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|  | **FS** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Generating ideas and Designing** | Ask questions to find out more and to check they understand what has been said to them.  Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they happen.  Develop their own ideas and then decide which materials to use to express them. | Think of own ideas for design and discuss them.  Use pictures and words to plan.  Design a product with a purpose following a design criteria.  Work in a range of contexts (imaginary, home, school, wider community, story-based) | Think of own ideas for design, discuss them and plan what to do next.  Describe designs using pictures, diagrams, models, mock-ups, words and computing.  Design a product for myself and others with a purpose following a design criteria.  Work confidently in a range of contexts (imaginary, home, school, wider community, story-based) | Use research to create a design that meets a range of requirements such as its functionality, products that are fit for a purpose or aimed at particular individuals or groups.  consider the equipment and tools needed when planning.  Describe a design using an accurately labelled diagram, and in words. | Generate more than one idea for how to create a product.  Research information to help design a successful product (i.e. asking others’ views, observations, internet) that are fit for a purpose or aimed at particular individuals or groups.  Produce a detailed plan with labelled diagrams (possibly cross-sectional) a written explanation and step-by-step guide. | Generate a range of ideas for how to create a product after gathering information to help design a successful product (i.e. asking others’ views, observations, internet) that are fit for a purpose or aimed at particular individuals or groups.  Produce a detailed plan, with step-by-step instructions, cross-sectional diagrams and prototypes.  Suggest alternative plans, considering the positive aspects of drawbacks of each. | Use a range of information to inform a design (i.e. market research using surveys, interviews, questionnaires or web-based  research) that are fit for a purpose or aimed at particular individuals or groups.  Produce a detailed plan, with cross-sectional diagrams and computer-generated designs.  Work within constraints, refining and justifying plans as necessary. |
| **Making** | Select and use activities and resources, with help when needed.  Use the right resources to carry out their own plan.  Use one-handed tools and equipment.  Use a comfortable grip with good control when holding pens and pencils  Begin to describe a sequence of events, using words such as ‘first, then…’ | Explain what is being made and why.  Select appropriate tools to cut, shape, join and finish.  To use a wide range of materials and components including construction materials, textiles and ingredients according to their characteristics. | Explain what is being made and why the audience will like it.  Select from and use a range of tools to cut, shape, join and finish and explain why they are being used.  To use a wide range of materials and components including construction materials, textiles and ingredients according to their characteristics. | Use a range of tools accurately to cut, shape, join and finish and explain why they are being used.  Measure, mark out, assemble and join materials and components with some accuracy.  To use a wide range of materials and components including construction materials, textiles and ingredients according to their functional properties. | | Use a range of tools expertly to cut, shape, join and finish.  Measure, mark out, assemble and join materials and components with some accuracy.  To select from and use a wide range of materials and components including construction materials, textiles and ingredients according to their functional properties and aesthetic qualities. | |
| **Evaluating** | Share their creations, explaining the process they have used. | Explore a range of existing products. talk about own and pre-existing saying what is good or could be improved about them.  Say whether their product does what it is meant to (fits the design brief) and how it could be improved. | Describe how their own and pre-existing work evaluating what went well or could be done differently.  Say whether their product does what it is meant to (fits the design brief) and how it could be improved. | Evaluate own and existing products.  Evaluate their ideas and products beginning to link to the design brief.  Understand how key events in design and technology have helped to shape the world. | Evaluate the appearance and usability of their own and existing products.  Explain how the original design could be improved considering appearance and usability and linking to link the design brief.  Understand an investigate how key events in design and technology have helped shape the world. | Investigate and analyse existing products by carrying out independent research. Evaluate the appearance and function of a product (own and pre-existing products) against the original criteria, saying whether it is fit for purpose.  Suggest improvements that could be made, considering materials and methods that have been used.  Understand how key events and individuals in design and technology have helped shape the world. | Investigate and analyse a range of existing products by carrying out independent research including outside school surveys. Evaluate the appearance and test the function of a product (own and pre-existing products) against the original criteria, saying whether it is fit for purpose.  Suggest improvements that could be made, considering materials, methods, sustainability of the product and how much a product cost to make.  Understand how key events and individuals in design and technology have helped shape the world. |
|  |  |  |  | Use sheet materials and construction tools with appropriate supervision.  Build structures, exploring how they can be made stronger, stiffer and more stable | Cut then join textiles using a running stitch, over sewing or glue.  Decorate using a range of items (buttons, sequins, beads, ribbons etc) | Know about movement of simple mechanisms such as levers, sliders, wheels and axles. | Begin to understand where food comes from e.g. fruit/veg/meat  Know how to peel, cut, grate, mix and mould foods (with close supervision)  Use the basic principles of a healthy and varied diet to prepare dishes. |
| **Construction** | Explore collections of materials with similar and/or different properties.  Make imaginative and complex ‘small worlds’ with blocks and construction kits.  . | Use sheet materials and construction tools with appropriate supervision.  Build structures, exploring and evaluating how they can be made stronger, stiffer and more stable | | Use sheet materials and construction tools with appropriate supervision.  To apply their understanding of how to strengthen, stiffen and reinforce more complex structures.  To understand and use electrical systems in their products, such as simple circuits and bulbs. | Use sheet materials and construction tools with appropriate supervision.  To apply their understanding of how to strengthen, stiffen and reinforce more complex structures to develop their own products.  To understand and use electrical systems in their products, such as simple circuits incorporating switches, bulbs, buzzers and motors. | Use sheet materials and construction tools appropriately.  To apply their understanding of how to strengthen, stiffen and reinforce more complex structures to develop and analyse their own products.  To understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs, buzzers and motors. | Use sheet materials and construction tools appropriately.  To apply their understanding of how to strengthen, stiffen and reinforce more complex structures to develop, analyse and evaluate their own products.  Choose from a variety of electrical systems to use in their products and evaluate the effectiveness of these.  To apply their understanding of computing to programme, monitor and control their products. |
| **Textiles** | Talk about the differences between materials and differences they notice.  Explore different materials.  Join different materials and explore different textures. | Cut then join textiles using a running stitch, over sewing or glue.  Decorate using a range of items (buttons, sequins, beads, ribbons etc) | Cut then join textiles using a running stitch, over sewing, back stitch or fasteners.  Understand seam allowances, create patterns and appropriate decoration techniques (e.g. applique) | Cut then join textiles using a running stitch, over sewing, back stitch or fasteners.  Understand seam allowances, create patterns and appropriate decoration techniques (e.g. applique) | | Pin and tack fabrics, use patterns and seam allowance and join fabrics to make quality products. | |
| **Mechanisms** | Explore how things work | Know about movement of simple mechanisms such as levers, sliders, wheels and axles. | | Know about movement of simple mechanisms such as levers and linkages. | | Understand how mechanical systems such as cams, pulleys or gears, levers or linkages create movement. | |
| **Food Technology** | plant seeds and care for growing plants.  Understand the key features of the life cycle of a plant and an animal | Understand where food comes from e.g. processed food/food groups  Know how to peel, cut, grate, mix and mould foods (with supervision)  Use the basic principles of a healthy and varied diet to prepare and create their own dishes. | | Know how to peel, cut, grate, mix and mould foods and begin to cook food (using toasters and microwaves with supervision)  Understand and apply the principles of a healthy diet.  To prepare and cook basic savoury and sweet dishes using a range of cooking techniques. | | Cut, mix, mould and begin to use hobs to heat food with appropriate supervision.  Understand and apply the principles of a healthy and varied diet.  To prepare and cook a variety of predominately savoury dishes using a range of cooking techniques.  To understand seasonality, and know where a variety of ingredients are grown, reared caught and processed. | Cut, mix, mould and use hobs to heat food developing independence with this as appropriate.  Understand, apply and reflect upon the principles of a healthy and varied diet.  To prepare and cook a variety of savoury and sweet dishes using a range of cooking techniques.  To understand seasonality, and know where and  how a variety of ingredients are grown, reared caught and processed. |