CROSSGATES PRIMARY SCHOOL – DT MEDIUM TERM PLAN

	Autumn	Spring	Summer		Blocks
FS	**Structures – Junk Modelling** To explore the work of Dario Tironi and Koji Yoshida and discuss the importance of reusing and recycling. To explore and investigate the tools and materials in the junk modelling area. To develop scissor skills and investigate cutting different materials. To learn how to plan and select the correct resources needed to make a model. To verbally plan and create a junk model. To share a finished model and talk about the processes in its creation. To explore different ways to temporarily join materials together. Key vocabulary- Stick, Cut, Bend Snip, Join, Choose Key person: Dario Tironi and Koji Yoshida	**Structures – Boats** To understand what waterproof means and to test whether materials are waterproof. To test and make predictions for which materials float or sink. To compare the uses of boats, boats through History and the materials they are made from. To investigate how the shape and structure of boats affects the way they move. To design a boat. To create a boat based upon their own design. To describe the finished project and evaluate the process. Key vocabulary- Waterproof, float, compare, shape, structure Link to Science – Objects and Materials) (Link to History – Toys) Key Person - Maria Beasley	**Cooking and Nutrition** To explore fruits and vegetables and the differences between them. To use adjectives to describe how fruits and vegetables look, feel, smell and taste. To explore a leek and describe it using the five senses. To design a fruit and vegetable soup recipe. To practise cutting with a knife and learn how to use a knife safely. To observe and help with the use of tools to prepare ingredients. To describe the finished project and evaluate the process. To design food packaging. Key vocabulary: Cut, chop, fruit, vegetable, safe, senses Key Person: Buddy Oliver (https://www.youtube.com/playlist?list=PLcpoB2VESJme7lSxXEcXyVtFPsMI78lcL)		Block 1 (2 year cycle)
Year 1	**Mechanisms – Moving Story Books** Learning Objectives: To explore making mechanisms.	**Structures- Constructing a windmill** Lesson Objectives: To create a stable structure.	**Textiles- Puppets** Lesson Objectives:	**Cooking and Nutrition- Smoothies** Lesson Objectives: To identify fruits.	

	To design a moving storybook. To construct a moving picture. To evaluate my finished product. Key Vocabulary: adapt, assemble, slides, design, mechanism Key Person: Link to author of text covered in English. Link to English - writing	To use tools and equipment accurately to make part of a structure. To join parts of a structure. To evaluate a structure. Key Vocabulary: rotate, rotor, structure, design, stable, test. Key Person: William Kamkwamba (Link to Science – Properties and Uses of Materials)	To join fabrics together using different methods. To use a template to create my design. To join two fabrics together accurately. To embellish my design using joining methods. Key Vocabulary: Decorate, template, fabric, model, stencil Key Person – Jim Henson (Link to Geography- Desert animals)	To describe where fruits and vegetables grow. To practise food preparation skills. To select ingredients for a recipe. To apply food preparation skills to a recipe. To evaluate against the design brief. Key Vocabulary: Blend, seed, stem, vine, compare Link to Science - Senses	
Year 2/3 Cycle 1 – Year 2 Kapow	**Textiles – Pouches** Lesson Objectives: To sew using a running stitch. To sew using a template and a running stitch. To design a pouch To join fabrics together with a running stitch. To decorate and test a pouch Key Vocabulary: needle, running stitch, sew, fabric, thread Key Person – Coco Chanel	**Cooking and Nutrition- Balanced Diet** Lesson objectives: To recognise foods and their food groups. To identify the balance of food groups in a meal. To identify an appropriate piece of equipment to prepare a given food. To select balanced combinations of ingredients. To design based on criteria. To evaluate a dish based on design criteria. Key Vocabulary: appearance, ingredients, combination, proteins, carbohydrates, balanced. Key Person: Jamie Oliver	**Structures- Baby Bear's Chair** Lesson objectives: To explore the concept and features of structures and the stability of different shapes. To understand that the shape of the structure affects its strength. To make a structure according to design criteria. To produce a finished structure and evaluate its strength, stiffness and stability. Key Vocabulary: Design-criteria, Human- made, properties, structure, stable	**Mechanisms- Fairground Wheel** Lesson objectives: To explore wheel mechanisms and design a fairground wheel. To select materials with appropriate properties. To build and test a moving wheel. To conduct a simple survey to gather opinions. To finish and evaluate a structure with a rotating wheel. Key Vocabulary: Model, opinion, rotate, survey, evaluate Key Person - George Washington Gale Ferris Jr.	Block 2 (2 year cycle)

Year 2/3 Cycle 2 – Year 3 Kapow	**Textiles – Cross Stitch and Applique Cushions** Lesson Objectives: To learn to sew cross-stitch and applique. To design a product and its template. (linking these to a landmark from a UK city- incorporate into design) To decorate a fabric using cross-stitch and applique. To assemble and complete a cushion. To evaluate cushion against design. Key Vocabulary: Applique, cross-stitch, embellish, patch, seam Geography- Landmarks in cities around the UK	**Mechanical Systems- Pneumatic Toys** Lesson Objectives: To explore how pneumatic systems create movement within mechanisms. To use different types of diagrams to summarise information. To design a toy that uses a pneumatic system. To explore forces and friction when designing your toy. To create a pneumatic system for a moving toy. To test and finalise ideas against design criteria. Key Vocabulary: Diagram, linkage, mechanical system, pneumatic system, thumbnail sketch Science- Forces and Friction	**Cooking and Nutrition- Eating Seasonally** Lesson Objectives: To explain why food comes from different places around the world. To explain the benefits of seasonal foods. To develop cutting and peeling skills. To evaluate seasonal ingredients. To design a mock-up using criteria. To evaluate a dish. To learn about the key person Edna Lewis. Key Vocabulary: Seasonally, taste, texture, snip, peel, grate Key Person- Edna Lewis	**Electrical Systems- Electrical Posters** Lesson Objectives: To understand the purpose of information design. To research a set topic to develop a range of initial ideas. To develop an initial idea into a final design. To assemble my final product and incorporate a simple circuit. To investigate how light can be used in your circuit. Key Vocabulary: Battery, circuit component, crocodile wire, electrical system, public, research Science- Light	
Year 4/5 Cycle 1 – Year 4 Kapow	**Electrical Systems- Torches** Lesson Objectives: To learn about electrical items and how they work. To analyse and evaluate electrical products.	**Structures- Pavilions** Lesson Objectives: To create a range of different shapes frame structures. To design a structure. To build a frame structure.	**Cooking and Nutrition – Adapting a Recipe** Lesson Objectives: To evaluate existing biscuit products To prepare and cook a dish	**Textiles- Stuffed Toys** Lesson Objectives: To design a stuffed toy. To sew a blanket stitch. To create and add decorations to fabric.	Block3 (2 year cycle)

	To design a product to fit a set of specific user needs. To make and evaluate a torch. Key Vocabulary- Insulator, target audience, series circuit, circuit diagram, conductor.	To add cladding to a frame stricture. Key Vocabulary- Cladding, innovative, natural, reinforce, structure, 3D shapes Geography- Focus on World Expo Event (where is it being held?)	To select ingredients to follow a budget and to design a final biscuit To take inspiration from existing products and their packaging To make, test and evaluate a prototype biscuit (based on an adapted recipe) Key vocabulary – Adapt, budget, hygiene, appearance, modify Link to Science – Digestion Key person: Nadiya Hussain	To use a blanket stitch to assemble the components of a stuffed toy. Key Vocabulary- accurate, template, blanket stitch, annotate, appendage, fabric. Key person: Margarete Steiff	
Year 4/5 Cycle 2 – Year 5 Kapow	**Mechanical Systems- Pop-up Books** Lesson Objectives: To explore pop up books- how they work and what they add to the book/text To design a pop-up book linked to The Romans To follow my design brief to make my po-up book To use spacers and layers to cover the workings of mechanisms	**Structures – Bridges** Lesson Objectives: To explore how to reinforce a beam (structure) to improve its strength. To build a spaghetti truss bridge. To measure, mark out and cut materials ready to build a truss bridge. To complete, reinforce and evaluate my truss bridge. To research the Trinity Bridge in Manchester prior to visiting it.	**Cooking and Nutrition – Developing a Recipe** Lesson Objectives: To understand how ingredients are reared and produced. To make adaptions to design a recipe. To evaluate nutritional content. To practise food preparation skills. To design a product.	**Digital World – Mindful Moments Timer** Lesson Objectives: To evaluate existing products. To develop design criteria. To program and control a product. To develop and communicate ideas. To develop ideas through computer-aided design. To consider feedback and evaluate.	

	To create a high-quality product suitable for a target user. Evaluate product against your design brief. Key Vocabulary: Criteria, input, mechanism, motion, reinforce, research Link to History – Romans	To learn about the key people Emily Warren and Kate Gleason. Key Vocabulary: Arch bridge, beam bridge, truss bridge, accuracy, assemble, rigid Link to Science – Forces and mechanisms Key Person – Emily Warren Roebling and Kate Gleason Trip – Trinity Bridge Manchester	To follow and make an adapted recipe. To learn about the key people Clare Smyth and Dominique Crenn. Key Vocabulary: Nutritional value, rear, recipe, cross-contamination, adapt, food preparation Key Person – Clare Smyth and Dominique Crenn	To learn about the key person Haben Girma. Key Vocabulary: Moments Timer (Cycle 2) Prototype, Computer- aided design (CAD), Function, Program, User, Net Key Person – Haben Girma Link to Art Photo Opportunities	
Year 6	**Cooking and Nutrition – Come Dine with me** Learning Objectives: To identify and describe safe and hygienic practices when handling, preparing, cooking and storing food. To explain the use of complimentary flavours. To research and design a three-course meal. To explain recipe choices. To apply culinary skills and knowledge when making a starter, main and dessert.	**Textiles- Making Waistcoats** Lesson Objectives: To design a waistcoat. To mark and cut fabric according to a design. To assemble a waistcoat. To decorate a waistcoat. Key Vocabulary: decorate, design criteria, fabric, target customer, waistcoat, Key Person – Vivienne Westwood	**Electrical Systems- Steady Hand Game** Learning Objectives: To research and analyse a range of children's toys. To design a steady hand game. To construct a stable base. To assemble electronics and complete their electronic game. Key Vocabulary: Component, function, LED, conductor, benefit	**Mechanical Systems- Automatos** Learning Objectives: To create design criteria to meet a user's needs. To use an exploded diagram to assemble a frame. To explore a mechanism to inform a design decision. To evaluate a completed design. Key Vocabulary: Automato, cam, component, cross- sectional diagram, axle	Block 4 (1 year cycle)

	Link to Science – Body Health Key person - Yotam Ottolenghi		(Link to Science – Electricity)	Link to Reception – Toys Key Person Jacques de Vaucanson	