**CYCLE A**

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| **Design and Technology** | **EYFS**  **Nursery and Reception** | **KS1**  **Year 1 & Year 2** | **LKS2**  **Year 3 & Year 4** | **UKS2**  **Year 5 & Year 6** |
| **AUTUMN** | Nursery:   * Use one-handed tools and equipment, for example, making snips in paper with scissors. * Explore different materials freely, develop their ideas about how to use them and what to make. * Develop their own ideas and then decide which materials to use to express them. * Join different materials and explore different textures.   Reception:   * Use a range of small tools, including scissors, paint brushes and cutlery. * Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function. * Share their creations, explaining the process they have used. | Windmills  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 and, 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 range 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 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. | Eating Seasonally: Make A Tart  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  Understand and apply principles of a healthy and varied diet.  Prepare and cook 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. | Doodlers  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]. |
| **SPRING** | Puppets  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 and, 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 range of materials and components, including  construction materials, textiles and ingredients, according to their characteristics.  Evaluate their ideas and products against 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. | Wearable Technology  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. | Pop Up Book  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  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]. |
| **SUMMER** | Cooking and Nutrition: Smoothies  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 and, 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 range of materials and components, including  construction materials, textiles and ingredients, according to their characteristics.  Evaluate their ideas and products against design criteria.  Understand where food comes from. | Constructing a Castle  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  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. | Developing A Recipe  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  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 principles of a healthy and varied diet.  Prepare and cook 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. |
| The depth thread is evaluation  Teach – Practice - Repeat | By the time pupils leave TPNA, pupils should have improved their mastery of evaluation:   * explore, investigate, annalyse and evaluate a range of existing products * evaluate their ideas and products against design criteria * evaluate their ideas and products against their own design criteria and consider the views of others to improve their work   FS  • Selects appropriate resources and adapts work where necessary.  KS1  • Evaluate their ideas and products against design criteria.  • Evaluate their product by discussing how well it works in relation to the purpose  • Evaluate their products as they are developed, identifying strengths and possible changes they might make  • Evaluate their product by asking questions about what they have made and how they have gone about it.  • Explore and evaluate a range of existing products.  • Talk about their ideas, saying what they like and dislike about them  LKS2  • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.  • Evaluate their product against original design criteria e.g. how well it meets its intended purpose  • Investigate and analyse a range of existing products  • Evaluate their work both during and at the end of the assignment  • Evaluate their products carrying out appropriate tests  UKS2  • Understand how key events and individuals in design and technology have helped shape the world.  • Evaluate a product against the original design specification  • Evaluate it personally and seek evaluation from others  • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.  • Evaluate their products, identifying strengths and areas for development, and carrying out appropriate tests  • Evaluate against their original criteria and suggest ways that their product could be improved | | | |
| SMSC development – Spiritual, Moral, Social, Cultural | Design and Technology encompasses all the elements of SHINE by the very nature of the subject. Our pupils and staff are able to SHINE when engaged in Design and technology lessons. We ensure that all pupils within the school have a voice that is listened to by having an Arts Council. Each class is represented by a member. When pupils have a strong interest or skill in an area they have been encouraged to lead extra-curricular activities for example LEGO club.  The spiritual development of pupils is shown by their:   * use of imagination and creativity in their learning. * willingness to reflect on their experiences.   The social development of pupils is shown by their:   * HONESTY AND OPENNESS- Evaluation is the depth thread of our curriculum and it relies upon all involved to be honest about what went well and what could be improved. As the pupils work their way through the Academy they are required to build up peer assessment when evaluating work. * EMPATHY AND COMPASSION: We nurture our pupil’s understanding that other people have their own opinions to be able to develop healthy and supportive relationships. We include everyone in evaluation and value everyone’s opinions when evaluating work and encourage respect for others. | | | |

**CYCLE B**

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| **Design and Technology** | **EYFS**  **Nursery and Reception** | **KS1**  **Year 1 & Year 2** | **LKS2**  **Year 3 & Year 4** | **UKS2**  **Year 5 & Year 6** |
| **AUTUMN** | Nursery:   * Use one-handed tools and equipment, for example, making snips in paper with scissors. * Explore different materials freely, develop their ideas about how to use them and what to make. * Develop their own ideas and then decide which materials to use to express them. * Join different materials and explore different textures.   Reception:   * Use a range of small tools, including scissors, paint brushes and cutlery. * Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function.   Share their creations, explaining the process they have used. | Baby Bear’s Chair  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 and, 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 range of materials and components, including  construction materials, textiles and ingredients, according to their characteristics.  Evaluate their ideas and products against design criteria.  Build structures, exploring how they can be made stronger, stiffer and more stable. | Pavilions  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  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. | Waistcoats  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  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. |
| **SPRING** | Fairground Wheel  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 and, 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 range 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 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. | Sling Shot Cars  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  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]. | Playgrounds  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  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. |
| **SUMMER** | Moving Monsters  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 and, 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 range 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 design criteria.  Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. | Torches  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 wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  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]. | Navigating the World  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. |
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