Concepts	KS1	Y3	Y4	Y5	Y6	KS3 (Year 7)
Design						
Innovation	Children know that you can create a new method, idea or product.	Children begin to understand how design can be used to plan a new product for a given criteria.	Children can confidently understand that new methods, ideas and products can be designed for a specific design criterion. They can apply this knowledge to designing their own.	Children can discuss a range of different audiences and how you would create a new product that is fit for intended audience. They can apply this knowledge to designing their own new product.	Children can explain confidently why a new product should be designed for a particular audience. They can use subject specific vocabulary in their discussion.	Extend their design knowledge using principles of design and research. Children should be able to solve their own design problems when creating innovative and functional products. At this stage, children should be planning in detail, with annotated sketches and with an audience in mind.
Functionality	Children know that products are designed for a specific purpose.	Children can begin to discuss why a product is made in a certain way, discussing its purpose with their peers. Children begin to problem solve in order to test functionality.	Children can explore different designs/products in order to determine its intended audience and function. They can use this knowledge to compare and contrast their suitability for an intended audience. Children can problem solve in order to test the functionality of an item with more confidence.	Children can confidently explain a product's purpose and evaluate whether it is suitable for the intended function. They can begin to use this knowledge to design their own products, fit for purpose, for multiple different audiences.	Children understand the function of trusses, arches and beams in supporting a bridge structure. They can confidently design what criteria is required ensure a product is suitable for its intended purpose. Use their knowledge of functionality to evaluate whether their design works and meets the user's needs.	
Annotated sketches	Children recognise labels on a design when looking at pictures.	Children know that designs need labels to describe them and start to label their own designs using simple terms.	Children can explain why designs need labels and can use this knowledge to label their own designs using simple terms.	Children can explain why designs need labels and can use this knowledge to label their designs with more detail.	Children confidently explain why and how labels are used on designs and label their own designs with detail and technical vocabulary, noting different materials, design elements and tool required.	

Prototypes/Pattern Pieces		Children should understand how practising a design or skill is necessary to make a good final product.	Children are introduced to the term prototype and are able to make a prototype of their own design, before making their own product.	Children are introduced to the term pattern piece and are able to make a pattern piece of their own design, before making their own product.	Children are able to explain why a prototype/pattern piece is needed and are able to start problem solving design faults from their own prototypes.	
Computer Aided Design			Children should understand that certain graphics can be designed on a computer in order to contribute to the design of a product.			
<u>Make</u>						
Tools and Equipment	Children should know that tools and equipment are required to make a product.	Children should begin to understand why certain tools and equipment are chosen. They should use these to make and finish their own products.	Children should understand why certain tools and equipment are chosen. They should use these to make and finish their own products.	Children should understand why certain tools and equipment are chosen and use this knowledge to select their own equipment when designing and making a product.	Children should confidently explain why they have chosen certain tools to create a product of their own choosing.	Children should be able to select appropriate tools when making a product and be able to use them with confidence. They should be using a range of different materials that are fit for purpose.
Materials and Components	Children should be able to name some materials that things are made from.	Children should be able to name different materials from visual clues and be able to predict what products can be made from it.	Children are able to name different materials with much more confidence from a visual and written clues and be able to select products that are made from them and how they are fit for purpose. Children should be able to begin to select the correct components to make a simple circuit.	Children are able to confidently name different materials from visual and written clues and be able to select appropriate materials for their own designs. Children should be able to describe the different fabrics and materials used in their textiles unit.	Children should confidently name and describe different materials. They should pick suitable materials for their products dependent upon their functionality and how appropriate they are for their intended use. They should consider which materials work better in order to make a structure strong and secure.	

Aesthetics	Children should be able to share their own opinions of whether they like or dislike a product or idea.	Children should discuss whether they like a chosen design using their 5 senses to guide this discussion.	Children should discuss whether they like a chosen design using their 5 senses to guide this discussion, whilst understanding how this relates to the term 'aesthetics'	Children should compare and contrast the aesthetics of different products.	Children should discuss aesthetics of different products, compare and contrast these products using the word aesthetics in their discussions.	
<u>Evaluate</u>						
Design Criteria	Children should be able to make something following a basic, given design criteria with adult support.	Children understand that a design criteria is set for people to follow and make a particular product. Children should be able to make something following a basic, given design criteria with some independence.	Children understand that a design criteria is set for people to follow and make a particular product. They should be able to describe why this is important when designing a product, considering different audiences. Children should be able to design their own product based on a chosen design criteria with some adult guidance.	Children understand that a design criteria is set for people to follow and make a particular product. They should be able to describe why this is important when designing a product, considering different audiences Children should be able to design their own product based on a chosen design criteria independently.	Children understand that design criterion are set for people to follow and make a particular product. They should be able to confidently explain why this is important when designing a product, considering different audiences. Children should design and make their own product that is fit for purpose, based upon a design criteria that they have decided upon given the intended audience of their product.	Children should be able to analyse work of professionals and peers as well as their own. They should evaluate prototypes and make changes to designs in order to improve a product. They should continue to use technology to research designs. They should begin to understand the impact of technology of individuals in design and also the environment.
Impact of Technology		Children should begin to understand how researching online can help to generate ideas for a new product. They should use examples from research to help them design their own products.	Children should know that technology can be used to research different design ideas when brainstorming a new idea/product.	Children should describe the advantage of using technology to brainstorm ideas for a new product. With adult guidance, they should use a computer/iPad to research	Children can confidently use technology for research purposes. Children should be able to discuss the advantages of using technology when	

			Children should begin to understand how technology can contribute to a design with the use of graphics.	different products that are made using textiles.	designing a new product. They should refer to how technology can help to problem solve when problems arise with prototypes.	
<u>Technical Knowledge</u>						
Mechanical Systems		Children should begin to understand how mechanics can be used when designing and making a product. Making moving monsters should aid the children's understanding of this concept.			Children should know that products can be made using mechanics. They should understand how these improve a product and effect the structure and movement of a product. They should apply their knowledge to creating an effect cams system.	Children should understand how the properties of certain materials impact their effectiveness in certain structures. They should understand how some mechanical systems work and use this knowledge to inform future designs (moving mechanics or electrical mechanics). Children should know how simple circuits can cause a product to move, light up or make a sound. In addition, children should begin to use computing to program designs and include electronics.
Electrical Systems			Children should begin to understand how simple circuits can be used within certain products to make sounds, light or movement. They should use their knowledge to complete their own simple circuits within a product using sound.			
<u>Cooking and Nutrition</u>						

Principles of a Healthy and Varied Diet	Children should begin to understand that eating healthy foods is important for staying healthy.	Children should begin to gain a better understanding of what makes up a healthy diet and have discussions about which foods are 'healthy' and which foods should be eaten in small amounts. They should use this knowledge to design a sandwich that would be part of healthy diet. They will do this by selecting a variety of fillings from a given list.	Children should be able to describe what makes up a healthy diet and should refer to the eatwell plate within their discussions. They should use this knowledge to design a meal that is balanced and could contribute to a healthy diet.	Children should be able to describe what makes up a healthy diet and should refer to the eatwell plate within their discussions. Children should be able to discuss why certain foods are important in a balanced diet and then be able to design a product that use certain ingredients that are important for a healthy diet.	Children should be able to explain what makes up a healthy, balanced diet whilst referring to the eatwell plate. They should begin to understand how seasonality and locality of foods can impact the availability of a varied and healthy diet. They should compare different diets from different countries and apply their knowledge to preparing something from each location.	Children should understand the principles of healthy diet and confidently explain how a good diet contributes to staying healthy. Children should continue to build their cooking skills by cooking a variety of savoury dishes. They should begin to gain an understanding of different flavours and textures and use this knowledge to plan their own recipes. Children should also confidently explain where food comes from and what is meant by seasonality. The continuation of the DT curriculum in KS3 should instil a love of cooking and give children the confidence they need to independently cook themselves meals in adult life in a safe and hygienic way.
Seasonality	Children should begin to understand foods can be grown.		Children should begin to describe where food comes from, understanding which foods are grown, caught and reared. Children should begin to understand that different foods are at their best at certain times of year. They should use this knowledge to plan their own dish using vegetables that are grown in the UK.		Children should describe where food comes from and explain where in the world food grown, caught and reared. They should begin to understand how locality of certain ingredients contributes to different countries having different diet choices to the UK. They should apply this knowledge to preparing food from around the world.	