**Progression of Skills**

**In Design Technology**

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|  | **Foundation** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** |
| **Developing, planning and communicating ideas** | * Explain what they are making and which materials they are using
* Select materials from a given range which will meet a simple design criteria i.e. *shiny*
* Select and name the tools they need to work the materials i.e. *scissors*
* Represent their ideas verbally or through pictures
* Discuss their work as it progresses
 | * Draw on their own experience to help generate ideas
* Suggest ideas and explain what they are going to do
* Identify a target group for what they intend to design and make.
* Develop their design ideas through talk and drawings
* Model their ideas in card and paper
 | * Draw on their own and other people’s experiences to generate ideas
* Develop their design ideas through discussion observation, drawing and modelling
* Identify a purpose for what they intend to design and make
* Identify simple design criteria
* Make simple drawings and label parts
 | * Generate ideas for an item, considering its purpose and the users
* Identify a purpose and establish criteria for a successful product
* Plan the order of work before starting
* Explore, develop and communicate design proposals by modelling ideas
* Make drawings with labels when designing
 | * Generate ideas considering the purposes for which they are designing
* Make labelled drawings from different views showing specific features
* Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempts fail.
 | * Generate ideas through brainstorming and identify a purpose for their product
* Draw up a specification for their design
* Start to communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and CAD (computer aided design)
* Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggesting alternative methods of making if the first attempts fail
* Use the results of investigations and information sources including ICT, when developing design ideas
 | * Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and CAD (computer aided design)
* Develop a design specification
* Plan the order of their work choosing appropriate materials, tool and techniques and suggest alternative methods of making if the first attempts fail.
* Use the results of investigations and information sources including ICT, when developing design ideas
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| **Working with tools, equipment, materials and components to make quality products** | * Begin to create their design using basic techniques
* Start to build structures joining components together
* Use scissors safely
 | * Make their design, using appropriate techniques
* With help, measure, mark out cut and shape a range of materials
* Use tools e.g. *scissors* and a *hole punch* safely
* Assemble, join and combine materials and components together using a variety of temporary methods i.e. *glue* or *masking tape*
* Use simple finishing techniques
 | * Begin to select tools and materials;
* Measure (in cm) cut and score with some accuracy
* Use hand tools safely and appropriately
* Assemble, join and combine materials in order to make a product
* Cut, shape and join fabric to make a simple product. Use basic sewing techniques
* Choose and use appropriate finishing techniques.
 | * Select tools and techniques for making their products
* Measure (in cm) cut and score with more accuracy
* Work safely and accurately with a range of simple tools
* Evaluate ongoing work and be willing to change things if this helps them improve it
* Measure, tape or pin, cut and join fabric with some accuracy
* Use finishing techniques, strengthen and improve the appearance of their product using a range of equipment
 | * Select appropriate tools and techniques for making their product
* Measure (to the ½cm) mark out, cut and shape a range of materials using appropriate tools, equipment and techniques.
* Join and combine materials and components accurately in temporary and permanent ways
* Join textiles with an appropriate sewing technique
* Select and use different and appropriate finishing techniques to improve the appearance of a product i.e. *hemming, tie-dye, digital graphics*
 | * Select appropriate materials, tools and techniques
* Measure (to within 1mm) and mark out accurately
* Use skills in using different tools and equipment safely and accurately
* Cut and join with accuracy to ensure a good-quality finish to the product
 | * Select appropriate tools, materials, components and techniques
* Measure (to within 1mm) and mark out accurately
* Assemble components to make working models
* Use tools safely and precisely
* Construct products using permanent joining techniques
* Make modifications as they go along
* Pin, sew and stitch materials together to create a product
* Achieve a quality product
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| **Evaluating processes and products** | * Describe what they have made and its purpose
* Say what they do and do not like about items they have made and say why
 | * Evaluate their product by discussing how well it works in relation to the purpose
* Make ongoing evaluations during the process identifying strengths and possible changes they might make
* Talk about their ideas, saying what they like and dislike about them
 | * Evaluate their product against their design criteria
* Make ongoing evaluations during the process identifying strengths and possible changes they might make
* Talk about their ideas, saying what they like and dislike about them
 | * Evaluate their product against original design criteria i.e. *how well it meets its intended purpose*
* Disassemble and evaluate familiar products
 | * Evaluate their work both during and at the end of the project
* Evaluate their products carrying out appropriate tests
 | * Evaluate a product against the original design specification
* Evaluate it personally and seek evaluation from others
 | * Evaluate their products identifying strengths and areas for development and carrying out appropriate tests
* Record their evaluations using drawings with labels
* Evaluate against their original criteria and suggest ways their product could be improved
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| **Technical knowledge** | * Start to build structures joining components together
* The correct technical vocabulary for the projects they are undertaking
 | * Explore how freestanding structures can be made stronger, stiffer and more stable
* The correct technical vocabulary for the projects they are undertaking
 | * Explore and use mechanisms such as levers, sliders, wheels and axles, in their products
* Understand that a 3-D textiles product can be assembled from two identical fabric shapes
* The correct technical vocabulary for the projects they are undertaking
 | * How mechanical systems such as levers and linkages or pneumatic systems create movement
* How to make strong, stiff, shell structures
* The correct technical vocabulary for the projects they are undertaking
 | * Know that mechanical and electrical systems have an input, process and output
* How simple electrical circuits and components can be used to create functional products
* That a single fabric shape can be used to make a 3D textiles project
* The correct technical vocabulary for the projects they are undertaking
 | * How mechanical systems such as cams, levers or pulleys create movement
* How to reinforce and strengthen a 3D framework
* The correct technical vocabulary for the projects they are undertaking
 | * How more complex electrical circuits and components can be used to create functional products
* How to program a computer to monitor changes in the environment and control their products
* The correct technical vocabulary for the projects they are undertaking
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| **Food and nutrition** | * To understand the need for a healthy diet
* To be able to give examples of healthy or unhealthy food
* Explore familiar food products
* Stir, spread, mix and cut (with scissors) a range of food and ingredients
 | * Know that all food comes from plants or animals
* Understand how to name and sort foods into the five groups in ‘The eatwell plate’
* Know that everyone should eat at least five portions of fruit and vegetables every day.
* Demonstrate how to prepare simple dishes safely and hygienically, without using a heat source.
* Demonstrate how to use techniques such as cutting, peeling and grating.
 | * Know that food has to be farmed or grown elsewhere (e.g. allotment) or caught
* Understand how to name and sort foods into the five groups in ‘The Eat well plate’
* Know that everyone should eat at least five portions of fruit and vegetables every day.
* Demonstrate how to prepare simple dishes safely and hygienically, without using a heat source.
* Demonstrate how to use techniques such as cutting, peeling and grating.
 | * Know that food is grown (such as tomatoes, wheat and potatoes) reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world
* Know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The eatwell plate’
* How to prepare and cook a savoury dish safely and hygienically including, where appropriate, the use of a heat source
* How to use a range of techniques such as peeling, chopping, slicing, grating and mixing
 | * Know that food is grown (such as tomatoes, wheat and potatoes) reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world
* Know that to be active and healthy, food and drink are needed to provide energy for the body
* How to prepare and cook a savoury dish safely and hygienically including, where appropriate, the use of a heat source
* How to use a range of techniques such as peeling, chopping, slicing, grating and mixing
 | * Know how food is processed into ingredients that can be eaten or used in cooking
* How to prepare and cook a savoury dish safely and hygienically including, where appropriate, the use of a heat source
* Use a range of techniques such as mixing, spreading, kneading and baking
* That recipes can be adapted to change the appearance, taste, texture and aroma
 | * Know that seasons may affect the food available
* Know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health
* How to prepare and cook a savoury dish safely and hygienically including, where appropriate, the use of a heat source
* Use a range of techniques such as peeling, chopping, slicing, grating mixing, spreading, kneading and baking
* That recipes can be adapted to change the appearance, taste, texture and aroma
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| **Year group** |  | **Autumn Term** | **Spring Term** | **Summer Term** |
| **1** | **IPC Unit** | **From A-B** | **All Dressed Up** | **Green Fingers**(replaces DT in The Magic Toymaker) |
|  | **DT Technical****knowledge** | **Mechanisms****Wheels and Axles** | **Textiles****(templates and joining techniques)** | **Food and Nutrition** |
|  | **Possible context** | *Vehicle to transport figure from A – B* *(as in the original planning)* | *Simple bag**Clothes/ accessories for a teddy/toy**(if time, still do weaving/ where wool comes from activities)* | *fruit salads, fruit drinks**fruit jelly, fruit smoothies**vegetable salads, fruit and vegetable kebabs,**(please consult with Y2 colleague so no crossover)* |
| **2** | **IPC Unit** | **The Circus is coming to town** | **Treasure Island** | **Buildings** |
|  | **DT Technical****knowledge** | **Structures****Free standing structures** | **Food and Nutrition** | **Mechanisms****Sliders and Levers** |
|  | **Possible context** | *Big tops**Circus equipment**Structure to support a high wire etc.* | *fruit salads, fruit drinks**fruit jelly, fruit smoothies**vegetable salads, fruit and vegetable kebabs,**(please consult with Y1 colleague so no crossover)* | *Building with curtains that open and shut.**Street scene with cars that travel along the road.**Information book* |
| **3** | **IPC Unit** | **Scavengers and Settlers** | **Inventions that changed the world** | **Different places similar lives** |
|  | **DT Technical****knowledge** | **Food****Healthy and varied diet** | **Mechanical systems****Levers and Linkages** | **Textiles****2-D shape to 3-D product** |
|  | **Possible context** | *As in the original planning, then children making flat breads and hummus**Different dips using ‘early farmer’s’ ingredients* *A salad using ‘early farmer’s’ ingredients*  | *Information book**Card/ poster, demonstrating their own crazy invention**(replaces given DT completely)* | *Purse or wallet to take abroad**Beach bag**An accessory linked to climate of the country studied**Soft toy/ mascot for a country studied**(replaces given DT completely)* |
| **4** | **IPC Unit** | **Bright Sparks** | **How Humans Work** | **Island life** |
|  | **DT Technical****knowledge** | **Electrical systems** | **Food****Healthy/varied diet** | **Structures****Shell structures** |
|  | **Possible context** | *As the original planning* *Houses with doorbells and lights**Torch for a power cut* | *Sandwiches, wraps, pitta pockets, blinis, toasties, snack bar, salad snacks, healthy ice lollies with fruity bits* | *Make a treasure box/ mystery box that could be discovered on an island (replaces all DT this term and good writing stimulus) Photo frame for holiday photo* |
| **5** | **IPC Unit** | **Bake it** | **Space Scientists** | **Fascinating Forces** |
|  | **DT Technical****knowledge** | **Food****Celebrating cultures and seasonality** | **Textiles****Combining different fabrics** | **Mechanical Systems****Pulleys/Gears (can do a unit using cams instead)** |
|  | **Possible context** | *Bread**Children adapting recipe and making own versions**(as original planning)* | *Solar systems**Space mobiles**mobile phone carrier/ belt bag for use on space station**slippers for space station* | *fairground ride with gears or pulleys e.g. carousel,**Ferris wheel**controllable toy vehicle with gears or pulleys e.g.**dragster, off-road vehicle, sports car, lorry,* |
| **6** | **IPC Unit** | **Full power** | **AD 900** | **Earth as an Island** |
|  | **DT Technical****knowledge** | **Electrical systems** | **Structures****Frame Structures** | **Food****Celebrating culture and seasonality** |
|  | **Possible context** | *vehicle alarm, security lighting system,**alarm for valuable artefact,**automatic nightlight, electrical board game* | *Shelters for Mayans**Bird/ hunting hides* | Food from another culture - pizza, savoury biscuits,savoury scones, savoury muffin,cereal snack |