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|  | Nursery | Reception | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Autumn 1 |  | **Structures: junk**  **modelling**  N.C  Develop small motor skills so that they can use a range of tools competently, safely and confidently.  ELG: Fine Motor Skills> Use a range of small tools, including scissors, paint brushes and cutlery. | **Structures:**  **Moving story books**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Explore and evaluate a range of existing products  Evaluate their ideas and products against the design criteria  Explore and use mechanisms (for example levers, sliders, wheels and axles) in their products | **Mechanisms: fairground wheel**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Explore and evaluate a range of existing products  Evaluate their ideas and products against the design criteria  Build structures, exploring how they can be made stronger, stiffer and more stable.  Explore and use mechanisms (for example levers, sliders, wheels and axles) in their products | **Textiles: cross stitch and applique**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | **Electrical systems: torches**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to  improve their work  Understand how key events and individuals in design and technology have helped shape the world  Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] | **Mechanical systems: eco-bike with gears**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] | **Digital world: navigating the world**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Apply their understanding of computing to program, monitor and control their products |
| Autumn 2 |  | **Cooking and nutrition: soup**  N.C  Learn new vocabulary. -Use new vocabulary throughout the day.  ELG: Speaking> Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary. Personal, social and emotional development -Know and talk about the different factors that support their overall health and wellbeing: healthy eating.  ELG:  Managing self  Manage their own basic hygiene and personal needs, including… understanding the importance of healthy food choices.  Physical development -Develop small motor skills so that they can use a range of tools competently, safely and confidently.  ELG: Use a range of small tools, including scissors, paint brushes and cutlery. | **Structures: constructing a windmill**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Explore and evaluate a range of existing products  Evaluate their ideas and products against the design criteria  Explore and use mechanisms (for example levers, sliders, wheels and axles) in their products | **Cooking and nutrition: balanced diet**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Explore and evaluate a range of existing products  Evaluate their ideas and products against the design criteria  Use basic principles of a healthy and varied diet to prepare dishes  Understand where food comes from. | **Electrical systems: electric poster**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] | **Mechanical systems: making a slingshot car**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world  Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] | **Digital world: monitoring devices**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world  Apply their understanding of how to strengthen, stiffen and reinforce more complex structures  Apply their understanding of computing to program, monitor and control their products | **Cooking and nutrition: come dine with me**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed |
| Spring 1 |  | **Textiles:**  **Bookmarks**  Physical development  ELG- Develop small motor skills so that they can use a range of tools competently, safely and confidently.  ELG: Fine Motor Skills  Use a range of small tools, including scissors, paint brushes and cutlery | **Textiles: puppets**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Evaluate their ideas and products against the design criteria | **Mechanisms: making a moving monster**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Explore and evaluate a range of existing products  Evaluate their ideas and products against the design criteria | **Mechanical systems: pneumatic toys**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world  Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] | **Digital world: mindful moments timer**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Apply their understanding of computing to program, monitor and control their products | **Cooking and nutrition: developing a recipe**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world  Apply their understanding of computing to program, monitor and control their products  Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed | **Structures: playgrounds**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Apply their understanding of how to strengthen, stiffen and reinforce more complex structures |
| Spring 2 |  | **Structures:**  **Boats**  Communication and language  Articulate their ideas and thoughts in well-formed sentences.  Connect one idea or action to another using a range of connectives.  Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.  ‘  ELG:  Speaking  Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.  ELG:  Speaking- Offer explanations for why things might happen | Mechanisms: wheels and axles  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Explore and evaluate a range of existing products  Evaluate their ideas and products against the design criteria  Explore and use mechanisms (for example levers, sliders, wheels and axles) in their products | **Structures: Baby Bear’s chair**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Evaluate their ideas and products against the design criteria  Build structures, exploring how they can be made stronger, stiffer and more stable. | **Digital world: wearable technology**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world  Apply their understanding of computing to program, monitor and control their products | **Cooking and nutrition: adapting a recipe**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques | **Structures: bridges**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Apply their understanding of how to strengthen, stiffen and reinforce more complex structures | **Textiles: waistcoats**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work |
| Summer 1 |  | **Seasonal projects:**  Understanding the world -Explore the natural world around them.  ELG: The Natural World>Explore the natural world around them, making observations and drawing pictures of animals and plants.  Expressive Arts and Design -Explore, use and refine a variety of artistic effects to express ideas and feelings.  ELG: Creating with materials> Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  ELG: Creating with materials> Share their creations, explaining the process they have used. | **Cooking and nutrition: smoothies**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Evaluate their ideas and products against the design criteria  Use basic principles of a healthy and varied diet to prepare dishes  Understand where food comes from. | **Textiles: pouches**  N.C  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing. Templates, mock-ups, where appropriate, information and communication technology  Select from and use a range of tools and equipment to perform practical tasks (for example cutting, shaping, joining and finishing).  Select from and use a wide variety of materials and components, including construction materials, textiles, and ingredients according to their characteristics  Explore and evaluate a range of existing products  Evaluate their ideas and products against the design criteria | **Cooking and nutrition: eating seasonally**  N.C  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Understand and apply the principles of a healthy and varied diet  Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques  Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed | **Structures: constructing a castle**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Apply their understanding of how to strengthen, stiffen and reinforce more complex structures | **Textiles: stuffed toys**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | **Electrical systems: steady hand game**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world  Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] |
| Summer 2 |  |  |  |  | **Structures: constructing a castle**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Apply their understanding of how to strengthen, stiffen and reinforce more complex structures | **Textiles: fastening**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work | **Electrical systems: doodlers**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Apply their understanding of how to strengthen, stiffen and reinforce more complex structures  Understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] | **Mechanical systems: Automata toys**  N.C  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world  Understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] |