Mousehole Primary School DT Learning Sequence - Year 3 and 4

Term	Autumn A	Spring A	Summer A
Enquiry question	**Constructing a Castle**	**Pneumatic Monsters**	**Eating Seasonally**
Curriculum Links	**Structures - Architecture**	**Mechanisms**	**Food and nutrition**
Outcome	Children can identify and learn about key features of a castle before designing and constructing their own castle a range of 3D geometric shapes using nets.	Children can explore pneumatic systems, then apply this understanding to design and make a pneumatic toy including thumbnail sketches and exploded diagrams.	Children can explain that fruits and vegetables grow in different countries based on their climates. They can understand that 'seasonal' fruits and vegetables are those that grow in a given season and taste best then.
Sequence of Learning	**Design**: I can explore what architecture is and zoom in on castle structures. **Design**: I can explore what 2D and 3D shapes are used to form strong and stable structures **Skills and Finger fluency:** I can fold and bend materials to form architectural shapes. **Make**: I can construct a castle to fit the design criteria. **Evaluate**: I can evaluate my ideas and products against design criteria.	**Design:** I can explore examples of and draw an exploded diagram. **Skills and Finger Fluency**: I can explore how pneumatic systems works. **Design**: I can design a toy that uses a pneumatic system by making thumbnail sketches and exploded diagrams **Design**: I can create a pneumatic system to create a desired motion. **Make**: I can select appropriate tools and equipment to accurately create my product. **Evaluate**:	**Design**: I understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. **Finger fluency** I can select and safely use appropriate tools to peel and chop. **Design**: I can design a puff pastry tart using seasonal vegetables and fruits. **Make**: I can safely follow my recipe to make a puff pastry tart. **Evaluate**: I can evaluate my design against my design criteria.

		I can evaluate my ideas and products against my design criteria and consider the views of others to improve my work.	
Vocabulary	strong stiff stable scoring tab	exploded diagram input / output mechanism pneumatic system thumbnail sketch net	climate diet imported natural processed reared

Term	Autumn B	Christmas B Craft	Spring B	Summer B
Enquiry question	**Adapting a Recipe**	**Sewing**	**Pop-up book**	**Bridges**
Curriculum Links	***Food and Nutrition***	**Materials**	**Mechanisms**	***Structures***
Outcome	Children can carry out market research to inform their design. They can use a range of baking skills in order to make a biscuit dough.	Children can design a pattern and use a preferred stitch to decorate a Christmas craft.	Children can create a functional four-page pop-up storybook design using lever, layers and spacers to create paper-based mechanisms.	Children can test and analyse various types of bridge to determine their strength and stability. They can explore material properties and sources, before marking, sawing, and assembling a wooden truss bridge.
Sequence of Learning	**Design**: I can carry our market research by testing and evaluating an existing biscuit. **Skills and Finger Fluency**: I can rub in, knead and use tools such as cutters. **Design**: I can select ingredients and follow a budget. **Make**: I can make and test my biscuits on a target audience. **Evaluate**: I can evaluate my final biscuit and make suggestions about how I could adapt it.	**Design:** I can explore stitches and patterns that I would like to use in my own design. **Skills and Finger Fluency:** I can learn how to sew basic running stitch. **Make:** I can select appropriate materials and equipment to	**Design**: I can explore mechanisms in existing pop up books. **Skills and Finger Fluency:** I can explore making mechanisms using pivots and folds to produce movement. **Design**: I can use layers and spacers to cover the working of mechanisms. **Make**: I know that good quality making should be neat, accurate and securely assembled. **Make**: I can input my mechanisms into my own book design. **Evaluate**: I can evaluate my ideas and products against my design criteria and consider the views of others to improve my work.	**Design**: I can explore architects and engineers that have designed and shaped the world. **Finger Fluency and Skills** I can explore how triangles can be used to reinforce bridges and how to reinforce beams. **Make**: I can select appropriate tools and materials to cut and join. Make: I can identify points of weakness and reinforce them as necessary, **Evaluate**: I can evaluate my truss bridge against a specification.

		accurately assemble my product. **Evaluate:** I can evaluate my design and put it on sale for the Christmas fair.		
Vocabulary	knead rub in roll cream cutters target audience	joining fabric tack stitch template knot	design input motion mechanism criteria reinforce model	beam, arch and truss bridge softwood, hardwood structure strength stability joints reinforce