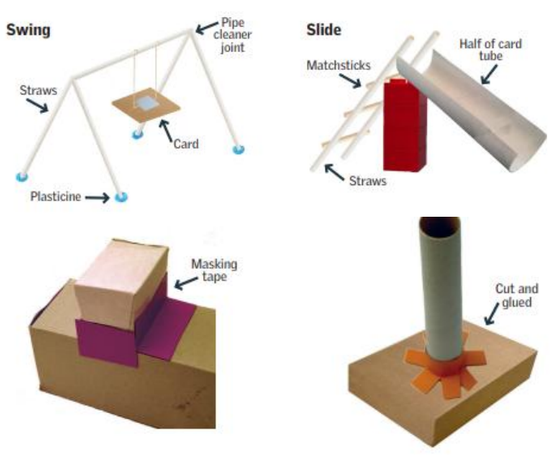
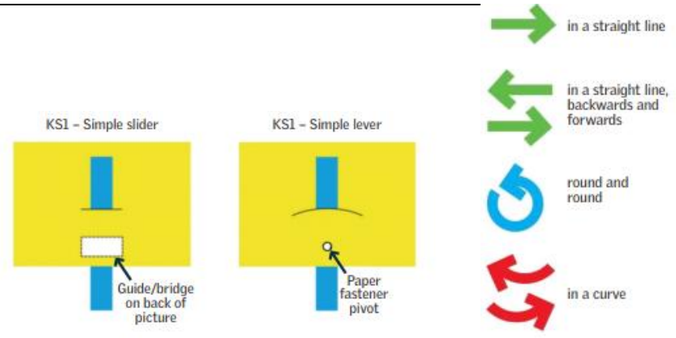
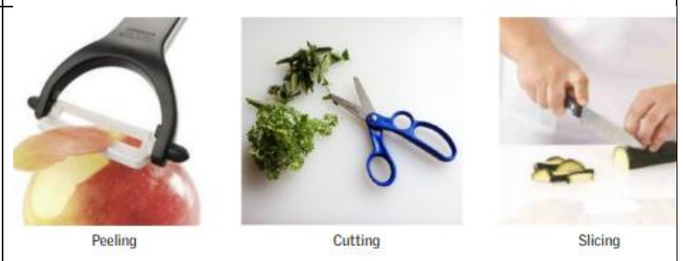
Charles Darwin Community Primary School Progression in Design Technology
Year 1

Term **Topic**	**Autumn** **Design, make and evaluate a chair for baby bear so he doesn't fall off**	**Spring** **Design, make and evaluate a card for your parent/carer for Easter**	**Summer** **Design, make and evaluate a fruit kebab for Year 1 for a healthy snack**
Themes	**Freestanding Structures**	**Mechanisms – sliders and levers**	**Food – preparing fruit and vegetables**
Prior knowledge	Construction play in EYFS – rebuilding towers that have fallen Junk modelling in EYFS knowing how to stick things that don't fall apart	Making cards for a purpose – knowing what cards are for from EYFS Design and make process recalled from Term 1	Children learn in EYFS about healthy snacks and can peel there own fruit at snack time
Prior skills	Experience of using construction kits to build walls, towers and frameworks. • Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. • Experience of different methods of joining card and paper	Early experiences of working with paper and card to make simple flaps and hinges. • Experience of simple cutting, shaping and joining skills using scissors, glue, paper fasteners and masking tape.	Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. • Experience of cutting soft fruit and vegetables using appropriate utensils.
Key vocabulary	cut, fold, join, fix structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved metal, wood, plastic circle, triangle, square, rectangle, cuboid, cube, cylinder design, make, evaluate, user, purpose, ideas, design criteria, product, function	slider, lever, pivot, slot, bridge/guide • card, masking tape, paper fastener, join • pull, push, up, down, straight, curve, forwards, backwards • design, make, evaluate, user, purpose, ideas, design criteria, product, function	fruit and vegetable names, names of equipment and utensils soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria
NC Statutory Requirements	**Key stage 1** 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.		
Technical knowledge and understanding	As a freestanding structure becomes taller its centre of gravity rises. Stability in a structure can generally be increased by making the base wider, making the base heavier or adding buttresses.	As an enhancement to this project children could add flaps to their moving pictures. Some children may find flaps, which can be used to make a picture appear and disappear, easier to make than levers or sliders	
Techniques			

KPIs	**Designing** • I can generate ideas based on simple design criteria and my own experiences, explaining what I could make. • I can develop, model and communicate my ideas through talking, mock-ups and drawings.	**Designing** • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through drawings and mock-ups with card and paper	**Designing** • Design appealing products for a particular user based on simple design criteria. • Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings
	Making • I can plan by suggesting what to do next. • I can select and use tools, skills and techniques, explaining my choices. • I can select new and reclaimed materials and construction kits to build their structures. • Use simple finishing techniques suitable for the structure they are creating.	**Making** • Plan by suggesting what to do next. • Select and use tools, explaining their choices, to cut, shape and join paper and card. • Use simple finishing techniques suitable for the product they are creating	**Making** • Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product.
	Evaluating • Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. • Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria.	**Evaluating** • Explore a range of existing books and everyday products that use simple sliders and levers. • Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.	**Evaluating** • Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. • Evaluate ideas and finished products against design criteria, including intended user and purpose.
	Technical knowledge and understanding • Know how to make freestanding structures stronger, stiffer and more stable. • Know and use technical vocabulary relevant to the project.	**Technical knowledge and understanding** • Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know and use technical vocabulary relevant to the project	**Technical knowledge and understanding** • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of The Eatwell Guide. • Know and use technical and sensory vocabulary relevant to the project.
Links to other subjects	**Geography** – use simple fieldwork and observational skills to study the geography of their school and its grounds and the key physical features of its surrounding environment. **Spoken language** – participate in discussion about various structures, taking turns and listening to what others say. Ask relevant questions to extend their knowledge and understanding. Build technical vocabulary. **Mathematics** – use appropriate standard and non-standard measures. Recognise and name common 2-D and 3-D shapes. **Science** – think about the properties of materials that make them suitable or unsuitable for particular purposes. **Art and design** – use colour, pattern, line, shape. Use and develop drawing skills.	**Spoken language** – participate in discussion about books and other products with moving parts, taking turns and listening to what others say. Ask relevant questions to extend their knowledge and understanding. Build technical and directional vocabulary. **Mathematics** – describe position, direction and movement. Use appropriate standard and non-standard measures through imagining and exploring ideas. **Art and design** – use colour, pattern, line, shape. **Computing** – digital graphics and text could be incorporated into final products as the background or moving parts	**Science** – understand that plants have leaves, stems, roots, flowers and fruits; understand the importance of growing plants and how seasons affect growth. Talk about a balanced diet, different types of food and hygiene. **Spoken language** – children develop and use a sensory vocabulary. **Writing** – develop descriptive writing based on first-hand experience of tasting fruit and vegetables. **Mathematics** – carry out a simple survey to find out which are the favourite fruits/vegetables; construct and interpret the information in e.g. pictograms and bar graphs. **Art and design** – use and develop drawing skills. **Computing** – use digital photographs to help order the main stages of making and support children's writing.
Lessons	**Investigative and Evaluative Activities (IEAs)** • Go on a walk and/or look at photographs of the local area to explore structures such as playground equipment, street furniture, walls, towers and bridges • Where possible, ask the children to draw or photograph the structures they have been exploring and label with the correct technical vocabulary in relation to the structure, materials used and shapes	**Investigative and Evaluative Activities (IEAs)** • Children explore and evaluate a collection of books and everyday products that have moving parts, including those with levers and sliders. • Use questions to develop children's understanding • Introduce and develop vocabulary e.g. lever, pivot, slider, left, right, push, pull, up, down, forwards, backwards, in, out	**Investigative and Evaluative Activities (IEAs)** • Children examine a range of fruit/vegetables. Use questions to develop children's understanding • Provide opportunities for children to handle, smell and taste fruit and vegetables in order to describe them through talking and drawing. • Evaluate existing products to determine what the children like best; provide opportunities for the children to investigate preferences of their intended users/suitability for intended purposes
	. **Focused Tasks (FTs)** • Demonstrate measuring, marking out, cutting, shaping, joining and finishing techniques with a range of tools and new and reclaimed materials that children are likely to use to make their structures. Discuss the suitability of materials for their products according to their characteristics. • Ask the children to build and explore a variety of freestanding structures using construction kits, such as wooden blocks, interconnecting plastic bricks	**Focused Tasks (FTs)** • Demonstrate simple levers and sliders to the children using prepared teaching aids. It is helpful if these are also used in context e.g. the slider is used to show a snail appearing from behind a stone, the lever is used to show a butterfly flying to a flower. • Use questions to develop children's understanding • Following teacher demonstration of the correct use of tools and materials, children should develop their knowledge and skills by replicating the slider and lever teaching aids. Encourage children to add pictures to their mechanisms.	**Focused Tasks (FTs)** • Discuss basic food hygiene practices when handling food including the importance of following instructions to control risk • Demonstrate how to use simple utensils and provide opportunities for the children to practise food processing skills such as washing, grating, peeling, slicing, squeezing. Discuss different effects achieved by different processes.

	and those that make frameworks. Children could make models of the structures they have seen in school and the local area. • Ask children to fold paper or card in different ways to make freestanding structures, using masking tape where necessary to make joins. Encourage them to think about how folding materials can make them stronger, stiffer, stand up and be more stable cube.		• Discuss healthy eating advice, including eating more fruit and vegetables; using The Eatwell Guide model talk about the importance of fruit and vegetables in our balanced diet
	Design, Make and Evaluate Assignment (DMEA) • Demonstrate measuring, marking out, cutting, shaping, joining and finishing techniques with a range of tools and new and reclaimed materials that children are likely to use to make their structures. Discuss the suitability of materials for their products according to their characteristics. • Ask the children to build and explore a variety of freestanding structures using construction kits, such as wooden blocks, interconnecting plastic bricks and those that make frameworks Children could make models of the structures they have seen in school and the local area. • Ask children to fold paper or card in different ways to make freestanding structures, using masking tape where necessary to make joins. Encourage them to think about how folding materials can make them stronger, stiffer, stand up and be more stable cube.	**Design, Make and Evaluate Assignment (DMEA)** • Discuss with the children what they will be designing, making and evaluating • Generate simple design criteria with the children e.g. the mechanism should work smoothly, it should make the right type of movement. • Encourage the children to develop their ideas through talking, drawing and making mock-ups of their ideas with paper and card. • Discuss the finishing techniques the children might use e.g. using digital text and graphics, paint, felt tipped pens or collage. • As a whole class, talk about the order in which the mechanisms will be made. • Ask children to evaluate their developing ideas and final products against the original design criteria	**Design, Make and Evaluate Assignment (DMEA)** • Set a context for designing and making which is authentic and meaningful. • Discuss with the children the possible products that they might want to design, make and evaluate and who the products will be for. Agree on design criteria that can be used to guide the development and evaluation of children's products • Use talk and drawings when planning for a product; ask the children to develop, model and communicate their ideas • Talk to the children about the main stages in making, considering appropriate utensils and food processes they learnt about through IEAs and FTs. • Evaluate as the children work through the project and the final products against the intended purpose and with the intended user, drawing on the design criteria previously agreed
Assessment questions	What did you make? What did you use to make it? Why did you choose those materials? Which tools did you use? Were there any other tools you could have used? What is a freestanding structure? Wich shape was the stronges? What worked well? What didn't go well? How could you have made it better? Did your product work? Did Baby Bear fall off the chair?	What did you make? What did you use to make it? Why did you choose those materials? Which tools did you use? What did you do first? Why did you do that first? Which finishing techniques did you use? Why? Who did you make the card for? Did you use a slider or a lever? How did it work? Which part was the hardest part? What is a mechanism?	Which fruit or veg did you use? Why did you choose those? Who did you make the product for? How did you make sure you were safe? Which tools did you use? Did the kebab taste nice? Would you change anything? If you designed a kebab for a friend what would you need to ask?