Town Farm Endpoint Document

What we want our pupils to know, understand and remember at the end of each year

Curriculum Subject: **DESIGN AND TECHNOLOGY**

The Town Farm DT curriculum is built on ensuring pupils are taught to:

Design, Make and Evaluate
Build their Technical Knowledge

SUBSTANTIVE KNOWLEDGE 'The content to be learned'	**DISCIPLINARY and PROCEDURAL KNOWLEDGE** 'Thinking like a designer; DT skills'	**KEY VOCABULARY**
EYFS		
Know that: • Construction kits, modelling materials can be used to create objects. • There are designers, inventors and architects and understand what they do. • Plans can be changed and adapted if they don't work or need improving. • There are some famous designers and architects; what they designed and why. • A simple step recipe is followed to cook/prepare food.	**Know how:** • To cut, join and fix objects. • To choose the materials and fixings that are appropriate for the design. • To be able to create a simple plan – adapting, modifying, and reviewing and talk about their decisions. • To plan and follow a simple recipe process – making jelly and Gingerbread Men.	• Rosie the Engineer • What to do with an idea? • Non - fiction books about bridges • Cutting, joining, building, fixing, planning, adapting, reviewing. • Building, bridge, house • Arthur Timothy – architect

• Some foods are healthy and the importance of eating a varied diet.	• To listen to each other's ideas and use these to improve their own thinking. • To work together to plan, create and review. • To draw around a template. • To use fine motor skills to complete threading activities	• Healthy, food, diet • Thread, needle, sew

YEAR 1		
HOW CAN WE DESIGN AND MAKE A MOVING PICTURE?		
MOVING PICTURES TRADITIONAL TALES **Know that:** • Books use sliders, levers, wheels and other mechanisms to make pictures move.	**Know how:** • To evaluate how well a product works. • To draw a simple design and add annotations. • To make a picture which aims to have two moving mechanisms. • To use design criteria to help guide the making and evaluation process.	• Moving, picture, book, story, traditional tale, lever, slider, pivot, wheel, push, pull, direction, up, down, left, right, evaluate, product. • Mechanism, slider, evaluate, assemble, fix. • Moving, mechanism, lever, assemble, split pin, pivot. • Traditional tale, moving, picture, mechanism, wheel, disc, assemble, reassemble, split pin, fixed, push, cut, draw. • Design criteria, annotated sketch, idea, discuss, choose, drawing, label, appealing. • Evaluate, make, improve.
HOW CAN WE DESIGN AND MAKE HEALTHY DIPS AND DIPPERS?		
DIPS AND DIPPERS **Know that:** • A varied and healthy diet is essential for humans to grow well.	**Know how:** • To give a simple evaluation of a product by explaining their likes and dislikes.	• Ingredients, dips, evaluate, senses, taste, texture, smell, appearance. • Dipper, explore, sensory, evaluating, crunchy, dry, hard, sweet, juicy. • Protein, dairy, fruit, vegetables, carbohydrate, balanced, diet, varied.

• Food can be sorted into different groups. • A range of foods from different food groups is the most healthy. • Basic kitchen equipment is used to help prepare foods.	• To follow food hygiene rules before and whist making dip and dippers. • To safely use a range of kitchen equipment to cut, peel, grate and chop ingredients • To measure using teaspoons and tablespoons. • To design a new product that is appealing to themselves and other users based on a design criteria. • To explore existing products and give evaluations about what went well and what could have been improved.	• Hygiene, blend, grate, crush, mix, peel, chop, slice, layered, marbled, The Bridge, The Claw. • Context, ingredients, equipment, method, design. • Evaluate, design criteria, plan.
HOW CAN WE DESIGN AND MAKE A FACE USING FABRIC?		
FABRIC FACES **Know that:** • Different fabrics have different names and different properties. • Fabric can be joined using a variety of methods (glue, stitch, staple, apply sticky tape, and use safety pins)	**Know how:** • To create and use a template to shape a piece of fabric • To create a simple design to explain what they intend to do. • Use materials safely and accurately (scissors, glue, stapler, sewing needle) • To create a fabric faces using templates to mark out and using appropriate techniques (glue, stitch, staple, sticky tape, safety pins) to securely join fabric pieces they have selected. • To add features to their fabric face to represent particular characteristics. • To evaluate their product saying what they like and what they could improve.	• Explore, fabric, textile, lace, felt, corduroy, jean, satin, silk, cotton, velvet, velour, ribbon, wool, fur. • Explore, textiles, evaluate, hessian. • Join, fabric, attach. • Template, cut, line, shape, oval, round, square, heart, tone. • Design, criteria, textiles, materials, tools, annotated drawing, evaluate

SUBSTANTIVE KNOWLEDGE 'The content to be learned'	DISCIPLINARY and PROCEDURAL KNOWLEDGE 'Thinking like a designer; DT skills'	KEY VOCABULARY
YEAR 2		
HOW CAN WE USE RECYCLED MATERIALS TO CREATE SOMETHING NEW?		
RECYCLED MODELS **Know that:** • Recycling involves reusing materials to reduce waste and benefit the environment. • Different materials (e.g., cardboard, plastic, tin) have unique properties such as strength, flexibility, and durability. • Structures need to be stable to stand upright and support additional features. • Adding details and decorations can make a model more appealing and functional. • Evaluating a product helps identify strengths and areas for improvement. • Junk modelling encourages creativity, sustainability, and problem-solving.	**Know how:** • To identify, sort, and select materials suitable for creating a model based on their properties. • To create a design sketch with clear labels and annotations explaining material choices. • To join and attach materials securely using appropriate techniques (e.g., glue, tape, string). • To strengthen and stabilise structures to ensure durability and balance. • To add features and decorations thoughtfully, using recycled materials to enhance aesthetics and functionality. • To use a checklist to evaluate a model's stability, appearance, and adherence to the design criteria. • To reflect on the design and making process, suggesting improvements and justifying changes made.	• Recycling, reusing, junk modelling, environment, sustainable, durable, flexible, strong, weak, stable, lightweight, heavy, design, sketch, annotate, plan, label, features, details, criteria, model, structure, join, attach, connect, strengthen, build, construct, tape, glue, string, scissors, secure, stability, cutting, shaping, fixing, evaluate, improve, feedback, reflect, checklist, appearance, function, decorative, appealing, visual, design features.

HOW CAN WE DESIGN AND MAKE BUNTING?		
FABRIC BUNTING **Know that:** • Bunting is a decorative feature made sometimes with fabric. • Fabric is often joined by stitching pieces together. • Smaller stitches can be used to create a tighter seam.	**Know how:** • To judge existing products on a simple scale and suggest improvements. • To use a graphics program to create a simple design of repeat and fill images. • To demonstrate some accuracy when cutting around a fabric shape. • To create a seam using a running stitch. • To carefully select fabrics to add decoration.	• Evaluate, product, bunting, existing. • Design, program, graphics, computer. • Template, felt, trace, accurately, skill. • Needle, thread, running stitch, seam, starting off, finishing off • Materials, fabrics, join, select, properties. • Join, glue, staple, sew.
HOW CAN WE DESIGN AND MAKE HEALTHY SALADS?		
SENSATIONAL SALADS **Know that:** • Some fruit and vegetables grow above the ground and some grow below the ground. • It is important to eat at least 5 portions of fruit and vegetables a day to keep healthy. • The food they eat can be split into different groups and know they should eat a balance of foods, including fish, to have a healthy and varied diet. • Humans need more of some foods than others.	**Know how:** • To eat a healthy and varied diet. • To use the basic principles of a healthy diet to prepare dishes. • To follow a simple recipe. • To use measuring spoons, zesters and juicers to prepare dishes.	• Fruit, vegetable, plant, root, cauliflower, cabbage, strawberries, beetroot, onions, apples, plums, broad beans, blackberries, rhubarb, marrow, gooseberries, celery, lettuce, carrots , tomatoes, radishes, runner beans, turnips, potatoes. • Evaluate, vegetable, root, salad, texture, smell, appearance, taste. • Hygiene, blend, grate, mix, peel, chop, slice, The Bridge, The Claw, Fork Safe. • Protein, vitamins, minerals, oily, salmon, mackerel, trout, tuna, shellfish.

• Fruit and vegetables contain lots of vitamins and minerals. • Fruit and vegetables are grown in different places and that fish is caught in seas, rivers and lakes.		

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YEAR 3		
HOW CAN WE DESIGN AND MAKE A MOVING PICTURE?		
MECHANICAL POSTERS **Know that:** • Mechanical systems use levers and linkages and identify what parts move. • A system works using input and output.	**Know how:** • To explore how mechanical systems work. • To draw a design which uses annotations to add some detail. • To develop design criteria to inform the design of innovative products aimed at a particular audience. • To make a prototype and well finished poster which aims to have two lever/linkage mechanisms. • To use design criteria to help guide the evaluation process.	• Design brief, recycle, mechanism, mechanical system, moving, lever, linkage, design brief, pivot, input, output. • Generate, loose/fixed pivot, guide/bridge. • Mechanism, lever, linkage, design brief, annotated sketch, generate, design criteria, adapt. • Prototype, evaluate, mock-up. • High-quality, finish, techniques, select, accuracy, tools, equipment, materials, components, replicate. • Evaluate, improve, function, lever, linkage, input, output, design criteria. •
WHAT CAN WE GROW AND EAT FROM THE GARDEN?		
EDIBLE GARDEN **Know that:**	**Know how:**	• Herb, thyme, mint, parsley, tarragon, rosemary, basil, seed. • Balanced meal, complex carbohydrates, vitamins, minerals, dairy, fats, sugars, nutrition.

• Common herbs are: thyme, mint, parsley, tarragon, rosemary and basil. • Plants need air, light, warmth and soil to grow well. • The Eatwell Guide tells us about eating healthily and which foods we should be eating more and less of. • There are benefits of eating fruit and vegetables and carbohydrates.	• To prepare ingredients safely and hygienically using appropriate kitchen utensils, including a knife, whisk and masher. • To plant and care for a variety of ingredients so they yield produce. • To measure ingredients to the nearest millilitre accurately and assemble or cook ingredients. • To control the temperature of the hob when cooking.	• Polytunnels, glass houses, seeds, plants, calyx, pollinate, seasonality. • Smoothie, measure, millilitre, litre. • Seed, pinch out, sow. • Boil, simmer, seasoning, bruschetta, grate, chop, heat source, hob.
HOW CAN WE DESIGN AND MAKE A KITE?		
LET'S GO FLY A KITE **Know that:** • Homan Walsh used a kite to help build the Niagara Falls Bridge. • A small event led to a larger significant event in Design and Technology which helped shape the world. • A kite is made of different parts which have different functions. • There are different shaped kites.	**Know how:** • To use research into the shape and parts of kites to develop simple design criteria. • To build and join strong frame structures and stiffen materials. • To apply their understanding of where and how kites need stiffening. • To use a ruler/ tape measure to mark out the measurements of a design. • To use more complex tools and equipment, such as hacksaws and bench hooks, to make the structure for a kite. • To use design criteria to say whether the kite was successful.	• Key events, design and technology, ideas, kite • Parts, function, bridle, line, tow point, keel, sail, spars, tail. • Kite, shape, delta, diamond, rokkaku, sled. • Design criteria, prioritise, decoration, shape, materials. • Structure, frame, strength, stiffen. • Bridle, line, tail, design criteria, test, evaluate.

SUBSTANTIVE KNOWLEDGE 'The content to be learned'	DISCIPLINARY and PROCEDURAL KNOWLEDGE 'Thinking like a designer; DT skills'	KEY VOCABULARY
YEAR 4		
HOW CAN WE DESIGN AND MAKE A BATTERY OPERATED LIGHT?		
BATTERY OPERATED LIGHTS **Know that:** • Some key events and individuals have helped shape the world of lighting. • Symbols can be used to represent circuit components	**Know how:** • To explore and make a series and parallel circuit, diagnosing faults when necessary, and follow instructions to make a selection of different switches. • To draw a design which uses annotations to add some detail. • To develop design criteria to inform the design of innovative products considering the purpose and target group/individual. • To make a well finished product considering the aesthetic and functional qualities. • To use design criteria to help develop their own questions and use the answers to help guide the evaluation process.	• STEM, science, design and technology, engineering, mathematics, chronological, events, individuals, changing, inventors. • Mains, battery, operated, energy, electricity, conductor, insulator, connect, series, fault, parallel, circuit, components, symbol, electrical systems, design brief. • Mains, battery, operated, energy, path, current, electricity, conductor, insulator, switch, turn switch, micro switch, connect, circuit, components. • Design criteria, specification, prioritise, decoration, shape, materials, annotate, sketch, cross-sectional, original, innovative, purpose. • Select, materials, components, switch, make. • Functional, aesthetic, finished, quality, assemble, evaluate, specification, design criteria.
HOW CAN WE DESIGN AND MAKE A BREAD PRODUCT?		

THE GREAT BREAD-OFF **Know that:** • Warburtons were and still are pioneers of the bread industry. • There were key events that led to the success of the Warburtons brand.	**Know how:** • To taste different foods and analyse the texture, smell, appearance and flavour. • To shape dough into rolls and knots. • To select and prepare ingredients hygienically using appropriate kitchen equipment. • To measure ingredients accurately to the nearest gram and millilitre. • To use their experiences of food ingredients and cooking methods to help generate ideas. • To explain why they have chosen certain foods and processes and link them to their design criteria. • To produce an order of work which includes an annotated diagram and chosen equipment appropriately. • To make and evaluate their bread product against objective design criteria.	• Pioneer, design, brand, industry. • Product, market research. texture, appearance, flavour. • Product, market research, design criteria, shape, knot. • Design criteria, original, annotated. • Ingredients, yeast, knead, dough, rise.
HOW CAN WE DESIGN AND MAKE PRODUCTS WHICH MAKE MONEY?		
YOUNG ENTREPRENEURS **Know that:** • There are costs involved in creating items to sell and that these costs need to be recovered before a profit can be made.	**Know how:** • To analyse and test a range of existing products. • To develop a design aimed at particular individuals or groups. • To explain why different techniques have been chosen. • To produce an order of work which includes an annotated diagram and chosen equipment appropriately.	• Explore, textiles, evaluate, interpret, product, analysis, star profile, user, and design, brief. • Market research. • Design criteria, annotate. • Cost, input, output, profit, loss.

	• To make and evaluate their product against objective design criteria.	

SUBSTANTIVE KNOWLEDGE 'The content to be learned'	DISCIPLINARY and PROCEDURAL KNOWLEDGE 'Thinking like a designer; DT skills'	KEY VOCABULARY
YEAR 5		
HOW CAN WE DESIGN AND MAKE A PHONE CASE?		
FELT PHONE CASES **Know that:** • Phone cases are designed to protect phones from damage	**Know how:** • To aim the design criteria at a target market. • To create an accurate paper template. • To measure and mark a sewing and cutting line. • To transfer measurements onto squared paper. • To organise ideas in a step by step plan. • To practise using different types of stitches and choose the best one to use on the final felt phone case. • To explain how effectively their design meets the design criteria. • To evaluate any changes made to the product.	• Design criteria, aesthetics, functional, specification. • Innovative, annotate, design process. • Pattern, template, precisely, accurately, scale, measurements, millimetre, centimetre. • Prototype, whipstitch, backstitch, running stitch, blanket stitch. • Plan, fastenings, decoration, felt, design process. • Fastenings, decoration, felt, design criteria, evaluate.
HOW CAN WE DESIGN AND MAKE A MARBLE RUN?		
MARBULOUS STRUCTURES **Know that:** • Standing structures need strength, reinforcement and stability and understand what this looks like.	**Know how:** • To explore existing free standing structures and explain what gives them strength, reinforcement and stability.	• Free standing, structure, support, stiffen, sturdy, stable, reposition, strengthen, reinforce. • Accurate, join, shape, cut aesthetics, tools, equipment, functional. • Bend, skills, tools, equipment, cut, shape, join.

	• To apply their understanding of free standing structures to help build them. • To use a wider range of tools and equipment to perform practical tasks accurately. • To use appropriate cutting and shaping techniques that include cuts within the perimeter of the material such as slots. • To select appropriate joining techniques. • To design and build a marble run which incorporates some varied bends. • To consider the aesthetics when building a marble run. • To consider the views of others to improve their work. • To use design criteria to create a final evaluation of their own design.	• Existing, product. • Aesthetic, functional, iterative process. • Test, evaluate, design criteria, improve.
WHAT FOOD IS EATEN AROUND THE WORLD?		
GLOBAL FOOD **Know that:** • Eating different ingredients helps to give us a healthy and varied diet and understand the benefits of this. • Different food groups are on the Eatwell plate. • Rice is a carbohydrate. • There are nutritional similarities between different types of food eaten around the world and know why this is important.	**Know how:** • To accurately follow a recipe. • To use a wide variety of basic food skills such as peeling, juicing and dicing and some advanced skills such as frying and baking, which enable them to prepare some more complex savoury dishes. • To understand the importance of correct storage and heating of rice using knowledge of spores, bacteria and how these cause food poisoning • To scale a recipe up or down.	• Ingredient, climate, taste, prepare, sensory, world, global, flourish. • Diet, food groups, Eatwell plate, protein, dairy, carbohydrates, starchy fruit, fat, vegetables. • Rice, boil, hob, heat source, recipe, staple, storage, handling, nutritional, benefits and measure • Mexican, skills, techniques, basic, fry, grate, dice, chop, slice, hygiene, salsa, guacamole, quesadillas. • Chinese, advanced, bake, crack, peel, grate, roll, hygiene.

		• Pretzel, knead, bake, recipe, equipment, ingredients, technique.

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YEAR 6		
HOW CAN WE DESIGN AND MAKE A MOVING ANIMAL?		
AUTOMATA ANIMALS **Know that:** • Cams and followers can be used in mechanisms and identify these. • Rotary motion is converted into linear motion in a mechanical system. • Using different shaped cams changes the movement of the follower. • The acronym CAFEQUES will help develop design criteria.	**Know how:** • To use research to develop design criteria. • To use their knowledge of the animal and movement made by the cam in the design of their automaton. • To measure, mark out and cut materials accurately and safely to the nearest cm using a wider range of tools and equipment. • To work mainly independently to make a mechanical device, selecting materials to make a framework, handle, cam mechanism and finishing the device. • To use peer feedback and design criteria to help guide the evaluation process.	• Endangered, vulnerable, appearance, habitat, research, design brief. • Cam, follower, mechanism, components, mechanical systems, rotary, linear, convert, motion. • Guide, movement, dwell, snail, egg shaped, eccentric, ellipse, hexagon, round, off centre, offset. • Design criteria, functional, aesthetic, design features, innovative, research, finished, quality. • Materials, components, framework, construction, finish, join, cut, saw, square section wood, hacksaw, vice, corner joints, framework, measure, accurately, smooth, finish, notch. • Cam, mechanical systems, mount, framework, finish, join, cut, saw, prototype, evaluate, peer, feedback, off centre, axle, shaft.

WHAT IS SEASONALITY IN FOOD?		
SUPER SEASONAL COOKING **Know that:** • Different fruit and vegetables are in season at different times of the year in the United Kingdom. • A variety of ingredients are grown, reared, caught and processed in different places and by different methods. • The Eatwell Guide explains the proportions of a balanced meal. • There are benefits of eating protein and know which foods are good sources of it.	**Know how:** • To generate a range of ideas for balanced seasonal recipes. • To understand the importance of correct storage and handling of meat and fish using knowledge of cross contamination and bacteria. • To use a wide range of preparation and cooking techniques.	• Seasonality, spring, summer, autumn, winter, imported, ripe, sustainable. • Seasonal, reared, caught, processed. • Seasonal, asparagus, kale, spinach, radishes, rocket, Jersey Royal new potatoes, spring onions, taste, texture, smell. • Balanced, protein, Eatwell Guide. • Design criteria, specification, annotated diagram, generate, refine. • Blanch, fry, grill, griddle, chop, slice, peel, grate.
HOW CAN WE DESIGN AND MAKE A ROBOT ADVENTURE?		
PROGRAMMING ADVENTURES **Know that:** • A floor robot has to be programmed to move and understand how. • Friction affects movement. • Some materials generate more friction than others.	**Know how:** • To program a floor robot accurately to move along a given route. • To generate ideas for an adventure map and appropriate obstacles matching their overall theme. • To evaluate adventure maps against design criteria independently • To explain the best joining methods based on their knowledge of the properties of materials.	• Floor robot, Bee-Bot, input, output. • Adventure, maps, obstacles, squares, background, start, finish. • Materials, properties, cotton, silk, felt, cardboard, paper, bubble wrap, plastic. • Design criteria, obstacles, materials, plan, evaluate, revise. • Joining, stapler, staples, glue, tape. • Monitoring, evaluating.

	• To consider the views of others to improve their work. • To use design criteria to create a final evaluation of their own design.	