#### EYFS - Nursery

#### 0 - 3 yrs

Explore different materials, using all their senses to investigate them. Manipulate and play with different materials.

- Use their imagination as they consider what they can do with different materials.
- · Make simple models which express their ideas.

#### 3 - 4yrs

Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.

- . Explore different materials freely, in order to develop their ideas about how to use them and what to make.
- $\cdot$  Develop their own ideas and then decide which materials to use to express them.
- · Join different materials and explore different textures.

#### EYFS - Reception

Return to and build on their previous learning, refining ideas and developing their ability to represent them.

Create collaboratively sharing ideas, resources and skills.

#### ELG

Safely use and explore a variety of materials, tools and techniques, Share their creations, explaining the process they have used

#### **End Point**

To explain what they have done.

To know the names of common food products.

To know that it is important to wash our hands before handling food.

To know how to use scissors, glue, tape, split pins.

To know that different materials can be used to make a model.

To know how to use scissors safely to cut fabric.

To explain the process, they have used to make their creations.

End Point:	End Point:	End Point:
To refine their design as their work p	rogresses. To refine their design as their work p	rogresses. To know the names of simple utensils e.g knife,
To know that materials can be joined	in different To continue to use scissors with prec	ision, accuracy chopping board, bowl, spoon, peeler.
ways.	and independence	To know how to chop, peel and squeeze.
	To know how to shape textiles using	templates To know how to slice food safely using the bridge or
	To know how to use a needle safely a	and practise claw grip.
	threading it.	
	To know how to thread a needle.	
	To know how to join fabrics using dif	ferent techniques
	e.g. gluing, stapling, pinning and a ru	nning stitch. To
	use appropriate finishing techniques	to decorate a
	product	
	product	

#### Strand: Structures (Make a Tudor house) Explore:

 Explore structures such as buildings, walls, etc. Compare this with what we have learnt about Tudor houses – what materials were they made from, how were they built?

#### **Focused Practical Tasks:**

- Build and explore a variety of freestanding structures using construction kits, such as wooden blocks, interconnecting plastic bricks and those that make frameworks
- Fold paper or card in different ways to make freestanding structures. Think about how folding materials can make them stronger, stiffer, stand up and be more stable

#### Design & Make:

- Draw & label their design for a model of a Tudor house. Generate some simple design criteria with the children
- Work in groups to make their model, helping each other with cutting, joining, etc, discuss how to make it stable and strong. Refine their design as their work progresses.

#### **Evaluate:**

 Evaluate their finished model against their design criteria. Was it successful?
 Is it stable, does it stand up?

#### Strand: Textiles (Make an eye patch) Explore:

 Introduce the brief: to design and make an eye patch for a pirate. Bridge back to last year when they made a bag for Mary Seacole. Decide on the most appropriate materials for making an eye patch

#### **Focused Practical Tasks:**

- Practise drawing round and cutting out from a template (cardboard) on to paper.
- Demonstrate appropriate examples of joining techniques e.g. running stitch, stapling, lacing and gluing

#### **Design & Make:**

- Research ideas for eye patch designs.
   Draw their design and label the elements, including the decoration.
- Draw round their template on to their chosen fabric, secure template first. Then cut out carefully. Follow their design to make their eye patch. Refine their design as their work progresses.

#### **Evaluate:**

 Evaluate their finished product, what improvements could they make?

### Strand: Food (Make dips & dippers) <a href="Explore: 2.5"><u>Explore:</u></a>

 Discuss difference between fruit and vegetables. Discuss and explore vegetables, those that grow above ground and those that grow underground (root vegetables). Also discuss those that grow in Britain and those that grow abroad, exploring reasons for this.
 Introduce the idea of dips and crudités (dippers)

#### **Focused Practical Tasks:**

- Practise methods of preparation, including food hygiene and the need to wash fresh produce. Bridge back to last year – who can remember how to chop safely? Practise using a peeler and chopping using the bridge hold. Taste the vegetables they have prepared, compile of list of their favourites.
- Taste test a selection of dips and evaluate, which was their favourite?
   Look at dips from around the world –
   humus, guacamole, raita, salsa, etc.
   Discuss the countries they come from and locate on a map.
   Vote for the class favourite. Look at the list of ingredients to gain information for the "class dip" they are going to make.

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End Point:	End Point:	End Point:
To refine their design as their work	To refine their design as their work progresses.	To know the names of simple utensils e.g
progresses.	To continue to use scissors with precision,	knife, chopping board, bowl, spoon, peeler.
To know that materials can be joined in	accuracy and independence	To know how to chop, peel and squeeze.
different ways.	To know how to shape textiles using templates	To know how to slice food safely using the
	To know how to use a needle safely and practise	bridge or claw grip.
	threading it.	
	To know how to thread a needle.	
	To know how to join fabrics using different	
	techniques e.g. glueing, stapling, pinning and a	

running stitch. To use appropriate finishing

techniques to decorate a product

### Strand: Food (Sandwich for a railway worker) Explore:

• Investigate a range of food products
Link to the principles of a varied and
healthy diet using *The Eatwell plate*Gather information about existing
products available relating to your
product. Find out how a variety of
ingredients used in products are grown
and harvested, reared, caught and
processed.

#### **Focused Practical Task:**

 Food preparation and cooking techniques practised by making a food product using an existing recipe. Eg. Sandwich, wrap, pitta pocket

#### Design & Make:

- Introduce the design brief to make a "sandwich" for a railway worker.
   Develop and agree on design criteria with the children within a context that is authentic and meaningful.
- Consider the main stages in making the food product, before preparing/cooking the product including the ingredients and utensils they will need.
   Make their chosen "sandwich" following their own design. Refine their work as it progresses through continual evaluation.

#### **Evaluate:**

 Evaluate as the assignment proceeds and the final product against the intended purpose and user.

### Strand: Textiles (Make a Stone Age tunic) <a href="Explore: 2">Explore:</a>

 Investigate a range of textile products that have a selection of stitches, joins, fabrics, finishing techniques, fastenings. Give children the opportunity to disassemble appropriate textiles products to gain an understanding of 3-D shape, patterns and seam allowances.
 Compare to Stone Age clothing, needles, fabrics4

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#### **Focused Practical Task:**

- Provide a range of fabrics children to consider whether fabrics are suitable for the chosen purpose and user.
- Demonstrate a range of stitching techniques

   running stitch, over stitch and allow
   children to practise sewing two small pieces
   of fabric together, demonstrating the use of, and need for, seam allowances.
- Create a "mock-up" of their tunic design out of paper – this can then be disassembled and used as a paper template for their tunic.

#### Design & Make:

- Use what they have learnt in the FPT to inform their design. Discuss the intended user and purpose of their design. Sketch and annotate their design. Produce a flowchart or storyboard showing the main stages of making.
- Use their previous template or produce a paper template, mark out and cut their fabric (make sure they include a seam allowance) and join together using their chosen stitch.

## Strand: Structures (Make a moving scarab beetle) <a href="Explore: Explore: "Explore: "Explore:

 Children investigate, analyse and evaluate books and, where available, other products which have a range of lever and linkage mechanisms.

#### **Focused Practical Task:**

 Demonstrate a range of lever and linkage mechanisms to the children using prepared teaching aids.

#### Design & Make:

- Using annotated sketches and prototypes, ask the children to develop, model and communicate their ideas to fit the brief. Carefully consider how the beetle's wings are going to move. Ask the children to consider the main stages in making before assembling. (create an individual or class flowchart for the main stages of making)
- Construct their moving beetle following their design and flowchart and using what they learnt through the FPTs. Refine their work as it progresses through continual evaluation.

#### **Evaluate:**

 Evaluate how successful their design was, did their beetle move as intended, what improvements could they make?

	Refine their work as it progresses through continual evaluation.  Evaluate:  Evaluate their completed design, did it meet	
End Point: To refine their work and techniques as it progresses, through continual evaluation To know how to use an increasing range of food preparation skills E.g., kneading and measuring liquids. To know how to safely use hot appliances e.g wearing oven gloves. To know how to prepare ingredients appropriately.	the criteria, is there anything they would change?  End Point: To refine their work and techniques as it progresses, through continual evaluation To use appropriate stitching to join textiles e.g. back stitch, over stitch To use appropriate fabrics and fastenings according to their function. To understand and demonstrate how to thread a needle. To understand the need for patterns and seam allowance To use a range of finishing techniques to decorate a product.	End Point: To refine their work and techniques as it progresses, through continual evaluation To know that a net is a flat 2D shape that can become a 3D shape once assembled. To know that materials can be manipulated to improve strength and stiffness. To know how to use increasingly complex levers and linkages using fixed and loose pivots.

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# Strand: Structures & Mechanisms (Make a Roman trinket box) Explore:

- Investigate a collection of different shell structures including cardboard & wooden boxes if possible. Children take a small package carefully apart identifying and discussing parts of a net including the tabs. Know that a net is a flat 2D shape that can become a 3D shape.
- Evaluate existing products to determine which designs children think are the most effective. Discuss graphics including colours/impact of style/logo/size of font. Introduce the brief – to make a Roman trinket box

#### **Focused Practical Task:**

- Children use kit parts with flat faces to construct nets (eg. Clixi). Practise making nets out of card, joining flat faces with masking tape to create 3-D shapes. Give opportunity to measure and mark out accurately (millimetres). Demonstrate skills and techniques of scoring, cutting out and assembling using pre-drawn nets. Then allow children to practise by constructing a simple box.
- Children discuss and explore the graphics techniques and media that could be used to achieve the desired appearance of their products.

### Strand: Textiles (Making a saxon purse) <a href="Explore: Explore: "Explore: Explore: "Explore: Explore: Explor

Children investigate a range of fabric purses.
Look at how the products have been
constructed, fastened and decorated. Think
about products from the past and what
changes have been made in textile
production and products. Look at examples of
Saxon purses and discuss the differences and
similarities

#### **Focused Practical Task:**

- Bridge back to last year when the children made Stone Age tunics – what stitch did you use? Demonstrate a running stitch, over stitch and blanket stitch and allow children to practise to ascertain the stitch they are most comfortable with. Ensure children are threading their own needle where possible.
- Bridge back to the previous terms work on shell structures and nets. Allow children time to create a mock-up of their purse out of paper- single piece, they can use this mock-up as a template for their design (ensure it is big enough to allow a seam allowance)
- Provide a range of fabrics children to consider whether fabrics are suitable for the chosen purpose and user.

#### Design & Make:

 Generate several design criteria to fulfil the brief, eg. It is made from one piece of fabric. It has to fasten. It has to appeal to a saxon child/adult. It has to be decorated. Then encourage children to formulate their own design criteria independently.

## Strand: Food (Making a Greek honey cake) <a href="Explore: 2.5"><u>Explore: 2.5"</u></a>

- Research foods the Ancient Greeks ate.
- Carry out a survey to find out the children's favourite cake.

#### **Focused Practical Task:**

- Practise measuring liquids and other ingredients, using grams and millilitres.
- Practise food preparation by making a food product using an existing recipe.make a Greek Honey Cake

#### Design & Make:

- Create a design brief using the information gained from the class survey. What was the class' favourite cake?
- Annotate the existing recipe, adapting it to fit the design brief.
- Make the class cake/s, including controlling the temperature of the oven, following everything they have learnt from the FPTs

#### **Evaluate:**

 Evaluate how the cake turned out, was it fit for purpose, was it suitable for the intended user? Consider what others thought

#### Design & Make:

- Discuss with the children the uses and purposes of their shell structures.
   Agree on design criteria that can be used to guide the development and evaluation of children's products
- Use annotated sketches and prototypes to develop, model and communicate their ideas for the product
- Make their trinket box, following their intended design. Refine their work as it progresses through continual evaluation.

#### **Evaluate:**

 Evaluate throughout and the final products against the intended purpose and with the intended user, drawing on the design criteria previously agreed.

- Sketch and annotate a range of possible ideas. Produce mock-ups and prototypes of their chosen product.
- Assemble their product using their existing knowledge, skills and understanding.
   Encourage children to think about the aesthetics and quality finish of their product, particularly the decoration

#### **Evaluate:**

 Evaluate and refine their work as it progresses.
 Does it meet their design brief, is it fit for purpose?

#### **End Point:**

To refine their work and techniques as it progresses, through continual evaluation
To know that a net is a flat 2D shape that can become a 3D shape once assembled.

To know that materials can be manipulated to improve strength and stiffness.

To know how to use increasingly complex levers and linkages using fixed and loose pivots.

#### **End Point:**

To refine their work and techniques as it progresses, through continual evaluation

To use appropriate stitching to join textiles e.g. back stitch, over stitch

To use appropriate fabrics and fastenings according to their function.

To understand and demonstrate how to thread a needle.

To understand the need for patterns and seam allowance

To use a range of finishing techniques to decorate a product.

#### **End Point:**

To refine their work and techniques as it progresses, through continual evaluation
To know how to use an increasing range of food preparation skills E.g., kneading and measuring liquids.

To know how to safely use hot appliances e.g wearing oven gloves.

To know how to prepare ingredients appropriately.

Strand: Structures & Mechanisms (Make a "machine" to stop the children crossing the train tracks or to lift a package up to the lighthouse)

#### **Explore:**

- Investigate, analyse and evaluate existing everyday products and existing or pre-made toys that incorporate gear or pulley systems. Use videos and photographs of products that cannot be explored through first-hand experience.
- Sketch and annotate drawings to demonstrate how the products work.

#### **Focused Practical Task:**

- Using a construction kit, investigate combinations of two different sized pulleys to learn about direction and speed of rotation
- Practise measuring, marking, cutting, shaping and joining skills using junior hacksaws, G-clamps, bench hooks, square section wood. Demonstrate the accurate use of tools and equipment.

#### Design & Make:

- Present the problem to the children (lighthouse/train track). Discuss together ideas for the design criteria – purpose, user, how it will work. Then individually or in groups create their own design criteria.
- Using this design criteria communicate their own ideas through detailed, annotated drawings from different views and/or exploded diagrams. The

### Strand: Textiles (make a bag) Explore:

 Investigate, analyse and evaluate a range of existing bags which have been produced by combining fabric shapes. Investigate work by designers and their impact on fabrics and products. Disassemble a product and evaluate what the fabric shapes look like, how the parts have been joined, how the product has been strengthen and stiffened, what fastenings have been used and why.

#### **Focused Practical Task:**

- Develop skills of threading needles and joining textiles using a range of stitches.
   Develop skills of sewing textiles by joining right side together and making seams.
   Children should investigate how to sew and shape curved edges by snipping seams and learn how to start and finish off a row of stitches.
- Develop skills of 2-D paper pattern making using grid or tracing paper to create a 3-D dipryl mock-up of a chosen product, from several pieces. Remind/teach how to pin a pattern on to fabric ensuring limited wastage, how to leave a seam allowance and different cutting techniques.
- Investigate using art packages on the computer to design prints that can be applied to textiles using iron transfer paper.

#### Design & Make:

 Children develop a simple design specification for their product. Communicate ideas through detailed, annotated drawings from

### Strand: Food( flatbread recipe) <a href="Explore: "Explore: "Explo

- Carry out relevant research into existing products to include personal/cultural preferences, ensuring a healthy diet, meeting dietary needs and the availability of locally sourced/seasonal/organic ingredients
- Carry out sensory evaluations of a variety of existing food products and ingredients relating to the project. Present results in e.g. tables/graphs/charts and by using evaluative writing.
- Research key chefs (link to Islamic civilisation) and how they have promoted seasonality, local produce and healthy eating.

#### **Focused Practical Task:**

 Demonstrate how to measure out, cut, shape and combine ingredients to make a flatbread (knead, beat, rub and mix ingredients) Practise following a basic recipe to make a flatbread. Ask questions about which ingredients could be changed or added to adapt the recipe, such as types of flour, seeds, garlic, vegetables. Consider texture, taste, appearance and smell.

#### Design & Make:

 Develop a design brief and simple design specification. Discuss the purpose of the products that the children will be designing, making and evaluating and who the products will be for.

- drawings should indicate the design decisions made, including the location of the mechanical components, how they work as a system with an input, process and output, and the appearance and finishing techniques for the product.
- Plan, step by step what they need to do, what materials and equipment they will need.
   Make their machine as per their design, making continual refinements as necessary.

#### **Evaluate:**

 Evaluate throughout and the final product in use, comparing it to the original design specification. Critically evaluate the quality of the design, the manufacture, functionality, innovation shown and fitness for the intended user and purpose.

- different perspectives and/or computeraided 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.
- Make a high-quality product from several pattern pieces, including a seam allowance, applying knowledge, understanding and skills from FPTs. Children use a range of decorating technique, including decorative stitches to ensure a well-finished final product that matches the intended user and purpose.

#### **Evaluate:**

 Evaluate both as the children proceed with their work and the final product in use, comparing the final product to the original design specification. Critically evaluate the quality of the design, the manufacture, functionality, innovation shown and fitness for intended user and purpose, considering others' opinions.  Use annotated sketches/exploded diagrams, discussion. Record the steps, equipment, utensils and ingredients for making the food product drawing on the knowledge, understanding and skills learnt through IEAs and FTs.

#### **Evaluate:**

 Evaluate the work as it progresses and the final product against the intended purpose and user reflecting on the design specification previously agreed.

#### **End Point**

To make continual refinements and on-going evaluations of their product.

To know that different materials have different properties and know how to select the most appropriate material for the given structure. I know how cams, pulleys or gears can be used to produce different types of movement. To know how to use a glue gun and hacksaw, sand paper.

#### **End Point**

To make continual refinements and on-going evaluations of their product.

To use a range of stitches neatly and accurately to join textiles and as a decorative finish e.g. cross stitch, backstitch.

To understand the need for patterns and seam allowance

To know that a 3D product can be made from a combination of pattern pieces.

#### **End Point**

To make continual refinements and on-going evaluations of their product.

To know what cross contamination means.

To know how to adapt a recipe to suit my personal taste.

# Strand: Structures & Mechanisms (make a model of a Viking longhouse) Explore:

- Investigate and make annotated drawings of a range of portable and permanent frame structures, e.g. tents, bus shelters, umbrellas.
- Children research frame structures related to Viking longhouses – what shape were they, what materials were used, how were they constructed.

#### **Focused Practical Task:**

- Compare the strength of 2D square frameworks with triangular frameworks using paper or plastic straws. Reinforce square frameworks using diagonals to help develop an understanding of using triangulation to add strength to a structure.
- Demonstrate how paper tubes can be made from rolling sheets of newspaper diagonally around pieces of e.g. dowel. Use these tubes and masking tape or paper straws with pipe cleaners to build 3-D frameworks such as cubes, cuboids and pyramids.
- Demonstrate the accurate use of tools and equipment. Develop skills and techniques using junior hacksaws, G-clamps, bench hooks, square section wood, card triangles and hand drills to construct wooden frames, as appropriate. Demonstrate skills and techniques for accurately joining framework materials together.

### Strand: Textiles (make slippers) Explore:

- Investigate, analyse and evaluate a range of existing products which have been produced by combining fabric shapes. Investigate work by designers and their impact on fabrics and products.
- Investigate and analyse how existing products have been constructed. Children disassemble a product and evaluate what the fabric shapes look like, how the parts have been joined, how the product has been strengthen and stiffened, what fastenings have been used and why.
- Investigate properties of textiles through investigation e.g. exploring insulating properties, water resistance, wear and strength of textiles.

#### **Focused Practical Task:**

- Develop skills of threading needles and joining textiles using a range of stitches. This activity must build upon children's earlier experiences of stitches e.g. improving appearance and consistency of stitches and introducing new stitches.
- Develop skills of sewing textiles by joining right side together and making seams.
   Children 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.
- Develop skills of 2D paper pattern making using grid or tracing paper to create a 3D dipryl mock-up of a chosen product from a

### Strand: Food (Mayan Chocolate project) **Explore**:

- Use first hand and secondary sources to carry out relevant research into existing products to include personal/cultural preferences, ensuring a healthy diet, meeting dietary needs and the availability of locally sourced /seasonal/organic ingredients Children carry out sensory evaluations of a variety of existing food products and ingredients relating to the project. Present results in e.g. tables/graphs/charts and by using evaluative writing.
- Use a range of questions to support children's ability to evaluate food ingredients and products
- Research key chefs and how they have promoted seasonality, local produce and healthy eating.

#### **Focused Practical Task:**

- Demonstrate how to measure out and combine e.g. beat, rub and mix ingredients. Demonstrate how to use appropriate utensils and equipment that the children may use safely and hygienically.
- Techniques could be practised following a basic recipe to prepare and cook a savoury food product. Ask questions about which ingredients could be changed or added in a basic recipe such as types of flour, seeds, garlic, vegetables. Consider texture, taste, appearance and smell.

#### Design & Make:

- Discuss the brief of designing and making a small-scale frame structure of a Viking. Children should be encouraged to generate innovative ideas, drawing on their research. Ask children to develop a simple design specification to guide their thinking.
- Produce a detailed, step-by-step plan, listing tools and materials.
- Model their ideas first using materials such as paper, card and paper straws.
   Regularly evaluate their work and their completed product, drawing on their design specification, and thinking about the intended purpose and user.

#### **Evaluate:**

 Evaluate their work and their completed product, drawing on their design specification, and thinking about the intended purpose and user. combination of pattern pieces. Remind/teach how to pin a pattern on to fabric ensuring limited wastage, how to leave a seam allowance and different cutting techniques.

#### Design & Make:

- Set an authentic and meaningful design brief (for slippers) Children develop a simple design specification for their product.
- 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.
- Produce step-by-step plans, lists of tools equipment, fabrics and components needed.
- Make high quality products applying knowledge, understanding and skills from IEAs and FTs. Incorporate simple computer-aided manufacture (CAM) if appropriate e.g. vinyl cutting or screen printing. Children use a range of decorating techniques to ensure a wellfinished final product that matches the intended user and purpose.

#### **Evaluate:**

 Critically evaluate the quality of the design, the manufacture, functionality, innovation shown and fitness for intended user and purpose, considering others' opinions.

#### **Design & Make:**

- Develop a design brief and simple design specification with the children within a context that is authentic and meaningful. This can include design criteria relating to nutrition and healthy eating.
- Discuss the purpose of the products that the children will be designing, making and evaluating and who the products will be for. Ask children to generate a range of ideas encouraging innovative responses. Agree on design criteria that can be used to guide the development and evaluation of the children's product.
- Using annotated sketches, discussion and information and communication technology if appropriate, ask children to develop and communicate their ideas. Ask children to record the steps, equipment, utensils and ingredients for making the food product drawing on the knowledge, understanding and skills learnt through IEAs and FTs.

#### **Evaluate:**

 Evaluate the work as it progresses and the final product against the intended purpose and user reflecting on the design specification previously agreed.

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To make continual refinements and on-going evaluations of their product.

To know that different materials have different properties and know how to select the most appropriate material for the given structure. I know how cams, pulleys or gears can be used to produce different types of movement. To know how to use a glue gun and hacksaw, sand paper.

#### **End Point**

To make continual refinements and on-going evaluations of their product.

To use a range of stitches neatly and accurately to join textiles and as a decorative finish e.g. cross stitch, backstitch.

To understand the need for patterns and seam allowance

To know that a 3D product can be made from a combination of pattern pieces.

#### **End Point**

To make continual refinements and on-going evaluations of their product.

To know what cross contamination means.

To know how to adapt a recipe to suit my personal taste.