## **Design Technology Curriculum Overview 2019/2020**

Nursery	On going—modelling & construction, using different textures  Clay Diva's , fruit kebabs	Constructions of rockets 3 little pigs constructed houses	Making biscuits Hot air balloons
Reception	On going—modelling & construction, using different textures  Clay Diva's, made bread	Chinese noodles  & dragon  Made fossils	Smoothies  Newspaper plant pots  Butterfly kites
Year 1	Pulleys & Levers  Pop-up toy box  Mechanisms Sliders and levers Key learning  Generating, modelling and communicating ideas.  Planning making, selecting tools and using finishing techniques.  Exploring books and products; evaluating own product against original criteria.  Exploring sliders and levers; understanding types of movement; technical vocabulary.	tbc	Fruit Kebabs  Food Preparing fruit and vegetables Key learning  • Designing appealing products for a user, investigating fruit and vegetables and generating ideas; communicating through talk and drawings.  • Selecting a range of fruits and vegetables; using simple utensils and equipment.  • Tasting and evaluating user's preference; evaluating ideas and finished products against original criteria.  • Understand where ingredients come from and the basis of a healthy and varied diet.

Year 3	Design & create	Design & evaluate	Design a new cereal & packaging.
	Healthy plate of food, including	Sandwich snacks	Design and make a picture frame
	Food Healthy and varied diet Key learning  Generate ideas and develop design criteria for an appealing product for a user and purpose.  Plan the main stages of a recipe, listing ingredients, utensils and equipment.  Select from a range of ingredients to make appropriate food products.  Carry out and record evaluations of a variety of ingredients and products.  Know a range of appropriate ingredients, and whether they are grown, reared or caught.		Structures Shell structures Key learning  Generate and develop realistic ideas and design criteria collaboratively and through analysis of existing products.  Order the stages of making; selecting tools and using with some accuracy. Investigate and evaluate shell structures, and construct strong, stiff shell structures.  Test and evaluate own products against design criteria and intended user and purpose.
Year 4	Roman Chariots Sewing christmas stockings	Rivers- model showing a river system	Sewing—purses

### Year 5

Design and make a slum (cityscapes)

#### Structures

#### Frame structures

#### Key learning

- Research user needs and existing products and develop and model innovative ideas into a design specification.
- Formulate a plan with a step-by-step list of tasks and resources.
- Use tools to accurately measure, mark out, cut, shape and join materials to make frameworks.
- Use finishing techniques suitable for the product and critically evaluate their products against a range of criteria.
- Research key events and individuals relevant to frame structures.

Titanic

Design a ship

(Research one room within the ship to focus project)

The Great Tomato Experiment (mechanical movement and momentum)

#### Mechanical Systems Pulleys or gears Key learning

 Generate ideas through research and develop and communicate a simple design specification.



- Select use a range of tools and equipment to make products that that are accurately assembled and well finished within the constraints of time, resources and cost.
- Compare the final product to the original design specification and test the quality of the design, manufacture and functionality with the user.
- Investigate famous manufacturing and engineering companies relevant to the project.

#### Year 6

#### World war two

Evacuee cases/Design and create an Anderson shelter

#### Structures

#### Frame structures

#### Key learning

- Research user needs and existing products and develop and model innovative ideas into a design specification.
- Formulate a plan with a step-by-step list of tasks and resources.
- Use tools to accurately measure, mark out, cut, shape and join materials to make frameworks.
- Use finishing techniques suitable for the product and critically evaluate their products against a range of criteria.
- Research key events and individuals relevant to frame structures.

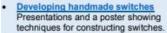
# Electrical Systems More complex switches and circuits Key learning

- Develop a design specification for a functional product that responds automatically to changes in the environment.
- Formulate a step-by-step plan to making, listing tools, equipment, materials and components.
- Use a computer control program to enable an electrical product to work automatically in response to changes in the environment.
- Test and evaluate the system to demonstrate its effectiveness for the intended user and purpose.
- Know and use technical vocabulary relevant to the project.

#### Resources

Alarming vehicles

This encourages pupils to develop understanding of electrical systems through protecting vehicles using electrical alarms.



 Designing and making alarm circuits using inputs with computer control A PowerPoint presentation which introduces a range of switches and sensors and using computer control when designing and making alarms. Sew a cushion learning about different stitches complete with buttons and button holes. Include a printed design.

#### Textiles Combining different fabric shapes Key learning

- Generate and communicate innovative ideas through research.
- Produce detailed lists of equipment and fabrics and formulate step-by-step plans for making.
- Investigate and analyse textile products linked to their final product and compare the final product to the original design specification.
- Know that a 3-D textile product can be made from a combination of pattern pieces, fabric shapes and different fabrics and that fabrics can be strengthened, stiffened and reinforced.





