# Concept Progression for DT Cycle A

| Key Concepts | EYFS | Years 1 and 2 | Years 3 and 4 | Years 5 and 6 |
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| **Appraise and Analyse** | **Diwali**<br>Ch to look at images and explore Diwali artefacts (Diya lamps).<br>Ch to observe the use of Diyas and their purpose. | **Textiles**<br>Ch will investigate and evaluate existing products linked to the chosen project.<br>Ch will explore and compare e.g. fabrics, joining techniques, finishing techniques and fastenings used.<br>Ch will make drawings of existing products, stating the user and purpose.<br>Ch will identify and label, if appropriate, the fabrics, fastenings and techniques used.<br>**Dioramas – Mechanics Sliders and levers**<br>Ch will explore and evaluate a collection of books and everyday products that have moving parts, including those with levers and sliders. e.g. What is it? Who is it for? What is it for?<br>Ch will discuss and answer questions (What do you think will move? How will you make it move? What part of the product moved and how did it move? How do you think the mechanism works? What else could move in the product? How well does it work?) | **Mechanics Pneumatics**<br>Ch will investigate and analyse books, videos and products with pneumatic mechanisms.<br><br>**Moving pictures**<br>Ch to investigate and analyse books and, where available, other products with lever and linkage mechanisms.<br>Ch to discuss how the pictures move, what part of the picture moves, how it works, the effect it has and how well it works.<br><br>**Silhouettes/Textiles 2D to 3D product**<br>Ch will investigate a range of textile products that have a selection of stitches, joins, fabrics, finishing techniques, fastenings and purposes, linked to the product they will design, make and evaluate.<br>Ch will think about products from the past and what changes have been made in textile production and products. | **Textiles**<br>Ch to investigate and analyse textile products linked to their final product.<br>Ch will investigate, analyse and evaluate a range of existing products which have been produced by combining fabric shapes.<br>Ch will investigate work by designers and their impact on fabrics and products.<br>Ch will investigate and analyse how existing products have been constructed.<br>Ch will disassemble a product and evaluate what the fabric shapes look like, how the parts have been joined, how the product has been strengthen and stiffened, what fastenings have been used and why.<br>Ch investigate properties of textiles through investigation e.g. exploring insulating properties, water resistance, wear and strength of textiles.<br><br>**Mechanical systems Cams or pulleys and gears** |

| | | **Moving vehicles (trains)** Ch will look at existing products (cars, lorries, racing cars) taking them apart if possible. Ch will learn that different vehicles have different purposes. | | **Structures** Ch will investigate and evaluate a range of existing frame structures. |
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| **Technical Knowledge** | **Diwali** Ch to develop the techniques used to manipulate clay (rolling into balls, squeezing clay, pulling and pinching with fingers, carving with tools and smoothing). **Fairy Tales** Ch to develop skills to use simple tools and techniques competently and appropriately (cutting, shaping, attaching, joining) Ch to safely use and transport scissors. | **Textiles** Ch will understand how simple 3-D textile products are made, using a template to create two identical shapes. Ch will understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling. Ch will explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons. Ch know and use technical vocabulary relevant to the project. **Dioramas – Mechanics Sliders and levers** Ch to explore and use sliders and levers. Ch will understand that different mechanisms produce different types of movement. Ch know and use technical vocabulary relevant to the project. Ch begin develop vocabulary e.g. lever, pivot, slider, left, right, push, pull, up, | **Mechanics Pneumatics** Ch will understand and use pneumatic mechanisms. Ch know and use technical vocabulary relevant to the project (tubing, syringes, compression, pressure, inflate, deflate, pump, seal, air-tight linear, rotary, oscillating, reciprocating). **Moving pictures** Ch to use the correct vocabulary such as lever, slider, pivot, push, pull, direction, up, down, left, right. Ch will understand and use lever and linkage mechanisms. Ch will distinguish between fixed and loose pivots. Ch will know and use technical vocabulary relevant to the project. **Silhouettes/Textiles 2D to 3D product** Ch will know how to strengthen, stiffen and reinforce existing fabrics. Ch will understand how to securely join two pieces of fabric together. | **Textiles** Ch to understand that a 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics. Ch to understand fabrics can be strengthened, stiffened and reinforced where appropriate. **Structures** Ch will understand how to strengthen, stiffen and reinforce 3-D frameworks. Ch will know and use technical vocabulary relevant to the project. |

| | | down, forwards, backwards, in, out.<br><br>**Moving vehicles (trains)**<br>Ch be introduced to the technical terms chassis, axle, doors, wheels, engine/power source | Ch will understand the need for patterns and seam allowances.<br>Ch will know and use technical vocabulary relevant to the project. | |
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| **Practise** | **Diwali**<br>Children to explore manipulating playdough using fine motor skills and relevant tools to shape and effect changes to the malleable material in preparation for clay.<br><br>**Fairy tales**<br>Ch to explore the textures, movement, feel and look of different media and materials. | **Textiles**<br>Ch will practise different techniques (running stitch including threading own needle, stapling, lacing and gluing) on paper patterns and templates.<br>Ch will talk about the advantages and disadvantages of each technique.<br><br>**Dioramas – Mechanics Sliders and levers**<br>Ch to practise the techniques required to make sliders and levers.<br><br>**Moving vehicles (trains)**<br>Ch will explore different joining techniques for attaching wheels and axle to a chassis.<br>Ch will practise using a variety of wheels and chassis. | **Mechanics Pneumatics**<br>Ch investigate, analyse and evaluate familiar objects that use air to make them work e.g. bicycle pump, balloon, inflatable swimming aids, foot pump for inflating an air bed.<br>Ch construct a simple pneumatic system by joining a balloon to 5mm tubing and then to a washing-up liquid bottle.<br><br>**Moving pictures**<br>Ch to make and assemble a prototype slider, lever and wheel mechanism.<br><br>**Silhouettes/Textiles 2D to 3D product**<br>Ch will have the opportunity to disassemble appropriate textiles products to gain an understanding of 3-D shape, patterns and seam allowances.<br>Ch will practise a range of stitching techniques and allow children to | **Textiles**<br>Ch will develop skills of threading needles and joining textiles using a range of stitches. *This activity must build upon children's earlier experiences of stitches e.g. improving appearance and consistency of stitches and introducing new stitches. If available, demonstrate and allow children to use sewing machines to join fabric with close adult supervision.*<br>Ch will develop skills of sewing textiles by joining right side together and making seams. Children should investigate how to sew and shape curved edges by snipping seams, how to tack or attach wadding or stiffening and learn how to start and finish off a row of stitches.<br>Ch will develop skills of 2-D paper pattern making using grid or tracing paper to create a 3-D dipryl mock-up of a chosen product. *Remind/teach how to* |

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| | | | practise sewing two small pieces of fabric together, demonstrating the use of, and need for, seam allowances.<br><br>Ch will use a textile product they have taken apart to create a paper pattern using 2-D shapes.<br><br>Ch will have a range of fabrics – children to consider whether fabrics are suitable for the chosen purpose and user. The fabrics also can be used for demonstrating and testing out a range of decorative finishing techniques e.g. appliqué, embroidery, fabric pens/paints, printing. | *pin a pattern on to fabric ensuring limited wastage, how to leave a seam allowance and different cutting techniques.*<br>Ch to develop skills of computer-aided design (CAD) by using on-line pattern making software to generate pattern pieces.<br>Ch will investigate using art packages on the computer to design prints that can be applied to textiles using iron transfer paper. |
| **Generate Ideas & Design** | **Fairy Tales**<br>Ch will construct with a purpose in mind using a variety of resources.<br><br>**Superheroes**<br>Ch will construct with a purpose in mind using a variety of resources. | **Textiles**<br>Ch will design a functional and appealing product for a chosen user and purpose based on simple design criteria.<br>Ch will generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology.<br><br>**Dioramas – Mechanics Sliders and levers**<br>Ch will generate ideas based on simple design criteria and their | **Mechanics Pneumatics**<br>Ch generate realistic and appropriate ideas and their own design criteria through discussion, focusing on the needs of the user.<br>Ch use annotated sketches and prototypes to develop, model and communicate ideas<br><br>**Moving pictures**<br>Ch will design purposeful, functional and appealing products for themselves and other users based on design criteria in the context of designing an appealing moving picture. | **Textiles**<br>Ch will generate innovative ideas by carrying out research including surveys, interviews and questionnaires.<br>Ch to develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer aided design.<br>Ch to design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. |

| | | own experiences, explaining what they could make.<br>Ch will develop, model and communicate their ideas through drawings and mock-ups with card and paper.<br><br>**Moving vehicles (trains)**<br>Ch will work and share ideas with a partner.<br>Ch will use words and pictures to plan.<br>Ch will use software (Purple Mash '2Design&Make') to represent their design.<br>Ch will explain what they want to create and its purpose. | Ch will generate, develop, model and communicate their ideas through talking and drawing an annotated sketch to show their ideas about a moving picture.<br><br>**Silhouettes/Textiles 2D to 3D product**<br>Ch generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s.<br>Ch will produce annotated sketches, prototypes, final product sketches and pattern pieces<br><br>Ch will create a design brief, supported by the teacher, set within a context which is authentic and meaningful.<br>Ch will discuss the intended user, purpose and appeal of their product.<br>Ch will create a set of design criteria.<br>Ch will sketch and annotate a range of possible ideas, constantly encouraging creative thinking.<br>Produce mock-ups and prototypes of their chosen product.<br>Ch will plan the main stages of making e.g. using a flowchart or storyboard. | **Structures**<br>Ch will carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.<br>Ch will develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost.<br>Ch will generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches. |
| **Develop & Make** | Diwali | **Textiles** | **Mechanics Pneumatics** | **Textiles** |

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| Ch to explore, use and refine a variety of artistic effects to express their ideas and feelings. (Clay techniques)<br><br>**Fairy Tales**<br>Ch to respond to a range of media and materials developing an understanding that they manipulate and create effects with these.<br>Ch will use different media and materials to express their own ideas. (junk modelling materials)<br><br>**Superheroes** | Ch will select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing.<br>Ch will select from and use textiles according to their characteristics.<br><br>**Dioramas – Mechanics Sliders and levers**<br>Ch will plan by suggesting what to do next.<br>Ch will select and use tools, explaining their choices, to cut, shape and join paper and card.<br>Ch will use simple finishing techniques suitable for the product they are creating.<br><br>**Moving vehicles (trains)**<br>Ch will follow their plan.<br>Ch will measure, cut and join materials (chassis, axles using hacksaws).<br>Ch to use pervious experiences (practise axles and chassis) to support them when constructing. | Ch can order the main stages of making.<br>Ch select from and use appropriate tools with some accuracy to cut and join materials and components such as tubing, syringes and balloons.<br>Ch will select from and use finishing techniques suitable for the product they are creating.<br><br>**Moving pictures**<br>Ch will use mechanisms to make a product. Ch to explore and use mechanisms (for example, levers, sliders, wheels and axles) in the product of making a moving picture.<br>Ch to select from and use appropriate tools with some accuracy to cut, shape and join paper and card.<br>Ch to select from and use finishing techniques suitable for the product they are creating.<br>**Silhouettes/Textiles 2D to 3D product**<br>Ch will plan the main stages of making.<br>Ch will select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.<br>Ch will select fabrics and fastenings according to their functional | Ch will produce detailed lists of equipment and fabrics relevant to their tasks.<br>Ch to formulate step-by-step plans and, if appropriate, allocate tasks within a team.<br>Ch will select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost.<br><br>**Structures**<br>Ch will formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used.<br>Ch will competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.<br>Ch will use finishing and decorative techniques suitable for the product they are designing and making. |

| | | | characteristics e.g. strength, and aesthetic qualities e.g. pattern. | |
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| **Evaluate** | **Diwali**<br>Ch will refine their product through painting and adding embellishments.<br><br>**Fairy Tales**<br>Ch to select appropriate resources for a product and adapt their work where necessary. | **Textiles**<br>Ch will explore and evaluate a range of existing textile products relevant to the project being undertaken.<br>Ch will evaluate their ideas throughout and their final products against original design criteria.<br><br>**Dioramas – Mechanics Sliders and levers**<br>Ch to explore a range of existing books and everyday products that use simple sliders and levers.<br>Ch will evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.<br><br>**Moving vehicles (trains)**<br>Ch will use a walking gallery to view each other's products.<br>Ch will say what they liked about their own work and what they might improve. | **Mechanics Pneumatics**<br>Ch evaluate their own products and ideas against criteria and user needs, as they design and make.<br><br>**Moving pictures**<br>Ch to evaluate their own products and ideas against criteria and user needs, as they design and make.<br><br>**Silhouettes/Textiles 2D to 3D product**<br>Ch will Investigate a range of 3-D textile products relevant to the project.<br>Ch will test their product against the original design criteria and with the intended user.<br>Ch will take into account others' views.<br>Ch will understand how a key event/individual has influenced the development of the chosen product and/or fabric.<br>Ch will evaluate as the process is undertaken and the final product in relation to the design brief and criteria.<br>The product should be tested by the intended user and for its purpose and others' views sought | **Textiles**<br>Ch to investigate and analyse textile products linked to their final product.<br>Ch to compare the final product to the original design specification.<br>Ch will test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.<br>Ch will consider the views of others to improve their work.<br><br>**Structures**<br>Ch will investigate and evaluate a range of existing frame structures.<br>Ch will critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.<br>Ch will research key events and individuals relevant to frame structures. |

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