vehicle e.g. emergency services, farming etc. NC/E1.2<br>• They will be able to test their vehicle to see if it is fit for purpose. NC/E1.2<br>• They will be able to say what they did well and what they could improve on in a future topic. NC/E1.2 | Can you explain what an axle is?<br><br>What is this tool and why do we need to use it?<br>  <br><br>Can you name 2 different types of equipment you used to join your vehicle e.g. split pins, glue guns, masking tape<br><br>Did your vehicle match your design criteria?<br><br>Did you make any changes to improve your vehicle?<br><br>What safety rules did you need to take into consideration during this topic? |

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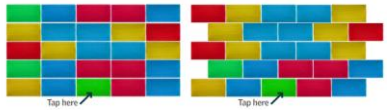
| | • They will be able to compare their finished product to their design to see if it matches the criteria. NC/E1.2<br>• Children can explore and evaluate an existing product, identifying features they like and dislike. NC/E1.1/1.2 | |

# spring

| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
|---|---|---|
| Design a playground structure | • They will be able to explore a range of playground equipment to find out how they are made and what makes them strong and suitable for the job it is used for.<br>• They will be able to look at a selection of reclaimed materials and decide what will be suitable, if it's appealing and if it's fit for the purpose. NC/D1.1<br>• They will be able to communicate their ideas through simple labelled drawings. NC/D1.2<br>• Y2 children will be able to choose the correct materials, according to their design criteria, to assemble a purposeful structure. NC/M1.2<br>• They will be able to consider safety and how to use tools appropriately e.g. scissors, glue guns. NC/M1.1<br>• They will be able to explore a range of joining techniques as they assemble their product. NC/M1.1/1.2<br>• Y2 children will be able to use accurate vocabulary relating to tools and equipment. NC/TK1.1/1.2<br>• They will understand that there are a range of joining techniques and be able to demonstrate these within their finished products. NC/TK1.1<br>• Y2 children will be able to test their structure to seen if it is fit for purpose. NC/E1.2<br>• They should be able to make improvements to the product and say why they made the improvements. NC/E1.1/1.2 | What is a free-standing structure?<br>What is this type of a join called?<br>  <br>Can you name this tool and explain what it is used for?<br>  <br>Which one of these structures would be stronger? Can you explain why?<br>  <br>What does the word stability mean?<br>What safety rules did you need to take into consideration during this project?<br>Was your end product 'fit for purpose'?<br>How important is it to evaluate your finished product? |

| summer | | |
|---|---|---|
| Unit of study | Key knowledge to assess<br>Investigative and evaluation (IEAs), focused tasks (FTs), design, make and evaluate assignment (DMEA) | Fast four questions |
| Dips and dippers | • Y2 children will be able to use their senses to explore different types of dips and talk about what they liked and disliked about each one. NC/C&N1.1<br>• They will know how the dips are made up, where the ingredients come from and how they are grown. NC/C&N1.2<br>• They will be able to explore what makes a healthy dip by using the 'Eatwell guide' to balance out their ingredients using the four main sections. NC/C&N1.1<br>• They will be able to think of the method and criteria they will need to follow to make their dip successfully. NC/C&N1.1<br>• Y2 children will consider the food hygiene rules before beginning the process of making their dips.<br>• They will use a variety of methods such as peeling, chopping, squeezing, crushing and mixing.<br>• They will use a range of tools and equipment safely and learn how to use the 'bridge', 'claw' and 'fork secure' method when holding the ingredients.<br>• They will be able to discuss the importance of creating a healthy, balanced dip, considering the food groups from the 'Eatwell guide'.<br>• They will understand why hygiene forms an important part in this topic.<br>• They will be able to use appropriate vocabulary for tools and equipment they are using.<br>• Y2 children will be able to create an annotated design of their own healthy dip, thinking carefully about the ingredients they will use and the tools and equipment they will require.<br>• They will be able to give an evaluation of their own and their peers dips by saying what they like and dislike about the taste, texture, smell and appearance of the product.<br>• They will be able to talk about what adjustments (if any) they would make, the next time they made the dip. | What method of cutting skills is being used in this picture?<br>  <br>Name 3 of the main food types on the 'eat well' plate.<br><br>Name 3 of the methods used to prepare the ingredients for use in your dip.<br>Can you explain the importance of hygiene when cooking?<br><br>What do we need to consider about ourselves before starting to use food products to cook? |

# Year 3

| autumn | | |
|---|---|---|
| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Design and build your own rollercoaster | • Y3 children will be able to explore a range of different roller coaster structures through videos or non-fiction books to find out how they are made up. NC/D1.1<br>• They will be able to research a key individual and the impact they have had on innovation and design in the development of roller coasters. NC/E1.3<br>• They will be able to build a prototype of areas of the structure to identify what materials would be appropriate for the purpose and identify how to join the materials together for the structure. NC/D1.2<br>• They will be able to draw and label their design and list the materials they require. NC/D1.2<br>• Y3 children will be able to use a unit of measurement accurately when thinking of where materials need to be cut and joined. NC/M1.1<br>• They will be able to use a range of tools safely and with precision. NC/M1.1<br>• They will be able to demonstrate their knowledge of different joining techniques to build up their structure. NC/M1.2<br>• Y3 children will be able to use technical vocabulary relating to a range of joining techniques e.g. flange, stick, slot, brace, tabs, tie, split pin. NC/TK1.2<br>• They will be able to explain the importance of using tools safely. NC/TK1.2<br>• They will be able to use the correct terminology for a range of tools and equipment they have used. NC/TK1.2<br>• They will be able to talk about how they can strengthen and reinforce their structure. NC/TK1.1<br>• Y3 children will be able to talk about existing designs and what they feel is good about it and what they might improve on when they build their structure. NC/E1.1<br>• They will be able to modify their design and identify how they could make a particular material stronger to hold their structure for the purpose intended. NC/E1.2<br>• They will be able to test their finished product and explain what worked well and how it could be improved. NC/E1.2<br>• They will be able to compare their completed structure to their design and see if it matches. NC/E1.2<br>• They will be able to state if their structure is 'fit for purpose'. NC/E1.1/1.2 | Who is Michelle Hicks?<br>What well known theme park and zoo did she work at?<br>What is a prototype?<br>What do you need to consider as support to elevate your structure?<br>What did you use to measure accuracy of parts of your structure?<br>What joining techniques did you use?<br>What safety rules did you need to consider?<br>Was your structure fit for purpose?<br>How could you improve your structure?<br>How did research of existing structures help you in designing your rollercoaster?<br>Can you name any key designers of rollercoasters? |

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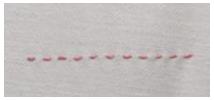
| | • They will be able to talk about key individuals who helped design roller coasters and research a range of theme parks. NC/E1.3 | |
| **spring** | | |
| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Sewing bee – felt craft activity | • Y3 children will be able to explore a range of fabrics to identify what would be suitable for the purpose. NC/D1.1<br>• They will be able to identify what joining techniques they will use to join the fabric together. NC/D1.1<br>• They will be able to draw their design and annotate the fabric, techniques and detail they will use. NC/D1.2<br>• Y3 children will be able to use a template to draw around and cut out the material accurately. NC/M1.1/1.2<br>• They will be able to use running stitch to join 2 pieces of material together using a safety needle and thread. NC/M1.2<br>• They will be able to use a range of joining techniques to add detail to the product. NC/M1.1/1.2<br>• Y3 children will be able to use technical vocabulary relating to textiles e.g. template, felt, running stitch, joining, thread, needle, fabric, fabric glue, sequins etc. NC/TK1.1<br>• They will be able to talk about how they started their running stich and how to finish off e.g. knot thread or make 2-3 stitches in back of material. NC/TK1.1<br>• They will be able to talk about how they used a 'template' to 'mark out' their product before using 'scissors' to 'cut out' their product. NC/TK1.1<br>• They will understand the importance of using tools safely.<br>• Y3 children will be able to talk about the purpose of their product. NC/E1.2<br>• They will be able to say what went well for them and how they could improve. NC/E1.2<br>• They will be able to scrutinise their product to see if it is 'fit for the purpose intended'. NC/E1.2<br>• They will be able to talk to a friend and discuss their likes and dislikes of their product. NC/E1.2 | What do we call this type of stitch?<br>  <br>What did you need to use to draw around to get the shape of your bee on the fabric?<br>Can you name the fabric you used for your product?<br>How do you start/finish off your stitches?<br>What safety rules did you need to consider during this project?<br>Was the intended outcome achieved and was the product fit for purpose?<br>What does the word 'evaluate' mean and how important is it to do this? |

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|---|---|---|
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| summer | | |
| Unit of study | Key knowledge to assess<br>Investigative and evaluation (IEAs), focused tasks (FTs), design, make and evaluate assignment (DMEA) | Fast four questions |
| Seasonal cooking (using a heat source) Vegetable kebabs Cous Cous sald | • Y3 children will be able to investigate a range of foods provided for them, food from a visit to a local shop. Link to the principles of a varied and healthy diet using 'The Eatwell Guide' e.g. What ingredients have been used? Which food groups do they belong to? What substances are used in the products e.g. nutrients, water and fibre?<br>• Carry out sensory evaluations on the contents of the food. Record results, for example using a table. Use appropriate words to describe the taste/smell/texture/appearance e.g. How do the sensory characteristics affect your liking for the food?<br>• Find out how a variety of ingredients used in products are grown and harvested, reared, caught and processed e.g. Where and when are the ingredients grown? Where do different meats/fish/cheese/eggs come from? How and why are they processed?<br>• Y3 children will learn to select and use a range of utensils and use a range of techniques as appropriate to prepare ingredients hygienically including the bridge and claw technique, grating, peeling, chopping, slicing, mixing, spreading.<br>• They will practise food preparation and cooking techniques by making a food product using an existing recipe.<br>• They will discuss basic food hygiene practices when handling food including the importance of following instructions to control risk e.g. What should we do before we work with food? Why is following instructions important?<br>• Y3 children will discuss the purpose of the products that they will be designing, making and evaluating and who the products will be for.<br>• They will develop and agree on design criteria within a context that is authentic and meaningful. This can include criteria relating to healthy eating and a varied diet e.g. What do you need to consider to make it part of a balanced diet? How do we select the ingredients? How could we make it appealing to eat? • children should generate a range of ideas encouraging realistic responses.<br>• They will use discussion, annotated sketches and information and communication technology if appropriate, to develop and communicate their ideas.<br>• They will consider the main stages in making the food product, before preparing/cooking the product including the ingredients and utensils they will need. | Can you name the five food groups related to the 'Eatwell Guide'?<br>Which food group is the largest from the 'Eatwell Guide'?<br>How many portions of fruit and vegetables should you have each day?<br>Can you name at least 5 different food skills you need to know for preparing food? E.g. cutting, grating, juicing, peeling, rubbing-in, measuring<br>Can you name at least 3 different rules you need to adhere to before preparing food? E.g. tie long hair back, wash hands, wear an apron, take off jewellery, get ingredients<br>Can you name 3 seasonal foods that grow in the summer time? |

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| | • They will evaluate as the assignment proceeds and the final product against the intended purpose and user, reflecting on the design criteria previously agreed. They should onsider what others think of the product when considering how the work might be improved. | |

# Year 4

| autumn | | |
|---|---|---|
| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Mechanical posters | • Year 4 children will be able to research and explore a range of different mechanisms and identify what parts are moving. NC/D1.1<br>• They will be able to research a key individual and the impact they have had on innovation and design in the development of mechanical posters. NC/E1.3<br>• They will be able to discuss design criteria by thinking of who the poster is for. NC/D1.1<br>• They will be able to provide an annotated design model that includes levers and linkages. NC/D1.2<br>• They will be able to include features from their design criteria when creating their sketches. NC/D1.2<br>• Year 4 children will be able create a prototype based on their design criteria. NC/M1.1<br>• They will be able to choose the correct tools and equipment to make their poster. NC/M1.1/1.2<br>• They will be able to use tools accurately to cut, shape and join paper and card together. NC/M1.1<br>• They will be able to introduce new materials and techniques into their product to create a high quality finish. NC/M1.2<br>• Year 4 children will be able to explain the difference between a lever and a linkage. NC/TK1.2<br>• They will be able to accurately name tools and equipment they have selected. NC/TK1.2<br>• They will understand when it is appropriate to use a fixed pivot and when to use a loose pivot. NC/TK1.2<br>• They will be able to talk about the functionality of their mechanical poster using the correct technical vocabulary. | Who is Tom Eckersley and what was he famous for?<br>Can you name any of his poster designs?<br>What is a lever?<br>What is a linkage?<br>What is the difference between a loose pivot and a fixed pivot?<br>What did you use to join your levers together to make the movement?<br>What did you enjoy the most about this project?<br>What new skills did you learn during this project?<br>Did your end product match your design specification? |

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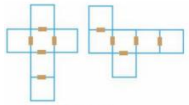
| | • Year 4 children will be able to consider the views of others in order to improve their product. NC/E1.2<br>• They will be able to identify what new skills they have learned through the making process. NC/E1.2<br>• They will be able to evaluate their ideas and product against their own design criteria and that of the main design technology principles. NC/E1.1/1.2 | |
| **spring** | | |
| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Shell Structures | • Year 4 children will be able to develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. NC/D1.2<br>• They will be able to compare existing products to that of 3D net shapes and explore how they have been created and decide what shape is suitable for their structure.<br>• They will be able to generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product.<br>• They will be able to use technical vocabulary and label their design appropriately.<br>• They will be able to investigate what type of materials will be suitable for their structure and how they could strengthen it.<br>• Year 4 children will be able to order the main stages of their making.<br>• They will be able to select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. NC/M1.1<br>• They will be able to practise making nets out of card, joining flat faces with masking tape to create 3D shapes.<br>• They will be able to demonstrate the skills and techniques of scoring, cutting and joining.<br>• They will be able to use different ways of stiffening and strengthening their shell structures e.g. folding and shaping, corrugating, ribbing, laminating.<br>• They will be able to use finishing techniques suitable for the product they are creating.<br>• Year 4 children will be able to develop and use knowledge of how to construct strong, stiff shell structures.<br>• They will be able to develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.<br>• Know and use technical vocabulary relevant to the project.<br>• They will be able to explain how a 'shell structure' can be strengthened by choosing a suitable material or by reinforcing it with the use of ribs to the outer layer. | When assembled what will the 3D shape of these nets be?<br>  <br>Nets for cubes<br><br>Can you name one way you can stiffen or strengthen a structure?<br>What is the reason for scoring a material?<br>What is the difference between a cube and a cuboid?<br>What is meant by the term 'shell structure'?<br>What is this tool called and what is its purpose?<br>  |

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| | • Year 4 children will be able to investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used.<br>• They will be able to test and evaluate their own products against design criteria and the intended user and purpose. | |
| **summer** | | |
| Unit of study | Key knowledge to assess<br>Investigative and evaluation (IEAs), focused tasks (FTs), design, make and evaluate assignment (DMEA) | Fast four questions |
| Seasonal cooking (edible garden) | • Year 4 children will be able to name a range of herbs and understand how they grow.<br>• They will be able to identify which foods from the 'Eatwell guide' they should be eating more and less of.<br>• They will be able to explain the benefits of eating fruit, vegetables and carbohydrates.<br>• They will be able to talk about where some fruits and vegetables grow and when they are in season.<br>• Year 4 children will be able to measure ingredients using scales/measuring jugs.<br>• They will be able to use a range of methods to prepare ingredients for their dish e.g. bridge, claw, fork secure, mashing, crushing<br>• They will be able to use a heat source (appropriate to the task) to cook a dish.<br>• They will be able to follow a recipe.<br>• Year 4 children will be able to design a 'balanced dish' that is purposeful for the user.<br>• They will be able to sketch and annotate their design specification and list the ingredients, tools and equipment they will require.<br>• They will be able to talk about the method and skills they followed throughout the process.<br>• They will be able to present a critical evaluation to a friend about what they like/dislike, what they would/could change in a future recipe. | Can you name 3 different herbs?<br>Name the tool…<br>  <br>What is a recipe?<br><br>Name 3 different skills you have learned during this project.<br><br>What is a heat source?<br><br>What type of heat source did you use for your project?<br><br>What would you use this tool for?<br>  |

# Year 5

| autumn | | |
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| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Textiles – sewing (phone cases) | • Year 5 children will be able to generate their own ideas through researching similar products. NC/D1.1<br>• They will use research methods to look at a key individual and the impact they have had on innovation and design in textiles. NC/E1.3<br>• They will be able to discuss their design ideas with others, draw annotated sketches of their product including computer-aided design (CAD) ideas. NC/D1.2<br>• They will be able to design a purposeful, functional product based on a simple design specification. NC/D1.2<br>• Year 5 children will be able to produce a detailed list of equipment and fabrics relevant to their task. NC/M1.1/1.2<br>• They will be able to select from and use a range of tools and equipment to make products that are accurately assembled and well finished. NC/M1.1/1.2<br>• They will be able to use their cutting skills to cut out accurate templates. NC/M1.2<br>• They will be able to use accurate measuring, cutting and joining skills (including running and hemming stitch). NC/M1.1/1.2<br>• They should be able to demonstrate their developing skills of threading needles building upon earlier experiences. NC/M1.1/1.2<br>• They should be able to develop their skills in tacking by attaching wadding or stiffening to their product and learn how to start and finish off a row of stitches. NC/M1.1<br>• Year 5 children will be able to use technical vocabulary related to the topic e.g. pins, needles, thread, measuring tape, fabric scissors, sequins, buttons, computer aided design (CAD), computer aided manufacture (CAM), design, design criteria, innovative, prototype, seam, seam allowance, names of textiles and fastenings. NC/TK1.1/1.4<br>• They will be able to demonstrate that they can work safely with a range of tools and equipment appropriate to the topic.<br>• Year 5 children will be able to compare their final product to their original design specification. NC/E1.2 | Who is Sian Reekie and what is her business called?<br>Where does her inspiration come from?<br>What does CAD mean?<br>What is this type of stitch called..?<br>  <br>What are these?<br>  <br>Why is it important to create a design specification?<br>How did you evaluate your product? Against what type of criteria? |

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| | • They will be able to test their final product with the intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. NC/E1.2<br>• They will be able to communicate their evaluation in various forms e.g. writing for a purpose, give a well-structured oral evaluation, speaking clearly and fluently. NC/E1.1/1.2<br>• They will be able to talk about a range of designers/manufacturers of mobile phone covers/cases in the UK. NC/E1.3 | |
| spring | | |
| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| 3D Project (making a key-ring) | • Year 5 children will be able to explore a software program (Tinkercad) to enable them to create a simple design.<br>• They will familiarise themselves with the names of 2D and 3D shapes.<br>• They will be able to use research methods to enable them to choose a suitable design that will be fit for purpose.<br>• They will be able to plan the order of the main stages of 'making'.<br>• Year 5 children will be able to measure accurately making sure each letter touches to create a seamless 'join'.<br>• They will be able to use simulation to test out their structure.<br>• They will be able to explain their choice of materials according to the functional properties and aesthetic qualities.<br>• They will be able to select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy.<br>• Year 5 children will be able to develop and use knowledge of box and frame structures and, where appropriate, more complex 3D structures.<br>• They will be able to develop and use knowledge of how to construct strong, stiff frame structures.<br>• They will know and use technical vocabulary relevant to the topic.<br>• Year 5 children will be able to investigate and evaluate a range of frame structures including the materials, components and techniques that have been used.<br>. Test and evaluate their own products against design criteria and the intended user and purpose. | How will the purpose and user affect your design decisions?<br>How will you make sure your product functions as intended? |

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| **summer** | | |
| Unit of study | Key knowledge to assess<br>Investigative and evaluation (IEAs), focused tasks (FTs), design, make and evaluate assignment (DMEA) | Fast four questions |
| Bread<br>(Pizza slices) | • Year 5 children will be able to use research methods to identify important people and events in the past that have shaped the way bread is made and sold today.<br>• They will be able to carry out a sensory evaluation of a range of different breads analysing the texture, smell, appearance and flavour and record their results.<br>• Year 5 children will be able to demonstrate how to measure out, cut, shape and combine ingredients e.g. rub, knead, beat and mix.<br>• They will be able to follow a basic recipe, demonstrating the techniques and skills required.<br>• They will be able to identify which ingredients they could change in a recipe, taking into consideration texture, taste, appearance and smell.<br>• They will be able to use a heat source, including controlling the temperature, with safety in mind.<br>• Year 5 will be able to use the results from their sensory evaluation to design a type of bread based on preferences of the user.<br>• They will be able to provide a step-by-step recipe of ingredients, method, tools and equipment.<br>• They will be able to evaluate their product as it progresses and the final product against their design criteria and the intended purpose, making changes (if necessary). | What is the technique used to prepare the dough?<br><br>Can you name at least 3 different types of bread?<br><br>What is the correct terminology for the 'rising' process?<br><br>Name at least 3 different techniques you used to prepare vegetables when making your pizza wheels. |

# Year 6

| autumn | | |
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| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Textiles – sewing Christmas decoration | • Year 6 children will be able to set an authentic and meaningful design brief. They should generate ideas by carrying out research using e.g. surveys, interviews, questionnaires and the web. They will develop a simple design specification for their product. NC/D1.1<br>• They will be able to research a key individual and the impact they have had on innovation and design of Christmas decorations and themed textile products. NC/E1.3<br>• They will be able to communicate ideas through detailed, annotated drawings from different perspectives and/or computer- aided design. Drawings should indicate design decisions made, the methods of strengthening, the type of fabrics to be used and the types of stitching that will be incorporated. NC/D1.2<br>• They will be able to produce step-by-step plans, lists of tools equipment, fabrics and components needed. Allocate tasks within a team if appropriate. NC/D1.2<br>• They will make high quality products applying knowledge, understanding and skills. NC/D1.2<br>• They should use a range of decorating techniques to ensure a well-finished final product that matches the intended user and purpose. NC/D1.2<br>. Year 6 children will be able to develop the skills of threading needles and joining textiles using a range of stitches building upon earlier experiences of stitches e.g. improving appearance and consistency of stitches and introducing new stitches. NC/M1.1<br>. They will develop skills of sewing textiles by joining right side together and making seams. They should investigate how to sew and shape curved edges by snipping seams, how to tack or attach wadding or stiffening and learn how to start and finish off a row of stitches. NC/M1.1<br>. They will develop skills of 2D paper pattern making using grid or tracing paper to create a 3D dipryl mock-up of a chosen product. NC/M1.1/1.2<br>. They will know how to pin a pattern on to fabric ensuring limited wastage, how to leave a seam allowance and different cutting techniques. NC/M1.1/1.2<br>• They will be able to produce a detailed list of equipment and fabrics relevant to their task. NC/M1.2 | Who is Gisella Graham?<br>What is the name of the long standing London Graham stockist?<br>Can you name at least 3 different fasteners? (depending on what has been researched and taught)<br>  <br>Can you name 2 different stitches you have used to join your fabric together?<br>Why is it important to have a seam allowance? (15mm for domestic patterns)<br>Can you explain how to start and finish off your stitches?<br>What safety regulations should be adhered to when working on a project such as this? |

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| | • They will be able to select from and use a range of tools and equipment to make products that are accurately assembled and well finished. NC/M1.1<br>• Year 6 children will be able to use technical vocabulary related to the topic e.g. seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype. NC/TK1.1<br>• They should know that fabrics can be strengthened, stiffened and reinforced where appropriate. NC/TK1.1<br>• They should know that a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. NC/TK1.4<br>• Year 6 children will be able to compare their final product to their original design specification. NC/E1.2<br>• They will be able to test their final product with the intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose. Is the product functional or decorative? Who would use the product? What is its purpose? What design decisions have been made? Do the textiles used match the intended purpose? What components have been used to enhance the appearance? To what extend is the design innovative? NC/E1.1/1.2<br>• They will be able to communicate their evaluation in various forms e.g. writing for a purpose, give a well-structured oral evaluation, speaking clearly and fluently. NC/E1.2<br>• They will be able to talk about specific designers and manufacturers of bird hides in the UK. NC/E1.3 | |

| spring | | |
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| Unit of study | Key knowledge to assess<br>design, make, technical knowledge, evaluate | Fast four questions |
| Make something out of wood (Bird hide) | • Year 6 children will be able to use research methods into existing products taking into consideration who the intended user will be? What will be the purpose of the structure? Will it be a permanent structure or can it be dismantled? What materials will be used? How will it be joined? How will be it reinforced? How will it be finished? NC/D1.1<br>• They will be able to produce sketches that are annotated with notes to develop and communicate their ideas. NC/D1.2<br>• They will be able to produce a step-by-step plan, listing tools and materials they will require. NC/D1.2<br>• Year 6 children will be able to model their ideas first by using paper, card, straws etc to develop their understanding of stability, strength and weakness and how they can improve their design. NC/M1.2<br>• They will develop their understanding of square and triangular frameworks by using diagonals on a square framed structure to add strength. NC/M1.1/1,2<br>• They will competently select tools to measure, cut and join with precision and accuracy. NC/M1.1<br>• They will use finishing and decorative techniques suitable for their finished product. NC/M1.1/1.2<br>• Year 6 children will understand how to strengthen, stiffen and reinforce 3-D frameworks. NC/TK1.1<br>• They will be able to use technical vocabulary related to the project e.g. frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, bench hooks, G-clamp, junior hacksaws. NC/TK1.1/1.4<br>• They will be able to develop their skills and techniques of using junior hacksaws, G-clamps, bench hooks, measuring to construct a wooden frame.<br>• Year 6 children will be able to regularly evaluate their product throughout the making process, drawing on their design specification and thinking about the intended use and purpose. NC/E1.2<br>• They will be able to critically evaluate their product, identifying strengths and areas for development. NC/E1.2<br>• They will be able to test out their finished product to identify if it is 'fit for purpose' and evaluate it against the 6 main design and technology principles using the DT model and scoring system. NC/E1.2 | What is the difference between a permanent structure and a dismantled structure?<br>What does stability mean and how can you achieve this in your project?<br>What is this tool called and why would we use it?<br>  <br>What tool did you use to measure out your materials?<br>How did you join your structure together? |

| summer | | |
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| Unit of study | Key knowledge to assess<br>Investigative and evaluation (IEAs), focused tasks (FTs), design, make and evaluate assignment (DMEA) | Fast four questions |
| Seasonal/cultural cooking | • Year 6 children will be able to use research methods to identify personal/cultural needs, being able to meet dietary needs and the availability of locally sourced/organic/seasonal ingredients.<br>• They will be able to carry out a sensory evaluation of a range of food products (appropriate to the project) including herbs, spices, vegetables or cheese and produce a graph/chart to show their results.<br>• Year 6 children will be able to demonstrate how to measure out, cut, shape and combine ingredients e.g. rub, knead, beat and mix.<br>• They will be able to accurately follow a basic recipe, demonstrating the techniques and skills required.<br>• They will be able to identify which ingredients they could change in a recipe, taking into consideration texture, taste, appearance and smell.<br>• They will be able to use a heat source, including controlling the temperature, with safety in mind.<br>• Year 6 will be able to develop a design brief that is authentic and meaningful, nutritional and healthy.<br>• They will be able to generate innovative ideas through research eg class surveys, ICT, based on the user and purpose of the dish.<br>• They will be able to provide a step-by-step recipe of ingredients, method, tools and equipment they will require for the dish they will cook.<br>• They will be able to evaluate the dish as it progresses and the final product against their design criteria and the intended purpose, making changes (if necessary). | What is meant by a 'sensory evaluation'?<br><br>Name this technique of cooking…<br>    <br><br>What unit of measure was used to measure out ingredients?<br><br>Can you explain what 'seasonal' ingredients mean?<br><br>Why is it important to find out information about specific dietary needs?<br><br>What is meant by 'locally sourced' ingredients?<br><br>What information should a recipe contain?<br><br>When using a heat source what safety rules need to be adhered to? |