<table>
<tr><th>YEAR 1</th><th>Design</th><th rowspan="2">Topic specific objectives</th><th>Tools and Materials</th><th>Skills</th><th>Technical Knowledge</th></tr>
<tr><td>Core Concepts</td><td>Brief - instructions for what a product should do/be
Preferences - likes and dislikes
Criteria - rules a designer or product must follow</td><td>Safety - stopping danger or harm
Hygiene - keeping products, people and materials clean
Purpose - the reason products are made or materials are used</td><td>Cutting - using sharp tools to make materials into smaller parts
Fixing - gluing, sewing and attaching
Holding - using tools and materials with your hands
Preparing - getting materials, tools & areas ready for work
Finishing - completing a product by adding the last pieces</td><td>Function - how a product or part moves or works</td></tr>
<tr><td rowspan="3"></td><td rowspan="3">Year 1:
Can make a choice between designs based upon their own preferences.
Can create a design based upon given criteria, with support.
Begins to use technology as a whole group to support the design process
Explain how their design choices have been made.</td><td>Food

Cycle A - Kandinsky

Cycle B – Kenyan Food</td><td>Year 1
Can use a small sharp knife to chop.
Can use a spoon to mix wet ingredients.
Can use hands to mix dry ingredients.
GD
Can select from a range of given tools and explain their choice with support</td><td>Year 1
Can chop soft foods using the bridge hold.
Can peel thick skinned foods by hand when peel has been started by an adult/knife cut.
GD
Can mix ingredients without excessive spillage.</td><td>Year 1
Name some foods which are healthy and unhealthy.
Know foods are grown and harvested.
Knows basic hygiene rules: washing hands before preparing food.
Knows how to use a small sharp knife safely with adult support.
Can choose appropriate tools based upon the ingredients from a given set.
Can make choices based upon their preferences.
GD
Knows and uses the correct technical vocabulary when discussing.</td></tr>
<tr><td>Textiles

Cycle A – Superhero puppet

Cycle B – Stuffed clown</td><td>Year 1:
To cut out a pattern in fabric with support
To use pins and needles safely with support
To attach two pieces of fabric together using a needle and thread
To attach embellishments using glue
GD - To select materials and tools to meet a design brief from a given selection</td><td>Year 1:
To use a range of cutting tools to cut their pattern accurately
To thread cotton through the eye of a needle and knot the end
with support
To fix 2 pieces of material together using pins with support
GD - To design a template to fit a given purpose independently</td><td>Year 1:
Chn know a stuffed toy must be sewn together and stuffed
Chn know a puppet must be big enough to fit a hand inside
Begin to know a paper pattern is needed to create a stuffed toy/puppet
To know that thread needs a knot at one end and to be threaded through the eye of the needle at the other with support
GD - To know to leave one side unsewn to allow for stuffing</td></tr>
<tr><td>Mechanisms and Materials

Cycle A - Trains

Cycle B – Moving toys</td><td>Year 1:
Can choose from 2/3 materials for a given purpose.
Can make holes for dowel/axles safely, with support.
Can dismantle a cardboard box.
Knows materials that can be secured with PVA glue.
Can strengthen a cardboard by layering, with support.
GD:
Completes a build/design successfully, with little support</td><td>Year 1
Can cut safely in a straight line.
Can attach materials to the dowel.
Can handle materials without damaging them with support.
Know how to apply glue to secure separate materials.
Can create a system of simple axles following a given design.
Can add a pulley and winder to an axle to create a simple mechanism with support.
Can decorate their final product based on a model
GD:
Makes a functioning axle that spins freely because it is mounted in an accurate way.</td><td>Year 1
Knows axles need to be mounted straight.
Know that some materials are not suitable for construction
To know a range of basic adhesives (PVA glue, Cellotape, Masking tape).
Can identify how a simple mechanism works.
GD:
Knows and uses the correct technical vocabulary when discussing their work.</td></tr>
<tr><td></td><td>Evaluating
Evaluate - give opinions about products, materials or ingredients
Modifications - changes to a product
Research - investigating to do with a product

Year 1:
Can give personal opinions about existing products.
Can say if a product meets given design criteria.
Can say what went well based upon their own opinions with support.
Begins to use technology to record preferences.
GD - Can suggest improvements, with support.</td><td colspan="3"></td></tr>
</table>

<table>
<tr><th>YEAR 2</th><th>Design</th><th rowspan="2">Topic specific objectives</th><th>Tools and Materials</th><th>Skills</th><th>Technical Knowledge</th></tr>
<tr><td>Core Concepts</td><td>Brief - instructions for what a product should do/be
Preferences - likes and dislikes
Criteria - rules a designer or product must follow</td><td>Safety - stopping danger or harm
Hygiene - keeping products, people and materials clean
Purpose - the reason products are made or materials are used</td><td>Cutting - using sharp tools to make materials into smaller parts
Fixing - gluing, sewing and attaching
Holding - using tools and materials with your hands
Preparing - getting materials, tools & areas ready for work
Finishing - completing a product by adding the last pieces</td><td>Function - how a product or part moves or works</td></tr>
<tr><td rowspan="3"></td><td rowspan="3">Year 2:
Can make a choice between a range of designs based upon their own preferences.
Can create a design based upon given criteria.
Can use technology as a whole group to support the design process.
Make alternative suggestions within their design brief.</td><td>Food

Cycle A - Fruit salad

Cycle B – Kenyan Food</td><td>Year 2
Can use a small sharp knife safely to chop fruits/vegetables into similar sizes
Can choose whether to use a spoon or their hands to mix wet and dry ingredients.
GD
Can select from a range of tools and explain their choice.</td><td>Year 2
Can chop soft foods using the fork secure hold.
Can peel thick skinned foods by hand.
Can mix ingredients using appropriate tools.
GD
Can add and mix ingredients without spillage.</td><td>Year 2
Know foods which are healthy and unhealthy.
Know foods are grown, harvested and manufactured.
Knows basic hygiene rules: clean hands and equipment, not touching face
Knows how to use a sharp knife safely.
Can choose appropriate tools based upon the ingredients.
Can make choices based upon their evaluations and preferences.
GD
Knows and uses the correct technical vocabulary when discussing and explaining.</td></tr>
<tr><td>Textiles

Cycle A – Superhero puppet

Cycle B – Stuffed clown</td><td>Year 2:
To cut out a pattern in fabric accurately
To use pins and needles safely
To attach two pieces of fabric together using running stitch
To attach embellishments using glue, stitches, staples
GD - To select materials and tools to meet a design brief based on ability</td><td>Year 2:
To select from and use a range of cutting tools to cut their pattern accurately
To thread cotton through the eye of a needle and knot the end
To fix 2 pieces of material together using pins
GD - Completes stitching mostly without adult support.</td><td>Year 2:
Chn know a stuffed toy must be sewn together, decorated and stuffed
Chn know a puppet must be big enough to fit a hand inside, sewn and decorated
To know a paper pattern is needed to create a stuffed toy/puppet
To know a paper pattern must be pinned before cutting round fabric
To know that thread needs a knot at one end and to be threaded through the eye of the needle at the other
To know to leave one side unsewn to allow for stuffing
GD - To know to not overstuff so that a stuffed toy can be closed neatly</td></tr>
<tr><td>Mechanisms and Materials

Cycle A - Trains

Cycle B – Moving toys</td><td>Year 2
Can choose from given materials for a given purpose.
Can safely and accurately make holes for dowels/axles.
Knows how to dismantle a cardboard box without tearing it.
Can explain why some materials can’t be secured with PVA glue.
Knows how to strengthen cardboard by layering.
GD:
Completes a build/design without damaging or having to remake parts due to error or inaccuracy</td><td>Year 2
Can cut safely in straight and curved lines.
Can thread and attach materials to the dowel.
Can handle materials without damaging them.
Know how to apply hot glue to secure separate materials with support.
Can create a system of simple axles.
Can add a pulley and winder to an axle to create a simple mechanism.
Can decorate their mechanism based on a theme
GD:
Makes a pair of functioning axles that spin freely because they are mounted in an accurate way.</td><td>Year 2
Knows axles need to be mounted straight to function.
Know that some materials need to be strengthened.
To know which basic adhesives (PVA glue, Cellotape, Masking tape) are best for a purpose.
Can explain how a simple mechanism works.
GD:
Knows and uses the correct technical vocabulary when discussing and explaining mechanisms.</td></tr>
<tr><td></td><td>Evaluating
Evaluate - give opinions about products, materials or ingredients
Modifications - changes to a product
Research - investigating to do with a product

Year 2:
Can give personal opinions about existing products with explanation.
Can say if a product meets design criteria.
Can say what went well based upon their own opinions.
Can use technology to record preferences.
GD - Can suggest possible improvements.</td><td></td><td></td><td></td><td></td></tr>
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YEAR 3	Design	Topic specific objectives	Tools and Materials	Skills	Technical Knowledge
Core Concepts	**Brief** - instructions for what a product should do/be **Preferences** - likes and dislikes **Criteria** - rules a designer or product must follow		**Safety** - stopping danger or harm **Hygiene -** keeping products, people and materials clean **Purpose** - the reason products are made or materials are used	**Cutting** - using sharp tools to make materials into smaller parts **Fixing** - gluing, sewing and attaching **Holding** - using tools and materials with your hands **Preparing -** getting materials, tools & areas ready for work **Finishing** - completing a product by adding the last pieces	**Function** - how a product or part moves or works
	Y3: Can create design criteria based on a given brief, with support or in a group. Can use given links/information to research to find existing products that meet design criteria. Can make a choice about their own designs based upon a range of preferences (own and others). Can use technology in a small group to support the design process, with adult direction. Know key individuals in design and technology that have helped shape the world. **Knows and is beginning to follow the stages of the design process independently.**	**Food** Cycle A - Cooking with chocolate Cycle B – Anglo-Saxon stews	Year 3: Can weigh and measure ingredients to multiples of 50 Can choose from a range of utensils to prepare food items (sharp knives included). Beginning to choose and use an appropriate tool to mix hot or cold foods. To know how to demonstrate hygienic food preparation **GD - Knows that some ingredients must be kept cool and others at room temperature to stay fresh**	Year 3: Can grate appropriate foods items with support. Can chop a variety of foods using the Hammer knife grip. Can peel thin skinned foods using a Y-peeler. Beginning to mix hot and cold foods using appropriate tools. Begin to prepare work surfaces for food preparation Can use a hob to heat food items in a saucepan. **GD - Can use heat carefully so as not to burn/spoil ingredients whilst cooking with support.**	Year 3: Beginning to know how to use a hob in the best way to heat food. Know some ingredients are better suited to a task or purpose. To know some ingredients in the past would not available and why. **GD Can successfully select an ingredient based on knowledge of how to prepare it from a given selection.**
	Evaluating **Evaluate** - *give opinions about products, materials or ingredients* **Modifications** - *changes to a product* **Research** - *investigating to do with a product*	**Textiles** Cycle A - Clothing a character (Roald Dahl) Cycle B – Viking Purse	<u>Year 3:</u> Beginning to thread a needle safely and independently Can start stitches, beginning to end a stitch by tying off with a secure knot Can use running stitch and is beginning to use backstitch **GD - Can use backstitch accurately**	<u>Year 3:</u> Can design a template to fit a given purpose e.g. a piece of clothing, using a template Can strengthen existing fabrics Can securely join two pieces of fabric together using running stitch Understands the need for patterns Can pin and stitch a hem line with support Can attach fastenings and embellishments (e.g. drawstrings, toggles) with support **GD - Can attach fastenings independently (e.g. toggles and loops, buttons with holes)**	<u>Year 3:</u> Begin to know the importance of purses for Vikings To know a paper pattern must include a seam allowance To know a hem is used to prevent material from fraying To begin to know a fastening has two parts To know how to use a given design brief to develop the form and function of a textiles product with support **GD - To know the difference between a purse and a belt purse**
	Y3: Can give personal opinions about existing products based on a range of preferences (own and others). Can say what went well based upon opinions (own and others). Can suggest potential improvements. Can use technology to explain preferences (own and others). **Can suggest relevant and realistic improvements.**	**Mechanisms and Materials** Cycle A - Revolting lantern (lighthouses) Cycle B –Roman siege towers	<u>Year 3:</u> Can use cardboard to make axle mounts, with support. Know how to use a razor saw to cut lengths of wood, with support. Know how to use hot glue to secure separate materials, with support. Can fix some components to dowel using hot glue. Can join wooden dowels to create a strong frame, with support. Can select from some materials ones that best match design criteria. **GD: Can suggest improvements to chosen materials.**	<u>Year 3:</u> Can measure lengths of materials accurately and reliably, with support. Can cut lengths of materials accurately and safely, with support. Can use a hot glue gun safely, with support. Can create simple circuits as part of design. Can create a system of gears/pulleys using axles and a ratio, with support. Know how to choose finishing techniques to improve the appearance of their products **GD: Can suggest ways to solve problems that arise during the building phase.**	<u>Year 3:</u> Knows axles need to be straight and secure to work well. To know where to use a brace support to strengthen a frame or structure. To know how basic pulley/gear ratios work (2:1/1:2 and 3:1/3:1 and 1:2:3). Can identify the characteristics of materials that suit different design criteria. **GD: Can show technical knowledge during the design phase.**

<table>
<tr><th>YEAR 4</th><th>Design</th><th rowspan="2">Topic specific objectives</th><th>Tools and Materials</th><th>Skills</th><th>Technical Knowledge</th></tr>
<tr><td>Core Concepts</td><td>Brief - instructions for what a product should do/be
Preferences - likes and dislikes
Criteria - rules a designer or product must follow</td><td>Safety - stopping danger or harm
Hygiene - keeping products, people and materials clean
Purpose - the reason products are made or materials are used</td><td>Cutting - using sharp tools to make materials into smaller parts
Fixing - gluing, sewing and attaching
Holding - using tools and materials with your hands
Preparing - getting materials, tools & areas ready for work
Finishing - completing a product by adding the last pieces</td><td>Function - how a product or part moves or works</td></tr>
<tr><td rowspan="3"></td><td rowspan="3">Y4:
Can create design criteria based on a given brief.
Can research to find existing products that meet design criteria.
Knows how to make decisions about their own designs based upon a range of preferences (own and others). Can use technology in a small group to support the design process.
Know key individuals in design and technology that have helped shape the world.
Know and follow the stages of the design process independently.

Evaluating
Evaluate - give opinions about products, materials or ingredients
Modifications - changes to a product
Research - investigating to do with a product

Y4:
Can give personal opinions about existing products based on a range of preferences (own and others).
Can say what went well based upon opinions by providing evidence (own and others).
Can suggest potential improvements.
Can use technology to explain preferences (own and others).
Can suggest and explain relevant and realistic improvements.</td><td>Food

Cycle A - Cooking with chocolate

Cycle B – Anglo-Saxon stews</td><td>Year 4
Can use weigh and measure ingredients with some accuracy (+/- 10%)
Can use a range of utensils to prepare food items (sharp knives included).
Can use an appropriate tool to mix hot or cold foods.
Know safe practices in the kitchen and can identify hazards
GD - Can handle ingredients without damaging or spoiling.</td><td>Year 4
Can grate appropriate foods items.
Can chop a variety of foods using the claw hold.
Can peel thin skinned foods using a Y por swivel peeler.
Can mix hot and cold foods using appropriate tools.
Can use a hob to heat food items.
Prepare work surfaces for food preparation
Can use heat carefully so as not to burn/spoil ingredients whilst cooking.</td><td>Year 4
To know how to use a hob in the best way to heat food.
Apply knowledge of ingredients to the design and cooking process.
To know relevant information regarding ingredients in context (geographically or historically).
Can successfully select an ingredient based on knowledge of how to prepare it.</td></tr>
<tr><td>Textiles

Cycle A - Clothing a character (Roald Dahl)

Cycle B – Viking Purse</td><td><u>Year 4:</u>
Can thread a needle independently
Can start and end stitches, tying off with a secure knot
Can use running stitch and backstitch.
GD - Can use overstitch</td><td><u>Year 4:</u>
Can design a template to fit a given purpose e.g. a piece of clothing independently
Can strengthen, stiffen and reinforce existing fabrics
Can securely join two pieces of fabric together using running and backstitch
Understands the need for patterns and seam allowances.
Can pin and stitch a hem line
Can attach fastenings and embellishments (e.g. drawstrings, toggles)
GD - Can attach belt fastenings/loops</td><td><u>Year 4:</u>
To know the importance of purses for Vikings
To know a paper pattern must include a seam allowance and mark this on a pattern
To know a hem is used to prevent material from fraying and why its size is important
To know a fastening has two parts
To know how to use a given design brief to develop the form and function of a textiles product.
GD - To know the difference structurally between a purse and a belt purse</td></tr>
<tr><td>Mechanisms and Materials

Cycle A - Revolting lantern (lighthouses)

Cycle B –Roman siege towers</td><td><u>Year 4:</u>
Can use cardboard to make axle mounts.
Know how to use a razor saw to cut lengths of wood.
Know how to use hot glue to secure separate materials.
Can fix a range of components to dowel using hot glue.
Can join wooden dowels to create a strong frame.
Can select from a range of materials ones that best match design criteria.
GD: Can explain how to apply suggested improvements to chosen materials.</td><td><u>Year 4:</u>
Can measure lengths of materials accurately and reliably.
Can cut lengths of materials accurately and safely.
Can use a hot glue gun safely and accurately, with support.
Can create simple circuits and suggest ways to incorporate them into a design.
Can create a system of gears/pulleys using axles and a ratio.
Know how to choose finishing techniques to improve the appearance of their products based on real life example
GD: Can find a range of solutions that solve problems that arise during the building phase.</td><td><u>Year 4:</u>
Can explain the design qualities of axles that work well.
Can explain how to use a brace support to strengthen a frame or structure.
Can explain how basic pulley/gear ratios work (2:1/1:2 and 3:1/3:1 and 1:2:3).
Knows what materials have characteristics that suit different design criteria.
GD: Can show technical knowledge during the design and building phases to improve the final product.</td></tr>
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<table>
<tr><th>YEAR 5</th><th>Design</th><th>Topic specific objectives</th><th>Tools and Materials</th><th>Skills</th><th>Technical Knowledge</th></tr>
<tr><td rowspan="4">Core Concepts</td><td>Brief - instructions for what a product should do/be
Preferences - likes and dislikes
Criteria - rules a designer or product must follow</td><td></td><td>Safety - stopping danger or harm
Hygiene - keeping products, people and materials clean
Purpose - the reason products are made or materials are used</td><td>Cutting - using sharp tools to make materials into smaller parts
Fixing - gluing, sewing and attaching
Holding - using tools and materials with your hands
Preparing - getting materials, tools & areas ready for work
Finishing - completing a product by adding the last pieces</td><td>Function - how a product or part moves or works</td></tr>
<tr><td rowspan="3">Y5:
Can create a design brief and criteria from a given problem or need.
Can consider how parts of a design will be constructed during the design phase.
Can make a choice about various designs based upon a range of preferences and other aspects (cost, taste, appearance etc.)
Can use technology to support the design process.
Can use CAD programs to develop design ideas.
Know how key events and individuals in design and technology have helped shape the world.
Can suggest additional functionality when developing design criteria.</td><td>Food

Cycle A - Rationing ingredients

Cycle B – Prison menus</td><td>Year 5
Can use some different of cooking techniques, such as frying and boiling.
Can prepare a range of raw ingredients by cutting, slicing, peeling and grating whilst following a given recipe.
Can measure weight and capacity of ingredients accurately using scales and measuring jugs/spoons to the nearest 10g/ml
Know how to be both hygienic and safe in the kitchen
GD – Knows why a particular preparation method is the suitable for a particular recipe</td><td>Year 5
Can prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source with the steps broken down
Beginning to apply knowledge of food groups when planning and preparing dishes.
Can make sensible suggestions about how to refine recipes by adding or substituting ingredients.
Can follow a recipe with peer or adult support.
Can alter methods, cooking times and/or temperatures with guidance from an adult.
GD - Can calculate ratios of ingredients to scale up or down from a recipe in multiples 10.</td><td>Year 5
Understands seasonality and how this may affect the food availability.
Plan recipes according to available ingredients.
Understands that foods have different nutritional values, and that these are needed for a healthy balanced diet.
Know that some ingredients have limited supplies due to historical or geographical reasons
GD - Can explain and give examples of food that is grown and caught in the UK or elsewhere.</td></tr>
<tr><td>Textiles

Cycle A – Clothing for mountain climates

Cycle B – Patchwork quilt (Hapa-Zome)</td><td><u>Year 5:</u>
Can thread a needle independently and tie a secure knot
Can use different stitches (running stitch, back stitch)
Can select materials most suited to their intended purpose from a given selection
Can use hammers safely to dye materials using Hapa-Zome
GD - Can construct a garment using more than one type of material and can explain the purpose of this (e.g. fleece lining for warmth)</td><td><u>Year 5:</u>
Can cut material accurately.
Can measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a product with increasing independence.
Can select stitch from a given list depending on the product's purpose.
GD - Can join textiles using a greater variety of stitches, such as backstitch, blanket stitch.</td><td><u>Year 5:</u>
Can explain the process of natural dyeing (Hapa-Zome)
Can identify the different stages involved in creation (blocks)
Can manage the making process to overcome problems and mistakes with support.
To know how to develop the form and function of a textiles product with support.
GD - Can explain the purpose of suitable embellishments with support (e.g: taped seam to enhance waterproofing).</td></tr>
<tr><td>Evaluating
Evaluate - give opinions about products, materials or ingredients
Modifications - changes to a product
Research - investigating to do with a product

Y5:
Can give critical opinions (+ -) about existing products based on a range of preferences (own and others) and perspectives.
Can say what went well based upon a broad range of aspects, with support.
Can suggest improvements and methods of implementation.
Can use a given technology to research preferences/designs/features in detail.
Can use their own design briefs and criteria to assess the success of their finished product, with support.
Can suggest improvements to a design and say realistically how they would be beneficial.</td><td>Mechanisms and Materials

Cycle A - Ancient Greek Cranes

Cycle B – Electric Vehicles</td><td><u>Year 5</u>
Can select from two types of adhesive to suit a purpose.
Know how to use a razor saw to cut accurately.
Can combine materials to increase durability of designs (paper and wood).
Can tie some knots chosen for a specific purpose.
Can suggest a range of materials that best match design criteria.
GD: Is able to use a razor saw cut at 45^{o} angles</td><td>Year 5
Can measure lengths of materials and cut accurately (+/- 10% using an appropriately chosen tool from a selection
Can use a range of measuring tools more accurately.
Can use shaping tools to change the shape of wooden materials following a specific build guide.
Can use a hot glue gun to fix materials safely
Know how to carry out finishing techniques to enhance the appearance and function of their product
GD: Can identify and make suggestions to solve problems with a design that arise during the building phase.</td><td>Year 5
Can attach and adapt mounts to ensure a working axle design following a specific build guide.
To understand combined ratio systems and begin to implement in their work.
Can create a system of gears and pulleys
Knows output force can be higher than input force in a mechanism.
Makes suggestions about how to add strength and durability by combining materials.
GD: Can use knowledge to design changes and modifications that improve a design.</td></tr>
</table>

YEAR 6	Design	Topic specific objectives	Tools and Materials	Skills	Technical Knowledge
Core Concepts	**Brief** - instructions for what a product should do/be **Preferences** - likes and dislikes **Criteria** - rules a designer or product must follow		**Safety** - stopping danger or harm **Hygiene -** keeping products, people and materials clean **Purpose** - the reason products are made or materials are used	**Cutting** - using sharp tools to make materials into smaller parts **Fixing** - gluing, sewing and attaching **Holding** - using tools and materials with your hands **Preparing -** getting materials, tools & areas ready for work **Finishing** - completing a product by adding the last pieces	**Function** - how a product or part moves or works
	Y6: Can create a detailed design brief and criteria from a given problem or need, incorporating own suggestions. Can consider how a design will be constructed during the design phase. Knows how to make decisions about various designs based upon a range of preferences and other aspects (cost, taste, appearance etc.) Can use technology independently to support the design process. Can use CAD programs to develop accurate representations of designs. Can identify specific events or individuals in design and technology that have helped shape the world. **Can consider the effects of science and technology upon similar designs throughout history.**	**Food** Cycle A - Rationing ingredients Cycle B – Prison menus	Year 6 Can use a range of cooking techniques, such as griddling, grilling, frying and boiling. Can prepare a range of raw ingredients by cutting, slicing, peeling and grating. Can measure weight and capacity of ingredients accurately using scales and measuring jugs/spoons. Apply knowledge of how to be safe and hygienic in the kitchen **GD - Knows why a particular preparation method and ingredient is suitable for a particular recipe**	Year 6 Can prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source. Can apply knowledge of food groups when planning and preparing dishes. Can adapt and refine recipes by adding or substituting ingredients. Can independently follow a recipe. Can alter methods, cooking times and/or temperatures. **Can calculate ratios of ingredients to scale up or down from a recipe.**	Year 6 Can explain seasonality and how this may affect the food availability. Plan recipes according to seasonality. Can explain that foods contain different substances, such as protein, and that these are needed for health. Explain the effect of ingredient limitations on a recipe (historical or geographical). **Can explain and give examples of food that is grown and caught in the UK, Europe and the wider world.**
	Evaluating **Evaluate** - *give opinions about products, materials or ingredients* **Modifications** - *changes to a product* **Research** - *investigating to do with a product*	**Textiles** Cycle A – Clothing for mountain climates Cycle B – Patchwork quilt (Hapa-Zome)	<u>Year 6:</u> Can begin a line of stitches independently (thread, knot, cast on) Can use a range of stitches (running stitch, back stitch, cross-stitch, overstitch) Can select materials most suited to their intended purpose Can use hammers safely to dye materials in a specific way using Hapa-Zome **GD - Can construct a garment using a pattern of their own design featuring multiple pieces (e.g. front and back pieces, sleeves, collar)**	<u>Year 6:</u> Can cut material with precision and accuracy. Can measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product. Can select stitch used depending on the product's purpose. **GD - Can join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch and select these for their purpose**	<u>Year 6:</u> Can explain the process of natural dyeing using technical vocabulary (Hapa-Zome) Can identify the different stages involved in quilt design and creation Can manage the making process to overcome problems and mistakes. To know how to develop the form and function of a textiles product. **GD - Can explain the purpose of suitable embellishments independently (e.g: taped seam to enhance waterproofing).**
	Y6: Can give a range of critical opinions (+ - neutral) about existing products based on a range of preferences (own and others) and perspectives. Can say what went well based upon a broad range of aspects. Can suggest realistic and relevant improvements and methods of implementation. Can select from a range of technology to research preferences/designs/features in detail. Can use their own design briefs and criteria to assess the success of their finished product. **Can develop a design using modifications and improvements to improve its overall function.**	**Mechanisms and Materials** Cycle A - Ancient Greek Cranes Cycle B – Electric Vehicles	<u>Year 6</u> Can select from two types of adhesive to suit a purpose. Know how to use a razor saw to cut accurately. Can combine materials to increase durability of designs (paper and wood). Can tie some knots chosen for a specific purpose. Can suggest a range of materials that best match design criteria. **GD: Is able to use a razor saw cut at 45^{o} angles**	Year 6 Can measure lengths of materials and cut accurately using an appropriately chosen tool. Can utilise a range of measuring tools to aid accuracy. Can use shaping tools to change the shape of wooden materials. Can use a hot glue gun to fix materials safely and accurately. Know how to apply finishing techniques to enhance the appearance and function of their product **GD: Can solve problems with a design that arise during the building phase.**	Year 6 Can attach and adapt mounts to ensure a working axle design. To know how combined ratio systems work. Can create a system of gears/pulleys to achieve a specific goal. Knows what mechanical advantage means. Knows how to add strength and durability by combining materials. **GD: Can use knowledge to adapt and modify to improve designs as they build.**