Design and technology curriculum

The Design and Technology curriculum is split into two projects. A mini project and an enterprise project. The mini project will be completed in Autumn 2 and the Enterprise Project in Summer 2.

The purpose of the mini project is to allow children chance to recap the design, create and evaluate process of Design and Technology, building on knowledge that the children have learnt in previous years. The project will be carried out over a 2 week block.

The aim of the enterprise project is to allow children to gain a deeper understanding of the design process. The children will take part in an enterprise project which will support their wider community, such as the school, wider school community as well as local and wider community. The enterprise project will be completed in Term 6 so that children can encompass all of the skills that they have learnt through the year such as, measurement, writing of instructions, drawing and sketching etc.

The curriculum document breaks the projects into lessons and provides design briefs and criteria’s where necessary, however these should be used at the teacher discretion and can be changed dependent on the needs of the children. At the teacher’s discretion. Some lessons may be done over more than one lesson to allow time for exploration of practical skills.

All of the vocabulary within this document is progressive and therefore should be used continuously whilst introducing the new vocabulary in the appropriate areas and year groups.

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|  | Theme area | Mini Project | Enterprise Project |
| 1 | *Garden centres* | Textiles- brands for Garden centre **How can we create a brand for the garden centre?** | Construction- Landscape design (garden centre)**What skills do we need to landscape the garden?** |
| 2 | *Café’s* | Ingredients- café menu**Can we design a new menu for the school café?** | Construction- gardening. **How can we design a new garden area** |
| 3 | *Motor Vehicles* | Textiles- car mats **How can we create a new brand of car mats?** | Construction- motors and mechanics **How can we use motor mechanics to create a mini car?** |
| 4 | *Farming* | Textiles- kneeling cushions- machinery.**What product could we make to help improve the comfort of farmers when working in the fields?** | Ingredients- creating healthy foods for Lincolnshire show.**What healthy snack can we design and make to market at Lincolnshire show?** |
| 5 | *Toys* | Construction- circuit games.**What game can we create that is made for kids by kids?** | Construction- wood work- Toy box**How can we create a wooden toy box?** |
| 6 | *Theatre* | Ingredients- theatre snacks**How can we re-create popular theatre snacks?** | Textiles- costume design.**How can we create theatre costumes to support our school production?** |

Year group projects:

The document below outlines the theme for each year group and their Design area as well as their design question for the mini project and enterprise project.

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| **Mini project Progression document** |
|  | **Skill**  | **N** | **R** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Design**  | Design criteria |  |  | What is a design criteria?Introduce the terms design brief and design criteria. | Why does the target audience effect the design criteria?Introduce the term target audience. | Based on the target audience what do you think the design criteria could include?Children to look at current products and add elements to a design criteria. | Based on product research what would make a good design criteria?Discuss the design brief and allow children to explore existing products to create their own design criteria. | Based on research of existing products and knowledge of target audience how can we create a design criteria?Children should use their knowledge of product research and target audience to create a design criteria as a class. | How could you create a design criteria to fit your chosen target audience?Children should use their knowledge of product research and target audience to create a design criteria for their product. |
| Generate ideas |  |  |  |  | How can you express your ideas?Children to discuss their ideas for their product. | How can you record your ideas?Children to discuss and record their ideas in their own way.  | How can we generate ideas to support the design criteria and existing knowledge of your target audience?Thinking about their target audience, children should generate and record ideas for the design of their product. | Using your design criteria how can you record annotated ideas to support your design criteria?Children should use their previous knowledge to record their ideas in a way that is best suited to their design, adding annotations. |
| Design |  |  | How can sketches support to create a product?Designing a logo for the garden centre. | How can annotated sketches support in designing and planning your product?Create a sketch of their product. in traduce the term annotation. | How can annotated sketches from different perspectives aid in the planning of your product?Children to decide on a final idea and create sketches. Introduce prespectives. | Why is an exploded diagram helpful when designing a product?Introduce exploded diagrams. Children to create their product design in the form of an exploded diagram. | How can a cross sectional diagram aid in explaining and showing your design to others?Introduce cross section diagrams, children to sketch their design in this style.  | How can you use technology to aid in designing your product in a way that is informative to potential buyers?Children should explore software taught in computing lessons such as publisher to support them in creating a product design. |
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| **Make and evaluate**  | Create product |  |  | From this selection of tools which ones will you use to create your product?Children explore the different resources used in textiles. | What tools will you use to create your product?Look at some of the utensils used in cooking such as- knives and graters and explore, how to slice, cut grate and chop. | Which tools and materials will you use to create your product?Recapping tools and equipment used in year 1 children should select the right tools and create their design. | How can you use your mathematical knowledge to aid you in making your product?Children to create their product using skills learnt in Maths (measuring, ruler skills etc).  | Why is it important to use accurate measurements when creating your product?Discuss why it is important to use accurate measurements when creating products. Children to create their products.  | Why is it important to use accurate measurements and cooking techniques when creating your product?Children should use their previous knowledge of measurement and cooking to aid them in creating their product. |
| Evaluate |  |  | What do you like about your product?Children discuss what they liked about their product?  | What would you do to improve your product?Discuss what they liked about their snack and what they would like to improve.  | Using your design criteria what do you think is good about your product?Comparing their product against the design criteria and selecting an element of their product that worked well. | Using your design criteria what would you improve about your product?Children to compare their product against design criteria and choose something they would improve.  | Using your design criteria what do you think worked well with your product and what would you change?Children to compare their product to their design criteria and record their ideas of what worked well and what they would change. | Using your design criteria how would you improve your product and why? Children to compare the product to the design criteria and record what they lwould improve about their product, why they would improve, and how they would improve it. |

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| **Enterprise project progression document** |
|  | **Skill**  | **N** | **R** | **1** | **2** | **3** | **4** | **5** | **6** |
| **Design****Design** | Research |  |  | What designs/ have already been created already exist?explore existing garden centres and the areas within them. | What do we like about existing products? Look at existing gardens and discuss with the children what they like about them.  | What do we like and dislike about existing products.Children to research products based on their design brief and discuss what they do and don’t like about existing products. | Why is market research important?Explore the term market research and why it is important. Children to carry out market research on existing products. | How can we analyse existing products?Children should explore existing products and discuss what they like about them, the different elements and features and what they would change products if given the opportunity. | How can we analyse and evaluate existing products to support with design criteria?Children should explore existing products and discuss what they like about them, the different elements and features, from this children should create their design criteria. |
| Design criteria |  |  | What is a design criteria?Recap the terms design brief and design criteria. | Why does the target audience effect the design criteria?Recap the term target audience and discuss how it affects design criteria. | Based on the target audience what do you think the design criteria could include?Children to look at current products and add elements to a design criteria. | Based on market research what would make a good design criteria?Discuss the design brief and allow children to explore existing products to create their own design criteria. | Based on research of existing products and knowledge of target audience how can we create a design criteria?Children should use their knowledge of product research and target audience to create a design criteria as a class. | How could you create a design criteria to fit your chosen target audience?Children should use their knowledge of product research and target audience to create a design criteria for their product |
| Generate ideas |  |  |  |  | How can you express your ideas?Children to discuss their ideas for their product. | How can you record your ideas?Children to discuss and record their ideas in their own way.Use this time to teach the basic science of circuits.  | How can we generate ideas to support the design criteria and existing knowledge of your target audience?Thinking about their target audience, children should generate and record ideas for the design of their product. | Using your design criteria how can you record annotated ideas to support your design criteria?Children should use their previous knowledge to record their ideas in a way that is best suited to their design, adding annotations. |
| Design |  |  | How can sketches support to create a product?Children to explore the concepts of product design by creating their own garden centre designs before creating a collaborative design as a class. | How can annotated sketches support in designing and planning your product?Create a sketch of their product. in recapping the term annotation.  | How can annotated sketches from different perspectives aid in the planning of your product?Children to decide on a final idea and create sketches. Introduce perspectives. | How can a cross sectional diagram aid in explaining and showing your design to others?Introduce exploded diagrams. Children to create their product design in the form of an exploded diagram. | Why is an exploded diagram helpful when designing a product?Introduce cross section diagrams, children to sketch their design in this style. | How can you use technology to aid in designing your product in a way that is informative to potential buyers?Children should explore software taught in computing lessons such as publisher to support them in creating a product design and annotate to use in their sales pitch to the investor. |
| Create prototype |  |  |  |  | What materials and resources will you need to produce your product?Children to use the how to booklets to support them in slecting the resources and materials they need for their product. | How could a prototype support you in understanding your product design?Explore the different elements needed to create their product prototype, thinking about will work well. | How could you use technology to create a virtual prototype of your product to share with others?Children should create a virtual prototype to share with their target audience and receive feedback. Children should explore the pros and cons of using virtual prototypes.  | Why would a protype support in creating an effective and functional product?Children to create prototypes to allow them decide which joins, materials and fabrics work well.  |
| Test and evaluate design/ prototype |  |  |  |  | How could sharing your product design, plan and resources with others, support in creating a functional product?Children to share their designs with others and receive feedback, discuss why we carry out market research.  | Why could testing your protype with others support in improving your product?Children to test their prototype and gain feedback to support them in their final design. | Why is it important to test your prototype with your target audience?Recap why we create prototypes and discuss why it is important to test on the target audience instead of a generic sample. | How can you evaluate and improve your product after testing on your target audience?Children to test their prototype on their target audience and make any adjustments needed after receiving feedback. |
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| **Make and evaluate.** | Create final product |  |  | From this selection of tools which ones will you use to create your product?Explore the different tools used in gardening and how to use them, supporting children in selecting the appropriate tools.  | What tools will you use to create your product?Recap the different tools used in year 1. Children to give each other roles and areas to work within the garden selecting the appropriate tools for their role.  | Which tools and materials will you use to create your product?Children to select the appropriate tools for their product using the how to guide to support them. Children to create their product. | How can you use your mathematical knowledge to aid you in making your product?Children to use their understanding of measure to weigh their ingredients.  | Why is it important to use accurate measurements when creating your product?Discuss why it is important to use accurate measurements when creating products. Children to create their products. | Why is it important to use accurate measurements and effective joining techniques when creating your product?Children to create their final product and think carefully about their prototypes when selecting the correct joining techniques and measuring materials.  |
| **Make and evaluate.** | Test on target audience |  |  |  |  | How will you test your product on your target audience?Children should use their knowledge of their target audience to test their product and receive feedback.  |  | How will you select your target audience for testing?Children should consider who they choose to share their product with within their target audience, looking at bias. For example sharing with family friends. | Will the amount of people you select for product testing impact on your evaluation of the product?Introduce the idea of sample size to the children and discuss the pros and cons of small samples against large samples. |
| Evaluate |  |  | What do you like about your product?Children discuss what they liked about their product? | What would you do to improve your product?Discuss what they liked about their product and what they would like to improve. | Using the information gathered from your target audience what do you think is good about your product?Comparing their product against the design criteria and selecting an element of their product that worked well. | **In this unit this lesson should be completed last.**How did my target audience respond to product and why it is important to acknowledge their feedback?After completing Lincolnshire show children should evaluate how well their product sold, discuss with the children the feedback they received and why it is important tto acknowledge this. | Using the information gathered from your target audience what do you think worked well with your product and what would you change?Children should consider the feedback from their target audience and decide what went well with their product and select an area that they would change if creating the product again.  | Using the information from your target audience how would you improve your product and why?After receiving feedback children should consider and record any improvements they would make to their product, including how they would make them and why. |
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| **Marketing** | Plan |  |  |  | Why is it important to advertise a product?Discuss the term advertisement and why the children should advertise their garden. | How can you advertise your product using posters and leaflets?Children to hold a car event to showcase their motorised cars and design posters to promote the event. | What information will you include on your advertisement?Children to think about their target audience and where they are selling their snack. Children to design an advertisement appropriate for the venue.  | What format do you think will be most appropriate to advertise your product?Children should decide which format of advertisement is best appropriate for their sales pitch. | How can use your target audience feedback to support the advertisement of your product?Children should consider the feedback they received to help them plan their pitch, discuss why companies include quotes in their advertisements.  |
| Create |  |  | How could you create a poster to share your product with others?Create a poster for the grand opening of the garden centre. | Using persuasive techniques learnt this year, how will you create a poster to advertise your product?Children to create posters for their garden using the persuasive techniques learnt in previous years. | Using persuasive techniques learnt in year 2 and 3, how will you create a poster to advertise your product?Children to create posters for their car using the persuasive techniques learnt in previous years. | Using persuasive techniques learnt this year and in previous years, how will you create a poster to advertise your product?Children to create advertisements for their products using the persuasive techniques learnt in previous years. | How will you use persuasive techniques to create a pitch advertisement for your product?Children to create advertisements for their products using the persuasive techniques learnt in previous years. | How will you use persuasive techniques to create a sales pitch for your product that is appropriate for your target audience?Children to create advertisements for their products using the persuasive techniques learnt in previous years. |