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| **Design Technology Endpoints, AFL and Coverage** | | | | | | |
| **logo** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **To design, make, evaluate and improve:**  **At Woodfall all projects throughout EYFS/KS1 and KS2 focus on the** **iterative design process.**  **The red text shows examples of the projects that Woodfall teachers implement.** | Design products that have a clear purpose and an intended user.  ***AFL Questions***  ***If we were to create a product for … what features would be important to include?*** | • Make products, refining the design as work progresses. • Use software to design.  ***AFL Questions***  ***What software could we use to help us design a product? What are the advantages and disadvantages of using software rather than drawing a design?*** | • Design with purpose by identifying opportunities to design.  • Make products by working efficiently (such as by carefully selecting materials).  • Refine work and techniques as work progresses, evaluating the end product design  ***AFL Questions***  ***Why is it important that we carefully consider which material to use?***  ***Why do we spend time designing before creating?*** | • Refine work and techniques as work progresses, continually evaluating the product design.  • Cont. to use software to design and represent product designs.  ***AFL Questions***  ***What do we mean by ‘evaluate’? Why is this useful?*** | Design with the user in mind, motivated by the service a product will offer.  • Make products through stages of prototypes, making continual refinements.  • Ensure products have a high quality finish, using art skills where appropriate.  ***AFL Questions***  ***What would you do if I asked you to create a ‘prototype’? Why are these important to create?***  ***How can we ensure our product is as effective as it can be for the user?*** | • Design with the user in mind, motivated by the service a product will offer (rather than simply for profit).  • Use prototypes, cross-sectional diagrams  and computer aided designs to represent designs.  ***AFL Questions***  ***What is a prototype, cross-sectional diagram and computer aided design? When might we use each of these in the design process?***  ***Why do we want to ensure our product is fit for purpose and not just profitable?*** |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **Food and nutrition** | • Cut ingredients safely and hygienically.  • Assemble or cook ingredients.  ***AFL Questions***  ***What do we need to do to ensure we are demonstrating good food hygiene?***  ***How can we make sure we are being safe, for ourselves and others, when in a kitchen/using cooking utensils?*** | • Cut, peel or grate ingredients safely and hygienically.  • Measure or weigh using measuring cups or electric scales.  ***AFL Questions***  ***How should we hold a grater and the food we intend to grate to make sure we are safe?***  ***What different ways can we weigh/measure our ingredients?*** | • Measure accurately  • Follow a recipe.  • Assemble or cook ingredients.  Healthy Schools – Making a healthy sandwich  ***AFL Questions***  ***What do we need to consider when making a ‘healthy’ meal?***  ***Why might it be useful to follow a recipe?*** | • Prepare ingredients hygienically using appropriate utensils.  • Measuring ingredients to the nearest gram.  • Assemble and cook ingredients.  ***AFL Questions***  ***What utensil would we use to prepare mushrooms? Why?***  ***Using our maths skills, how can we measure something to the nearest gram?*** | • Understand the importance of correct storage and handling of ingredients  (knowledge of microorganisms).  • Demonstrate a range of baking and cooking techniques.  Virgin Money project.  ***AFL Questions***  ***How can we ensure that we store food hygienically?***  ***What signs are there that food is no longer edible?***  ***Describe a baking/cooking technique. When would this be used?*** | • Measure accurately and calculate ratios of ingredients to scale up or down from recipe.  • Create and refine recipes, including ingredients, methods, cooking times and temperatures.  Creating a balanced meal-Refugee Project.  ***AFL Questions***  ***If the recipe has been created for 6 portions but we only needed 2 portions what would we need to do? If the recipe has been created for 6 portions but we needed 8 portions what would we need to do?***  ***If I were to ask you to create your own recipe, what different elements would you need to consider?*** |
| **Materials** | • Cut materials safely using tools provided.  • Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling).  ***AFL Questions***  ***What different cutting and shaping techniques are there? When would we use these?*** | • Measure and mark out to nearest cm.  • Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen).  ***AFL Questions***  ***What different joining techniques are there? When would we use them?*** | • Cut materials accurately and safely by selecting appropriate tools.  • Select appropriate joining techniques.  ***AFL Questions***  ***What measures can we take to ensure we are cutting accurately and safely?*** | • Measure and mark out to the nearest mm.  • Apply appropriate cutting and shaping techniques that include cuts within the perimeter of the material (such as slots or cut outs).  ***AFL Questions***  ***How can we successfully introduce a cut-out into our material? What tool would be most appropriate and why?*** | • Cut materials with precision and refine the finish with appropriate tools (such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape).  ***AFL Questions***  ***What can we do to refine our product if it is made out of wood? What could we do differently if it was made out of fabric?*** | • Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (e.g. the nature of fabric may require sharper scissors than would be used to cut paper).  ***AFL Questions***  ***What would you need to consider about your material when choosing which tool to use to cut or shape?*** |
| **Textiles** | • Shape textiles using templates. • Colour and decorate textiles  Making a fish toy – Sewing a button  ***AFL Questions***  ***Give some examples of templates you’ve used.***  ***What different effects can colour bring to your textiles?*** | • Join textiles using running stitch.  • Colour and decorate textiles using a number of techniques  Designing puppets  ***AFL Questions***  ***How would you join textiles together?***  ***Share some techniques for colouring and decorating textiles.*** | • Understand the need for a seam allowance.  • Join textiles with appropriate stitching.  ***AFL Questions***  ***What different stitching can we use to join textiles? Why might you choose one over another for a project?***  ***What is a seam allowance and why do we need it?*** | • Select the most appropriate techniques to decorate textiles.  Gift Bag Design  ***AFL Questions***  ***What techniques have you used to decorate textiles? What impact can these different techniques have on an end product?*** | • Create objects (such as a cushion) that employ a seam allowance.  • Join textiles with a combination of stitching techniques (e.g. back stitch for seams and running stitch to attach decoration).  ***AFL Questions***  ***Talk about different stitching techniques. Which would you use to join textiles together? Which would you use to attach decorations? Why?*** | • Use the qualities of materials to create suitable visual and tactile effects in the decoration of textiles (such as a soft decoration for comfort on a cushion).  Eco – Reusing existing products to create hats  ***AFL Questions***  ***What qualities of a material would you consider when choosing textiles for a project? Why?*** |
| **Electricals and electronics** |  | • I can recognise if a battery operated device works or not.  (Linking with Y2 science curriculum)  ***AFL Questions***  ***How do you know if a battery operated device works?*** |  | • Create designs which include simple series circuits.  (Linking with Y4 science curriculum)  Torches  ***AFL Questions***  ***What do we need to consider if including a circuit in our design?***  ***What problems might we encounter?*** |  | • Create circuits using electronics kits that employ a number of components within increasing confidence.  Fairground Rides  ***AFL Questions***  ***What are the key components of a design that includes a circuit?***  ***What problems might you encounter and how might you set about solving them?*** |
| **Computing/ Programming** |  |  |  | • Control and monitor models using software designed for this purpose.  Scratch  ***AFL Questions***  ***How would you control and monitor models using software?*** | • Write code to control and monitor models or products.  Scratch  ***AFL Questions***  ***What are the key steps to writing code to control and monitor models or products?*** | • Write code to control and monitor models or products  Stop – Start Animation Project  ***AFL Questions***  ***What advantages can computer code bring to your project? What key skills do you need to use code effectively in your project?*** |
| **Construction** | • Use materials to practise gluing and nailing to make and strengthen products.  Designing a pop-up zoo  ***AFL Questions***  ***When would you use glue and when would you use nails to stick materials together? What does this do to the product? What do we need to consider to do this safely?*** | • Use materials to practise drilling and screwing materials to make and strengthen products.  Creating bird feeders  ***AFL Questions***  ***What advantage does using screws have over using nails for a project? What do you need to consider to ensure you are using a drill safely?*** | • Choose suitable techniques to construct products or to repair items.  ***AFL Questions***  ***What different techniques have you used to make products? Why is it important to learn how to repair items?*** | • Strengthen materials using suitable techniques.  ***AFL Questions***  ***What different techniques can we use to strengthen materials? Give an example of when you’ve done this, how successful was it?*** | • Develop a range of practical skills to create products (e.g cutting, drilling and screwing, nailing, gluing, filling and sanding).  Treehouse project  ***AFL Questions***  ***Tell me about the range of skills you have to create products. When could each of these skills be used? Which do you find most difficult to do and why? How can we make it easier for ourselves?*** | • Develop a range of practical skills to create products.  Fairground rides  ***AFL Questions***  ***Describe a product you have made and tell me about the range of practical skills you had to use to ensure that product was a success? If the product wasn’t a success, what skills do you think you need to develop further? Why?*** |
| **Mechanics** | • Create products using levers and sliders.  Moving vehicles  ***AFL Questions***  ***What are levers and sliders?***  ***What can they add to a product design?*** | • Create products using winding mechanisms.  ***AFL Questions***  ***Describe a winding mechanism. What can this add to a product design?*** | • Use scientific knowledge of forces to choose appropriate mechanisms for a product (such as levers, winding mechanisms, pulleys and gears).  Pop-Up Christmas Books  ***AFL Questions***  ***What would you consider when choosing the appropriate mechanism for a product? Why is it important to have these considerations?*** | • Use scientific knowledge to choose appropriate mechanisms for a product.  Creating moveable monsters using pneumatics/  hydraulics  ***AFL Questions***  ***What scientific knowledge do you draw upon when choosing appropriate mechanisms for your product? Give an example of when you have done this successfully*** | • Convert rotary motion to linear using cams.  #Weare15-Physiotherapy device  ***AFL Questions***  ***Explain the difference between rotary motion and linear? How would you convert one to the other?*** | • Use innovative combinations of electronics (or computing) and mechanics in product designs.  Exploring and experimenting with existing gear and pulley systems  Stop-start animation  ***AFL Questions***  ***How might we combine our electronics or mechanical innovation to create an exciting product? Give an example of where you have done this.*** |

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| **EYFS Curriculum**  **Expressing Arts and Design –**  **Art and Design** |  |  |  |
| 24-36 | 36-48 | 48-66 Months | ELG |
| * Explores the textures, movement, feel and look of different media and materials * Responds to a wide range of media and materials showing an understanding that they can manipulate and create effects with these.   Large and small block play, classroom provision, whole school projects. Duplo,  ***AFL Questions***  ***Make me something out of Duplo. What are you making? What can we use it for? Why are you choosing those colours?*** | * Representations and responses show understanding that different media, music or materials will support the expression of their own ideas. * Constructs with a purpose in mind using a variety of resources to create a model, dance or composition.   Large and small block play, junk modelling, classroom provision. Weaving/threading patterns and fabrics. Whole school projects.  ***AFL Questions***  ***Tell me about something you have made using material and sewing. What could it be used for?*** | * Uses simple tools and techniques competently and appropriately to create something new. * Selects appropriate resources and adapts work where necessary to create and change a piece of music, art, a picture or model. * Safely uses and explores a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.   Large, small block play. Junk modelling, fair-trade food projects, lego, construction toys and kits.  ***AFL Questions***  ***When we’re using tools, what do we need to think about to keep ourselves and others safe?*** | * Children sing songs, make music and dance and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function   ***AFL Questions***  ***Tell me about something you have designed and made at school? What did you think about when you were choosing the colours and materials that you used?*** |