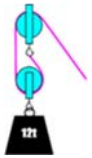
Charnock Hall Primary Academy
A L.E.A.D. Academy

Aspect	EYFS	KS1		Lower KS2		Upper KS2	
		Y1	Y2	Y3	Y4	Y5	Y6
Design	Select appropriate resources. Use gestures, talking and arrangements of materials and components to show design. Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)	Draw a simple picture of an intended design with basic labelling. Have own ides with support. Explain what the product is for and how it will work. Describe others' work.	Produce detailed, labelled drawings or models of products based on design criteria. Think of ideas and plan what to do next, based on their experience of working with materials and components. Describe similarities and differences of others work. Describe why a design, building or designer is important.	Share ideas through words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose. Make realistic plans identifying processes, equipment and materials needed.	Collect information from a number of different sources and use this information to inform design ideas in words, labelled sketches, diagrams and models, keeping in mind fitness for purpose and the end user. Make realistic, step by step plans, reflecting on designs as the product develops. Explain how fashions and fabrics have changed over time and how this has affected fashion. Explain how the design of a product has changed over time.	Use various sources of information, clarifying/sharing ideas through discussion, labelled sketches, cross sectional diagrams and modelling, recognising that ideas have to meet a range of needs. Work from own detailed plans, modifying them where appropriate.	Develop criteria for designs for products aimed at particular individuals or groups, sharing ideas through cross-sectional and exploded diagrams, prototypes and pattern pieces. Use market research to inform my plans and ideas. Work within a budget. Check work as it develops and modify their approach in light of progress. Justify my plans in a convincing way.
Make	Construct with a purpose, using a variety of resources. Use simple tools and techniques. Build/construct with a wide range of objects. Select tools and techniques to shape, assemble and join Replicate structures with materials and components. Discuss how to make activity safe and hygienic. Record experiences by drawing, writing, voice recording.	Select appropriate tools for a simple practical task. Select a range of materials. Cut and join materials using glue and simple techniques.	Select the appropriate tools for a task and explain choices. Use different methods of joining materials. Measure, mark and cut out desired shapes. Choose appropriate components and materials and suggest ways of manipulating them to achieve desired effect.	Use tools safely for cutting and joining materials and components. Plan which materials will be needed for the task and explain why. Measure, mark and cut out desired shapes accurately.	Select name and use tools with adult supervision. Choose from a range of materials , showing understanding of their different characteristics. Measure, mark and cut out desired shapes with precision. Hand sew a hem or seam using running stitch.	Name and select increasingly appropriate tools for the task and use them safely. Select and combine materials with precision. Measure, mark and cut out desired shapes confidently. .	Select appropriate tools for a task and use them safely and precisely. Choose the best materials for the task, showing understanding of their working characteristics. Measure, mark and cut out desired shapes accurately and confidently. Pin and tack fabrics in preparation for sewing and more complex pattern work. Use different methods of fastening for function.
Evaluate	Dismantle, examine , talk about exsitiing objects/ structures. Consider and manage risk. Discuss how things work. Describe textures. Look at similarities and differences between	Talk about their own and others' work identifying strengths or weaknesses. Describe how an existing product works (e.g. 'the toy moves when I turn the handle'.) Describe the similarities and differences between two products.	Explain how closely, finished products, meet their design criteria and say what they could do better in the future. Investigate a range of existing products and say if they do what they are supposed to do.	Suggest improvements to products made and describe how to implement them (taking the view of others into account). Investigate the design features (including identifying components or ingredients) of	Identify what has worked well and what could be improved, evidencing and explaining the results of research. Investigate and identify the design features of a familiar product. Compare two or more products or inventions. Explain how an existing product is useful to the user.	Test and evaluate products against a detailed design specification and make adaptations as they develop the product. Investigate the design features (including identifying components or ingredients) of a familiar existing product in the context of the culture or	Demonstrate modifications made to a product, because of ongoing evaluation by themselves and others. Explain how products should be stored and give reasons. Explain the form and function of familiar existing products.

	exisiting objects /materials/ tools.	Name and explore a range of everyday products and describe how they are used.	Compare different or the same products from the same or different brands. Explain how an everyday product could be improved.	familiar existing products. Explain how the existing product benefits the user. Explain the similarities and differences between the work of two designers. Describe how key events in design and technology have shaped the world.	Explain how and why a significant designer or inventor shaped the world.	society in which it was designed or made. Describe the social influencer of significant designer or inventor.	Compare two or more products or inventions in a detailed description. Present a detailed account of the significance of a favourite designer or inventor. Analyse how an invention or product has significantly changed or improved people's lives.
Technical Knowledge- Electrical Systems				Use simple circuit in product. Learn how to program a computer to control a product.	Use a number of components in a circuit. Program a computer to control product.	Incorporate switch into a product. Confidently use a number of components in a circuit. Begin to be able to program computer to monitor changes in the environment and to the control product.	Use different types of circuits in a product. Generate ideas of adding a circuit would improve the product. Program a computer to monitor changes in the environment and to control the product.
Technical Knowledge- Construction 	Explore different materials freely in order to develop their ideas about how to use them and what to make. Create collaboratively, share ideas and use a variety of resources to make products inspired by existing product, stories or their own ideas, interest and experiences.	Begin to measure and join materials with some support. Describe the differences in materials. Suggest ways to make material or product stronger.	Measure materials. Describe some different characteristics of materials. Join materials in different ways. Use joining, rolling or folding to make the product stronger. Use own ideas to try to make the product stronger.	Select appropriate materials Measure and work accurately to make cuts and holes. Join materials. Begin to make strong structures.	Measure materials carefully ad accurately. Make attempts to make the product strong. Make a strong, stiff structure.	Select materials carefully considering intended use of product and appearance. Explain how the product meets the design criteria. Measure accurately enough to ensure precision. Ensure the product is strong and fit for purpose. Begin to reinforce and strengthen a 3D frame.	Select materials carefully considering intended use of product, the aesthetics and functionality. Explain how the product meets the design criteria. Reinforce and strengthen a 3D frame.
Technical Knowledge- Mechanisms 	Explore build and play with a range of resources and construction kits with wheels and axels.	To begin to understand how to use wheels and axels in a product.	To use a range of mechanisms (levers, sliders, wheels and axels) in models or products.	To select appropriate tools and techniques. To use simple levers and linkages to create movement. Describe ways to improve the product.	To select most appropriate tools and techniques. Explain alterations to a product after checking it. To use levers and linkages to create movement.	Use pneumatics to create movement. Refine a product after testing. Develop confidence in trying new and different ideas. To begin to use cams, pulleys or gears to create movement.	To incorporate hydraulics and pneumatics. Refine a product after testing, considering aesthetics, functionality and purpose. Develop confidence to try new and different ideas.
Technical Knowledge- Textiles 	Construct simple structures and models using a range of materials. Experiment with colour design, texture, form and function.		Measure textiles. Join textiles together to make a product and explain how the product was made. Carefully cut textiles to produce accurate pieces. To begin to understand that a 3D textile structure can		Consider the choice of textile for the user. Find ways to make the product strong. Begin to devise a template. Explain how to join fabrics/accessories in different ways.		Consider the user's wants/needs and aesthetics when choosing the textile. Make the product attractive and strong. Make a prototype. Use a range of joining techniques.

	To use a range of small tools e.g scissors. Share their creations explaining the process they have used.		be made from two identical fabric shapes (Christmas decorations).		Understand that a simple fabric shape can be used to make 3D textile project		Describe how to make improve the product. Understand that a simple 3D textiles project can be made from a combination of fabric shapes.
Technical Knowledge- Food and Nutrition 	Begin to understand some food preparation, tools, techniques and process. Use a range of small tools. Practise stirring, mixing and blending. Discuss how to make an activity safe and hygienic. Discuss the need for variety in food to promote good health.	To understand the importance of washing hands and cleaning surfaces. Discuss where foods come from by identifying if it is from an animal or plant source. Discuss how fruit and vegetables are healthy. Describe interesting ways to decorate food. Describe textures of food. Measure and weight food using non-standard measurements such as spoons and cup. Use a range of tools to cut, peel and grate safely with support.	Explain hygiene and the importance of keeping a hygienic kitchen. Identify the origin of some of the common food. Describe how food is farmed, home-grown, caught. Discuss the different food groups and 'five a day'. Describe the properties of ingredients and the importance of a varied diet. Use a range of tools to cut, peel and grate increasing confidence.	To being to understand that food comes from the UK and wider world. Describe how to sustain a healthy diet. Identify the main food groups. Explain how food and drink are needed for active/healthy bodies. Carefully select ingredients. To use equipment safely. Develop confidence using the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking. Prepare and cook a simple savoury dish.	Explain how to be safe and hygienic. Identify and name foods that are produced in different places of the UK and beyond. Understand that ingredients can be fresh, pre-cooked or processed. Explain the importance of a balanced diet and food and drink are needed for active/healthy bodies. Identify and use a range of cooking techniques to prepare a simple meal or snack. To use the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	Explain how to be safe and hygienic and follow own guidelines. Describe what seasonality of foods are. Understand that food can be grown, reared or caught in the UK and wider world. Explain how different substances in food/drink are needed for health. Describe how recipes can be adapted to change appearance, taste, texture or aroma. Use an increasing range of preparation and cooking techniques to cook a sweet or savoury dish using a heat source where appropriate. To use the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. Explain the seasonality of foods. Learn about food processing methods. Name foods that can be grown, reared or caught in the UK and wider world. Follow a recipe that requires a variety of techniques and source necessary ingredients independently. Adapt recipes to change appearance taste, texture or aroma. Describe some of the different substances in food and drink and how they can affect health. Explain how organic produce is grown. To use the following techniques confidently: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.