

 Design and Technology Curriculum – Year 1 and 2 – Cycle B Please refer to Previous Years’ Geography assessment documents linked to hierarchies Link to DT Association guidance – Link to Projects on a Page Documents			
Key stage 1 National Curriculum	Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]. When designing and making, pupils should be taught to: Design ♣ design purposeful, functional, appealing products for themselves and other users based on design criteria ♣ generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology Make ♣ select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] ♣ select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics Evaluate ♣ explore and evaluate a range of existing products ♣ evaluate their ideas and products against design criteria Technical knowledge ♣ build structures, exploring how they can be made stronger, stiffer and more stable ♣ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. Cooking and nutrition: As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life. Pupils should be taught to: Key stage 1 ♣ use the basic principles of a healthy and varied diet to prepare dishes ♣ understand where food comes from.		
	Developing Planning and Communicating Ideas	Evaluating Processes and Products	Knowledge and Understanding of Materials and Components
Non-Negotiables Year 1	- Design purposeful, functional, appealing products for themselves and other users based on design criteria - Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology	- Explore and evaluate a range of existing products - Evaluate their ideas and products against design criteria	Build structures, exploring how they can be made stronger, stiffer and more stable
Non-Negotiables Year 2	Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.	Identify what they could have done differently or how they could improve their work in future	Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.
	Autumn 2: Toys - Textiles “Puppets” with use of E-Protfolios	Spring 2: “Making a moving picture”	Summer 2: Vehicles Stiff Materials – wood/wheels: “Wheeled beach hut”
Hierarchies	To master practical skills: DT4: Cut materials safely using tools provided. DT5: Measure and mark out to the nearest centimetre. DT6: Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). DT8: Shape textiles using templates. DT9: Join textiles using running stitch. DT10: Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). To design, make, evaluate and improve: DT15: Design products that have a clear purpose and an intended user. DT16: Make products, refining the design as work progresses. To take inspirations form designers from history: DT18: Explore objects and designs to identify likes and dislikes of the designs. DT19: Suggest improvements to existing designs. DT20: Explore how products have been created. Revisiting Cycle B -	To master practical skills: DT4: Cut materials safely using tools provided. DT5: Measure and mark out to the nearest centimetre. DT6: Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). DT7: Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). DT14: Create products using levers, wheels and winding mechanisms. To design, make, evaluate and improve: DT15: Design products that have a clear purpose and an intended user. DT16: Make products, refining the design as work progresses. To take inspirations form designers from history: DT18: Explore objects and designs to identify likes and dislikes of the designs. DT19: Suggest improvements to existing designs. DT20: Explore how products have been created Revisiting Cycle A – joining techniques – building a castle	To master practical skills: DT4: Cut materials safely using tools provided. DT5: Measure and mark out to the nearest centimetre. DT6: Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). DT7: Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). To design, make, evaluate and improve: DT15: Design products that have a clear purpose and an intended user. DT16: Make products, refining the design as work progresses. To take inspirations form designers from history: DT18: Explore objects and designs to identify likes and dislikes of the designs. DT19: Suggest improvements to existing designs. DT20: Explore how products have been created. Revisiting Cycle A – axels for winding mechanisms
Resources	E portfolios and pupils electronic workbook, http://web.data.org.uk/data/primary/eportfolios.php examples or pictures of a variety of finger and hand puppets from a range of cultures (see e-portfolio), fabric for learning sewing techniques eg plastic mesh, binca, hessian, fabric, preferably non-fraying eg felt, dipryl (disposable cloths), templates, fabric scissors, needles, thread, fabric glue, stapler, felt-tip pens, wool, sequins, buttons, small pieces of fabric to use as features for the puppets doweling Texts: Dogger by Shirley Hughes, This is the Bear,	Guidance resources on S Drive , card, paper (variety of colours), paper straws, glue, stapler, felt-tip pens, split pins, Texts: Mini-beast reference books,	Guidance resources on S Drive , Pictures of vehicles, boxes, card, scissors, masking tape, card wheels, wooden wheels, axels (wood), vehicle kits, Sellotape, masking tape,

Vocabulary	user, list, label, drawing, ideas, choose, material, disassemble, plan, template, fabric, cutting out, sewing, needle, running stitch, gluing, adding puppet, (string puppet, marionette, puppet), seam, stitch, thread, strong, quality, features, strengthen, reflective symmetry, position, to, applique, joining techniques, towards evaluate, feedback	Sliding mechanism, lever, wheel mechanism, slot, pivot, movement, wheel, guide, rigid, materials, sustainable, reinforce, properties, user, design specification, landscape, portrait, join, background, foreground, technique, accurate, produce, effects, constructive, evaluate, feedback,	Vehicle, label, drawing, ideas, choose, decide, try, explore, investigate, plan, stable, wheel, rotate, axle, cab, body, chassis, sustainable, reinforce, joint, parallel, reinforce, evaluate, feedback,
Flashback	Use a range of small tools, including scissors, paintbrushes and cutlery.	- what puppets are and how they are used - how to join fabrics using a running stitch (Y2 how to add decorations such as a button) - how to work safely with a variety of sharp tools, such as needles and scissors	- how a sliding mechanism works. - how to make their own sliding mechanism. - and understand what a lever is and how it works - how to work safely with a variety of tools
Lesson 1	WALT: investigate a range of puppets and their features. Activities: Children to discuss and explore a range of puppets, their features, what materials are used and what they are used for. They will have the opportunity to choose their favourite puppet, draw and label it Children will know: - what puppets are and how they are used - recognise and describe different types of puppets - and identify the features of a puppet Vocabulary – Puppet - a toy or model of a person or animal that you can move to tell a story or put on a show Material - what an object is made from Disassembly - taking something apart to see how it works	WALT: create a sliding mechanism Activities: In this first lesson, children will find out what a sliding mechanism is, and how it can be used to make a simple moving picture. They will then explore the sliding mechanism themselves in their independent activities, making a variety of simple moving pictures with different minibests. Children will know: - how a sliding mechanism works. - how to make their own sliding mechanism. - how to evaluate the sliding mechanisms they have made. Vocabulary Slider - a bar which moves backwards and forwards along a straight line Guide - a piece of material used to keep mechanisms in place and control movement Slot - the hole through which a lever or slider is placed to enable movement	WALT: investigate a variety of vehicles and their uses and features Activities: Children to explore and discuss a variety of different vehicles, their features and what they are used for. They will choose their favourite vehicle to compare, draw and label. Children will know: - and identify different types of vehicles. - the main features of a vehicle. - the uses for a variety of vehicles Vocabulary Vehicle – a machine with wheels used for transporting people or goods Axle – a rod that holds a wheel in place and allows it to turn Wheel – a circular object that turns on an axel Rotate – to turn or spin around a central point
Lesson 2	WALT: work with fabric to create a finger puppet. Activities: Children will explore and discuss a variety of materials. They could use a feely back to describe a range of fabrics – use magnifying glasses to explore what the fabrics look like – scrunch them to listen to what they sound like – sort fabrics hard/soft, holes/no holes. Using the templates, they will work with fabric (felt) to create, make and decorate a finger puppet. (Y1s could create a lollypop puppet) Children will know: - how to develop ideas by putting components together - how to discuss their finished work and evaluate what went well - how to use a template to cut out appropriate sizes of fabric Vocabulary Properties - words to describe what a material is like Fabric - a material used to make clothes, blankets, curtains, etc Man-made - materials that come from sources made by humans, such as plastic Natural - materials that come from natural sources, such as cotton or leather	WALT: use levers and pivots to create a moving mechanism Activities: Children are first shown a moving picture with a lever and pivot mechanism, and asked to explain how they think it works. They will then explore and discuss how it has been made, looking at how to hide the lever at the back of a picture too. Children then create moving pictures of minibests using the lever and pivot mechanism. Children could be shown a third way in which to make a moving picture by creating a wheel mechanism. They will be encouraged to discuss how it works as a class before having the chance to practise making their own moving minibest pictures using the wheel mechanism. Children will know: - and understand the term 'lever'. - Know how to combine and join materials to make their own lever mechanisms - how their lever works Vocabulary Mechanism - something that creates movement in an object Lever - a bar that helps lift or move things by turning on a point Pivot - a point around which an object moves or rotates Rigid - unable to bend or be forced out of shape	WALT: investigate wheels, axles and chassis Activities: Children to understand how different parts of a vehicles help to make them work. They will practise attaching wheels to axles and chassis Children will know: - what wheels, chassis and axles are. - two different ways of attaching wheels to axles. - how to experiment with a range of materials and techniques to combine wheels, axles and chassis. Vocabulary Chassis- the framework of a vehicle that supports the body and engine Axle – a rod that holds a wheel in place and allows it to turn Axle holder – the part where the axle goes through to hold it in place but still allow it to rotate Engine – a machine that helps a vehicle to move
Lesson 3	WALT: develop and practise sewing skills Activities: Children will learn different sewing techniques to use when creating a puppet. They will practise these skills before making their actual puppet. Y2 use a needle and thread to attach buttons and other features to material Children will know: - how to use running stitch to join two pieces of fabric together - how to work safely with a variety of sharp tools, such as needles and scissors Year 2 - how to use a needle and thread to attach buttons and other features to material Vocabulary Sewing - to make stiches in fabric using a needle and thread Stitches - a loop of thread made using a needle Thread - a thin piece of string used to sew Joining - ways to join two things together correctly	WALT: explore properties of paper and card Activities: Recap what a material is. What recycled material is. Explore properties of card – what makes it a good material for a greetings card – lightweight, bendy, cheap, tears easily. Easy to work with. Discuss what design specification is – decides what user needs. Look at items needed to make design – card, glue, scissors, split pins, Sellotape, pencil etc Children will know: - how to cut out (Y1 with support) and join components to create a wheel mechanism. - Card is made of different layers of paper and comes from trees - Card is used to make greetings cards because it is strong, sturdy, not too expensive and easy to decorate Final designs consider users, materials and equipment to organise product design Vocabulary Properties - words to describe what a material is like	WALT: investigate ways of creating and decorating the body of a vehicle. Activities: Children to explore and discuss the different ways of creating the vehicle’s body. They will use a variety of different boxes and modelling equipment to explore different ways of creating the bodies of vehicles. Children will know: - and choose materials to use as the body of a vehicle. - different ways of decorating the body of a vehicle - different ways of combining materials to create the body of a vehicle (including ICT) Vocabulary Body – the main structure of a vehicle that holds its components Chassis- the framework of a vehicle that supports the body and engine Design specification – describes what a product has to do Material – what an object is made from Properties – words to describe what a material is like

		Material - what an object is made from Sturdy - strong and hard wearing User - the person who the object is designed for	Sustainable – using things in a way that doesn’t use them up or harm the environment, so there is more for the future
Lesson 4	WALT: design a glove puppet. Activities: Children design a puppet for a particular purpose – sketch ideas to a design specification – designs can be changed, sometimes other ideas may work better. Children will know: - how to use the skills they have acquired to design their own glove puppet. - the possible techniques to use and share their ideas to help create their designs. - what materials and tools they will need to make their puppet Vocabulary Design specification - describes what a product has to do Sketch - a quick drawing based on what you can see Ideas - a suggestion Design - planning how a product will look or work	WALT: design a picture with a moving mechanism Activities: In this lesson children will apply what they have learnt about the three different types of moving mechanisms to design their own moving minibeast picture for an author who is creating a children’s book about minibeasts. Children will know: - how to design their own moving picture. - how to choose a suitable moving mechanism for their design - how the mechanism will make their picture move Vocabulary Landscape - something that is horizontal - wider than taller Portrait - something that is vertical - upright Produce - to make something Accurate - something being very precise and exact	WALT: design a vehicle with an identified purpose Activities: Children to design their own vehicle using the techniques previously explored, as well as following the success criteria. Children will know: - how to design a vehicle. - and describe which materials and tools they will need to make their vehicles. - how to discuss their designs and say what they think and feel about them. Vocabulary – Design specification – describes what a product has to do Vehicle – a machine with wheels used for transporting people or goods Design – the process of creating a plan for a product or structure Reinforce – to strengthen or support an object or structure Body – the main structure of a vehicle that holds its components
Lesson 5	WALT: follow a design to make a puppet. Activities: Teacher models how to create a template to cut material – initially planned on paper. Use scissors to carefully cut out. Children to follow their designs to create their glove puppet. They should think about the appropriate materials to use and to work safely and carefully. (Extra details can be added later i.e. ears) Joining fabric using simple running stitch. Adding applique details Children will know: - the steps they will need to take to create their puppet - how to follow their designs to create their puppets - how to work safely and sensibly when working with a variety of materials and tools Vocabulary Template - a shape or pattern used to help cut something to the right size Accurate - being very exact, with no mistakes Join - to connect two or more things together Appliqué - gluing or sewing fabric shapes or designs onto another fabric Detail - a small feature that adds interest	WALT: make a minibeast-themed moving picture Activities: Children will be encouraged to think carefully about the mechanism they are going to make, the equipment they will need, and their order of work, before beginning to create their moving picture based on their design from the previous lesson. Children will know: - how to follow a design to create a picture with a moving mechanism. - how to work safely with a variety of tools. - and identify ways in which they can improve their finished products Vocabulary Technique - a special way of doing something Background - the part behind the main picture Effects - making designs eye-catching Foreground - the main picture Font - style of lettering	WALT: make a vehicle based on a design. Activities: Children to follow their designs to create and make their vehicles using a range of craft materials. They will need to make sure they are working safely and carefully. Children will know: - how to create a vehicle. - how to use a variety of materials and tools safely to create a vehicle - and identify ways in which they could improve their products (Y2s amend accordingly). Vocabulary Vehicle - a machine with wheels used for transporting people or goods Joint - a point at which two parts of a structure are joined together Parallel - lines that are always the same distance apart and never meet Reinforce - to strengthen or support an object or structure Body - the main structure of a vehicle that holds its components
Lesson 6	WALT: evaluate a finished product. Activities: Children to share and demonstrate their puppets. They will then evaluate their own puppets. Children will know: - how to evaluate their own finished products and say what they think and feel about them - how to comment on the work of others and offer their opinions - and identify ways in which they could improve their work in the future Vocabulary Appliqué - gluing or sewing fabric shapes or designs onto another fabric Detail - a small feature that adds interest Joining techniques - ways to join two things together correctly Evaluate - checking how good something is and how to make it better Feedback - comments or suggestions on how to improve a product	WALT: evaluate a moving minibeast picture Activities: In this final lesson, children will evaluate their completed moving minibeast picture. After beginning to discuss some evaluative questions with a partner and the class, children will then continue this self-assessment in their independent activities. Children will know: - what it means to evaluate. - how to evaluate their own moving picture. - and identify ways to improve their moving picture. Year 2 - and other people’s moving picture. Vocabulary Feedback - comments about products Constructive - improve something by giving helpful advice Evaluation - checking how good something is and how to make it better	WALT: evaluate a finished product. Activities: Children will share their vehicles with their friends, making sure that wheels are working and the chassis is strong. They will then evaluate their vehicle, explaining how their vehicle could be improved if they were to make it again. Children will know: - how to evaluate a finished product by identifying what they did well. - how to evaluate a finished product by identifying what could be improved. - and identify ways in which they could improve their work with DT in the future Vocabulary Vehicle - a machine with wheels used for transporting people or goods Testing - trying something to see if it works and to make changes or improvement to it Success criteria - a list which helps to see if the object does what it is expected to do Evaluate - checking how good something is and how to make it better Feedback - comments or suggestions on how to improve a product
Key knowledge	Children will know; - what puppets are and how they are used - how to join fabrics using a running stitch (Y2 how to add decorations such as a button) - how to work safely with a variety of sharp tools, such as needles and scissors	Children will know: - how a sliding mechanism works. - how to make their own sliding mechanism. - and understand what a lever is and how it works - how to work safely with a variety of tools	Children will know: - and the main features and uses of different types of vehicles - how to use a variety of materials and tools safely to create a vehicle - what wheels, chassis and axles are and know two different ways of attaching wheels to axles to create a vehicle they have designed