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| **Skills** | **EYFS** | **Year 1** | **Year 2** | **Year 3** |
| Design | * Select appropriate resources
* Use gestures, talking and arrangements of materials and components to show design
* Use language of designing and making. Join, build, shape, longer, smaller, big, shorter, heavier, lighter.
 | * Have own ideas.
* Explain what I want to do.
* Explain what my product is for, and how it will work.
* Use pictures and words to plan, begin to use models.
* Design a product for myself following a criterion.
* Research similar existing products.
 | * Have own ideas and plan what to do next.
* Explain what I want to do and describe how I may do it.
* Explain the purpose of the product, how it will work and how it will be suitable for the user.
* Describe design using pictures word, models, diagrams, begin to use ICT.
* Design products for myself and others following a design criterion.
* Choose the best tools and materials and explain choices.
* Use knowledge of existing products to produce ideas.
 | * Begin to research others’ needs.
* Show design meets range of requirements.
* Describe purpose of the product.
* Follow a given design criteria
* Have at least 1 idea about how to create a product.
* Create a plan which shows order, equipment, tools.
* Describe design using an accurately labelled sketch and words.
* Make design decisions.
* Explain how product will work
* Make a prototype.
* Begin to use computers to show design.
 |
| Make | * Construct with a purpose, using a variety of resources.
* Use simple tools and techniques.
* Build/construct with a wide range of objects.
* Select tools and techniques to shape, join, assemble.
* Replicate structures with materials/components.
* Discuss how to make an activity safe and hygienic.
* Record experiences by drawing, writing or voice recording.
* Understand different media can be combined for a purpose.
 | * Explain what I am making and why.
* Consider what I need to do next.
* Select tools/equipment to cut, join, shape and finish and explain my choices.
* Measure, mark out, cut and shape with support.
* Choose suitable materials and explain choices.
* Try to use finishing techniques to make product look good.
* Work in a safe and hygienic manner.
 | * Explain what I am making and why it fits the purpose.
* Make suggestions as to what I need to do next.
* Join materials/components together in different ways.
* Measure, mark out and cut and shape materials and components with support.
* Describe which components I’m using and why.
* Choose suitable materials and explain choices depending on characteristics.
* Use finishing techniques to make the product look good.
* Work safely and hygienically.
 | * Select suitable tools, equipment, explain choices and begin to use them accurately.
* Work through a plan in a logical order.
* Consider how good a product will be.
* Begin to measure mark out and shape and cut a variety of materials or components with some accuracy.
* Begin to assemble join and combine materials and components with some accuracy.
* Apply a range of finishing techniques with some accuracy.
 |
| Evaluate | * Adapt work if necessary.
* Dismantle, examine, talk about existing objects/structures.
* Consider and manage some risks.
* Practise some appropriate safety measures independently.
* Talk about how things work.
* Look at similarities and differences between existing objects/materials/tools.
* Shown an interest in technological toys.
* Describe textures.
 | * Talk about my work, linking it to what I was asked to do.
* Talk about existing products and say what is and isn’t good.
* Talk about things that other people have made.
* Begin to talk about what could make the product better.
 | * Describe what went well, think about the design criteria
* Talk about existing products and consider *use, materials, how the product works, audience designed for, where they can be used, express their own opinion.*
* Evaluate how good existing products are.
* Talk about what I would do differently next time if I made it again.
 | * Evaluate the quality of the design while designing and making.
* Evaluate ideas and finished product against specification considering purpose and appearance.
* Test and evaluate the final product.
* Evaluate and discuss existing products, considering how well they’ve been made, materials, whether they work, how they have been made, fit for purpose.
* Evaluate how much products cost to make and research how sustainable materials are.
* Talk about some key inventors, engineers, chefs, manufacturers products.
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| **Skills** | **Year 4** | **Year 5** | **Year 6** |
| Design | * Use research for design ideas.
* Show design meets a range of requirements and is fit for purpose.
* Begin to create own design criteria.
* Have at least 1 idea about how to create a product and suggest improvements for design.
* Produce a plan and explain it to others.
* Discuss how realistic the plan is.
* Include an annotated sketch.
* Make and explain design decisions considering the availability of resources.
* Explain how the product will work.
* Make a prototype.
* Begin to use computers to show design.
 | * Use internet and questionnaires for research and design ideas.
* Take a user’s view into account when designing.
* Begin to consider the needs and wants of individuals/groups when designing and ensure product is fit for purpose.
* Create own design criteria.
* Have a range of ideas.
* Produce a real and logical plan and explain it to others.
* Use cross sectional planning and annotated sketches.
* Make design decisions and consider time and resources available.
* Clearly explain how parts of the product will work.
* Model and refine design ideas by making prototypes.
* Using pattern pieces.
* Use computer aided designs.
 | * Draw on market research to inform the design.
* Use research of user’s individual needs, wants, and requirements for design that will appeal to the intended user.
* Create own design criteria and specification.
* Come up with innovative design ideas.
* Follow and refine a logical plan.
* Use annotated sketches, plans, cross sectional planning and exploded diagrams.
* Make design decisions, consider resources and cost.
* Clearly explain how parts work and how they are fit for the purpose.
* Independently model and refine the design ideas by making prototypes using pattern pieces.
* Use computer aided designs.
 |
| Make | * Select suitable tools/equipment, explain choices: begin to use them accurately.
* Select appropriate materials, fit for purpose.
* Work through the plan.
* Realise if the product will be good quality.
* Measure, mark out, cut and shape materials and components with some accuracy.
* Begin to assemble, join and combine materials and components with some accuracy.
* Apply a range of finishing techniques.
 | * Use selected tools and equipment with a good level of precision.
* Produce suitable lists of tools, equipment, materials needed.
* Select appropriate materials, fit for purpose, explain choices considering functionality.
* Create and follow a step-by-step plan
* Explain how their produce will appeal to an audience.
* Mainly accurately measure, mark out, cut and shape materials and components.
* Mainly accurately assemble, join and combine materials and components.
* Mainly accurately apply a range of finishing techniques.
* Use techniques that use arrange of small steps.
* Begin to be resourceful with practical problems.
 | * Use selected tools and equipment precisely.
* Produce suitable lists of tools, equipment, materials needed, consider constraints.
* Select appropriate materials, fit for purpose, explain choices, consider functionality and aesthetics.
* Create, follows, and adapt detailed step by step plans.
* Explain how the product will appeal to an audience, make changes to improve quality.
* Accurately mark out, cut and shape material and components.
* Accurately apply a range of finishing techniques.
* Use techniques that follow a number of steps.
* Be resourceful with practical problems.
 |
| Evaluate | * Refer to design criteria while designing and making.
* Use criteria to evaluate product.
* Begin to explain how I could improve the original design.
* Evaluate existing products considering how well they have been made, materials used, whether they work correctly, how have they been made and fit for purpose.
* Discuss by whom and when and where products were designed.
* Research whether products can be recycled or reused.
* Know about some, inventors, designer, engineers, chefs manufacturers of products.
 | * Evaluate the quality of the design while designing and making
* Evaluate ideas and finished product against specification considering purpose and appearance
* Test and evaluate the final product
* Evaluate and discuss products, considering how well they’ve been made, use of materials, whether they work, how they have been made, fit for purpose.
* Evaluate how much products cost to make and research how sustainable materials are.
* Talk about some key inventors, engineers, chefs, manufacturers of products.
 | * Evaluate quality of design while designing and making: fit for purpose?
* Keep checking the design, can it be adapted or tweaked.
* Evaluate design and finished product against the specification, stating if it is for for purpose.
* Test and evaluate the final product. Explain what would improve it and the effect different resources may have had.
* Do a thorough evaluation of existing products and consider how well they have been made, materials, whether they work, how they’ve been made, fit for purpose.
* Evaluate how much products cost to make and how innovative they are.
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| **Skills** | **EYFS** | **Year 1** | **Year 2** | **Year 3** |
| FoodAndNutrition | * Begin to understand some food preparation tools, techniques and processes.
* Practise stirring, mixing, pouring and blending.
* Discuss how to make an activity safe and hygienic.
* Discuss the use of senses.
* Understand need for variety in food.
* Begin to understand that eating well contributes to good health.
 | * Describe textures of food.
* Wash hands and clean surfaces and understand why we do it.
* Think of interesting ways to decorate food.
* Describe differences between food groups – sweet, sour, fruit, vegetable.
* Discuss how fruit and vegetables are healthy.
* Cut, peel and grate safely with support.
 | * Explain hygiene and keep a hygienic work surface.
* Describe properties of ingredients and importance of varied diet.
* Say where food comes from – animal, underground etc.
* Describe how food is caught, home-grown, caught, farmed.
* Draw the eat well plate and explain there are groups of food.
* Describe 5 a day fruit and vegetables.
* Cut, peel and grate with increasing confidence.
 | * Explain how to be safe and hygienic and follow own guidelines.
* Present product well- interesting attractive, fit for purpose.
* Begin to understand seasonality of foods.
* Understand food can be grown, reared or caught in the UK and the wider world.
* Describe how recipes can be adapted to change appearance, texture, taste, aroma.
* Explain how there are different substances in food and drink needed for health.
* Prepare and cook some savoury dishes safely and hygienically including, if needed, using a heat source.
* Use a range of techniques such as: chopping, grating, slicing, peeling, mixing, spreading, kneading and baking.
 |
| Materials andStructures |  | * Begin to measure and join materials, with some support.
* Describe differences in materials.
* Join materials in different ways.
* Use joining, rolling or folding to make it stronger.
* Use own ideas to try and make product stronger.
 | * Measure materials.
* Describe some different characteristics of materials.
* Join materials in different ways.
* Use joining, rolling or folding to make the structure stronger.
* Use own ideas to try and make product stronger.
 | * Select materials carefully, considering the intended use of product and appearance.
* Explain how product meets design criteria.
* Measure accurately enough to ensure precision.
* Ensure product is strong and fit for purpose.
* Begin to reinforce and strengthen a 3D frame.
 |
| **Skills** | **EYFS** | **Year 1** | **Year 2** | **Year 3** |
| Mechanisms |  | * Begin to use levers or slides.
 | * Begin to use levers or slides.
* Begin to understand about wheels and axles and how they work.
 | * Refine product after testing.
* Grow in confidence about trying new /different idea.
* Begin to use cams, pulleys and gears to create movement.
 |
| Textiles  |  | * Measure, cut and join textiles together to make a product, with some support.
* Chose suitable textiles.
 | * Measure textiles.
* Join textiles together to make a product and explain how I did it.
* Carefully cut textiles to produce accurate pieces.
* Explain choices of textile.
* Understand that a 3D textile structure can be made from 2 identical fabric shapes.
 | * Think about aesthetics and user when choosing textiles
* Use own template
* Think about how to make the product strong and look better
* Think of a range of ways to join things.
* Begin to understand that a 3D textile project can be made from a combination of fabric shapes.
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| ElectricalSystems |  |  |  | * Use simple circuit in a product.
* Learn about how to program a computer to control a product.
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| **Skills** | **Year 4** | **Year 5**  | **Year 6** |
| FoodandNutrition | * Explain how to be hygienic/ safe.
* Think about presenting product in interesting and attractive ways.
* Understand ingredients can be fresh, pre-cooked or processed.
* Begin to understand about food being grown, reared or caught in the UK and wider world.
* Explain the importance of food and drink for active healthy bodies.
* Prepare and cook some dishes safely and hygienically including, if needed, using a heat source.
* Use some of the following techniques: Use a range of techniques such as: peeling, chopping, grating, mixing, spreading, kneading and baking.
 | * Explain how to be safe and hygienic and follow own guidelines.
* Present product well- interesting attractive, fit for purpose.
* Begin to understand seasonality of foods.
* Understand food can be grown, reared or caught in the UK and the wider world.
* Describe how recipes can be adapted to change appearance, texture, taste, aroma
* Explain how there are different substances in food and drink needed for health.
* Prepare and cook some savoury dishes safely and hygienically including, if needed, using a heat source
* Use a range of techniques such as: chopping, grating, slicing, peeling, mixing, spreading, kneading and baking
 | * Understand a recipe can be adapted by adding/ substituting ingredients.
* Explain seasonality of foods.
* Learn about food processing methods.
* Name some types of food that are grown, reared or caught in the UK or wider world.
* Adapt recipes to change appearance, taste, texture or aroma.
* Describe some of the different substances in food and drink and how they can affect health.
* Prepare and cook a variety of savoury dishes safely and hygienically, including using a heat source.
* Use a range of techniques confidently such as: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
 |
| MaterialsandStructures | * Measure carefully to avoid mistakes.
* Attempt to make a product strong.
* Continue working on product even if the original didn’t work.
* Make a strong stiff structure.
 | * Select materials carefully, considering the intended use of product and appearance.
* Explain how product meets design criteria.
* Measure accurately enough to ensure precision.
* Ensure product is strong and fit for purpose.
* Begin to reinforce and strengthen a 3D frame.
 | * Select materials carefully, consider the intended use of the product, the aesthetics and functionality.
* Explain how product meets the design criteria.
* Reinforce and strengthen a 3D frame.
 |
| Mechanisms | * Select most appropriate tools, techniques.
* explain alterations to product after checking it.
* Grow in confidence about trying new/different ideas.
* Use levers and linkages to create movement.
* 5. Use pneumatics to create movements.
 | * Refine product after testing.
* Grow in confidence about trying new /different ideas.
* Begin to use cams, pulleys and gears to create movement.
 | * Refine product after testing, consider aesthetics, functionality and purpose.
* Incorporate hydraulics and pneumatics.
* Be confident to try new and different ideas.
* Use cams, pulleys and gears to create movement.
 |
| **Skills** | **Year 4** | **Year 5** | **Year 6** |
| Textiles  | * Think about the user when choosing a variety of textiles.
* Think about how to make the product strong.
* Begin to devise a template.
* Explain how to join things in a different way.
* Understand that a simple fabric shape can be used to make a 3D textiles project.
 | * Think about aesthetics and user when choosing textiles.
* Use own template.
* Think about how to make the product strong and look better.
* Think of a range of ways to join things.
* Begin to understand that a 3D textiles project can be made from a combination of fabric shapes.
 | * Think about the user’s wants and needs, aesthetics when choosing textiles.
* Make product attractive and strong.
* Make a prototype.
* Use a range of joining techniques.
* Think about how the product might be sold.
* Think carefully about what would improve the product.
* Understand that a 3D textiles project can be made from a combination of fabric shapes.
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| Electrical Systems | * Use a number of components in a circuit.
* Program a computer to control a product.
 | * Incorporate a switch into a product.
* Confidently use number of components in a circuit.
* Begin to be able to program a computer to monitor changes in environment and control product.
 | * Use different types of circuits in product.
* Think of ways in which adding a circuit would improve product.
* Programme a computer to monitor changes in the environment and control product.
 |