



# Design Technology Medium Term Planning

## Year 3



Construction

Mechanisms

Sewing/ textiles

Cooking and nutrition

Woodwork

| Topic    | Knowledge                                                                                                                                                                                                                                                               | Children will be able to...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Prior Knowledge                                                                                                                                                                                                                                                                                      | Key Vocabulary                                                                                                                                                                                                                                        |
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| Predator | To use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.<br>To select from and use a wider range of tools and equipment to perform practical | <p><b>Project objective: I can create a predator which moves using a pneumatic system.</b></p> <p>Discuss and explore Robert William Thomson who invented the pneumatic tyre</p> <ul style="list-style-type: none"> <li>To explore different pneumatic resources such as bicycle pump, balloon, foot pump,</li> <li>To explore and discuss different types of predators. To design and plan a predator with annotations of materials, resources, colours and size measurements.</li> </ul> <p>To use a design criteria when planning my design. (List of equipment, List of materials, Sketch, Annotations)</p> <p>Features, Quality, Usability, audience, function, appealing, food safety</p> <p>To design a product and make sure it is fit for purpose. (What will the use be How will it be made)</p> <ul style="list-style-type: none"> <li>To make a predator with moving parts.</li> </ul> <p>To choose a material for suitability and appearance.</p> <p>To make a 3D predator using junk modelling materials.</p> <p>To create a predator with moving parts and pneumatics.</p> <p>To choose and use appropriate tools and resources effectively including split pins,</p> | Children can think of an idea and plan something with a purpose.<br>Children can choose tools and materials and explain why they have chosen particular ones for effect.<br>Children can join materials and components together in different ways.<br>Children can explain what went well with their | 3D, 3 dimensional, model, structure, mechanism, movement, component, design, annotations, materials, split pins, glue gun, boxes, balloon, pump, expand, air, push, pneumatics, force, lift, features, quality, usability, function, appealing, tool, |

tasks [for example, cutting, shaping, joining and finishing], accurately.  
To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.  
To understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]

glue gun to secure.

Create products using pneumatics for movement.

Choose suitable techniques to construct products or to repair items

Strengthen materials using suitable techniques

Cut materials accurately and safely by selecting appropriate tools

To measure, mark and cut out with some accuracy To the nearest mm

Apply appropriate cutting and shaping techniques

Cuts within the perimeter of the materials such as slots or cut outs.

Selects appropriate joining techniques and resources Follow health and safety procedures

Choose suitable tools for making whilst explaining why they should be used.

To assemble, combine and join materials and components with accuracy.

Use finishing techniques including skills taught in art with some accuracy including the use of ICT



- To evaluate the predator against a set of given criteria

Create an evaluation question

Reflect on originally created design criteria.

Is it fit for purpose?



design.

design, adapt, change, make, create, cut, shape, glue stick, fix, join, evaluate, change, same, adapt, deviate, repair, plan, achieve, final results, criteria,

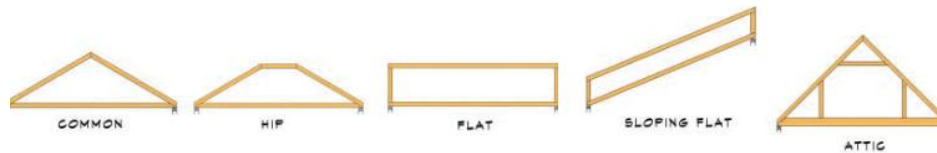
Tribal  
Tales

To research and develop a design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.

To select from and use a wider range of materials and components, including construction materials according to their functional qualities and

**Project objective: I can design and make a free standing Neolithic wood House.**

- To research different wooden structures and the different types of rooves (flat, common, hip, sloping, attic etc... To investigate and explore how wood joins together.



- To plan and design a Neolithic wood house which considers the aesthetics and quality To add annotations of materials and measurements.

To use a design criteria when planning my design. (List of equipment, List of materials, Sketch, Annotations)

Features, Quality, Usability, audience, function, appealing, food safety

To design a product and make sure it is fit for purpose. (What will the use be How will it be made)

- In small groups/ pairs produce a 3D Neolithic wood house. Use the saw to cut and measure the structure outline. Use the glue gun to add on thick lolly sticks for the main parts of the house.

To choose a material for suitability and appearance.

Strengthen materials using suitable techniques

To select the most appropriate tools and techniques for a given task. (Glue gun, split pins, junk)

I can think of an idea and plan what to do next.

I can choose tools and materials and explain why I have chosen them.

I can explain and evaluate what went well with my work.

product, design, quality, suitability, usability, purpose, function, audience, annotations, wood work, frame, structure, Neolithic, aesthetics, materials, measurements, saw, vice, goggles, wood, glue gun, heat, safety, measure, ruler, tape measure, mm, cm, evaluate, changes, criteria, design, adapt, change, deviate,

aesthetic  
qualities.

To choose a material for suitability and appearance

To select the most appropriate tools and techniques for a given task.

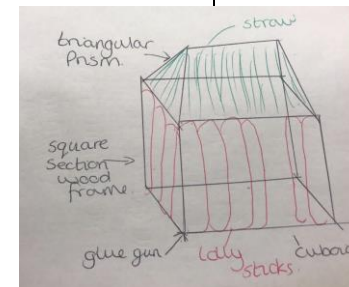
(Hammer, saw, string, wood, glue gun, lolly pop sticks)

To understand how to use woodwork tools safely.

To measure and mark out to the nearest millimetre selecting appropriate measuring tools with some accuracy

To assemble, combine and join materials and components together with some accuracy

Selects appropriate joining techniques and resources (glue gun)



- To evaluate their product using a set criteria.

Create an evaluation question

Reflect on originally created design criteria.

Is it fit for purpose?

Ancient  
Greece

To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.

To select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

To evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.

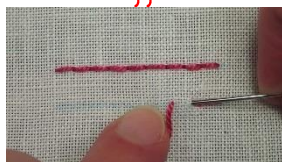
**Project objective: I can design and make a headdress for myself or a teddy of my choice from home.**

- To explore different things worn on the head and talk about their materials, shape, colour, texture and size. To explore headdresses and describe how they are attached together.
- To design an ancient leaf headdress and add equipment and materials.
- To make an ancient leaf headdress/ crown using different types of fabric using sewing techniques.

To understand the need for a seam allowance

To join textiles with appropriate stitching

To use different sewing techniques (back stitch)



To select the most appropriate techniques to decorate textiles.

To measure, tape or pin, cut and join fabric with some accuracy (Fabric scissors, fabric pens, pins, measuring tape.)

Cut materials accurately and safely using tools correctly



Children can choose tools and equipment and explain why they have chosen them.

Children can explain what went well with their work.

Children can talk about their experiences of cooking.

Children can explain why people need to follow instructions and recipes.

Sewing, headdress

Sew, stitch, thread

Cotton, Sewing techniques

back stitch

Fabric scissors

Fabric, stitching

Textiles, needle

Seam, accuracy

Cooking, food, source, produce

farming, recipe

feta cheese

enjoy, appearance

Greek, instructions

ingredients

equipment, follow

prepare, food

olives, pitta bread

oven, heat, try

taste. describe

evaluate, texture

|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |                                            |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------|
|  |  | <p>Apply appropriate cutting techniques</p> <p>Cuts within the perimeter of the materials such as slots or cut outs.</p> <p>To measure accurately using a pattern to support</p> <ul style="list-style-type: none"> <li>● To evaluate their product against a set of criteria, considering its purpose.</li> </ul> <p>To evaluate their ideas and products</p> <p>Create an evaluation question</p> <p>Reflect on originally created design criteria.</p> <p>Is it fit for purpose?</p> |  | <p>smell, texture</p> <p>like, dislike</p> |
|--|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------|

Scrumdi  
dlyumpti  
ous

To use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups  
To select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.  
To investigate and analyse a range of existing products.  
To understand and apply the principles of a healthy and varied diet.

**Project objective: I can design and make an edible chocolate bar.**

Throughout the unit discuss John Cadbury and how he made the first chocolate (Nationality- English)

- To taste some different chocolate bars and complete an evaluation on their favourite. Children will use this tasting session to have what ingredients they may use for their chocolate bar.
- To plan what ingredients they want for their chocolate bar and write a set of instructions how to make it.
- To create a chocolate bar using a range of ingredients and moulds.
- To evaluate the taste of the chocolate.



To can explore and evaluate different foods. (Taste, appearance, smell, texture, like or dislike)

- To plan and design a new chocolate bar wrapper *on a computer program* and use inspiration from real chocolate bar wrappers and photographs. (\* print designs)

To use a design criteria when planning my design.

(List of equipment, List of materials, Sketch, Annotations)

Features, Quality, Usability, audience, function, appealing, food safety

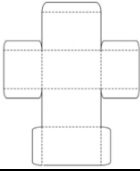
Children will have experience of thinking of their own ideas and planning what to do next.

Children will have experience of naming and choosing tools and materials for a purpose.

Children will have experience evaluating their work.

Children will have experience describing the ingredients they have used.

Chocolate, milk  
White, dark  
Design, product  
Audience,  
marketing  
food safety  
purpose, mould  
create,  
ingredients  
equipment  
resources, stir  
wooden spoon  
microwave  
bowl, pan, taste  
investigate, try  
like, evaluate  
improve, adapt  
change, design  
criteria, draft  
cuboid buttons  
sprinkles  
appealing,  
quality

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                 |
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|  | <p>To design a product and make sure it is fit for purpose.<br/>(What will the use be, How will it be made)<br/>Sketch real life observational drawings<br/>Annotations<br/>Use finishing techniques including skills taught in art with some accuracy including the use of ICT</p> <ul style="list-style-type: none"><li>• To use a <b>computer aided design (CAD)</b> on an IT program to design a chocolate bar wrapper.</li><li>• To evaluate their chocolate bar wrapper against their design criteria.</li></ul> <p>Create an evaluation question<br/>Reflect on originally created design criteria.<br/>Is it fit for purpose?</p> <div></div> |  | <p>make<br/>instructions<br/>heat, mix, water<br/>fridge, dislike<br/>preference<br/>sketch, draw<br/>annotations,<br/>name</p> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------|

| Construction | Mechanisms | Sewing/ textiles | Cooking and nutrition | Woodwork |
|--------------|------------|------------------|-----------------------|----------|
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|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Active Planet | <p>To generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.</p> <p>To select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.</p> <p>To understand how key events and</p> | <p><b>Project objective: I can create a working fire engine which can be pushed along and moves.</b></p> <ul style="list-style-type: none"> <li>To explore forest fires and their impact on the environment and the impact of lava from volcanoes. To research and explain how fires are put out. To look at photos and watch videos to describe different vehicles used to put fires out (aeroplanes dropping fire retardant and water)</li> <li>To plan and design a fire engine using observational drawing and inspiration from photographs. To label and annotate the drawing.</li> </ul> <p>To use a design criteria when planning my design. (List of equipment, List of materials, Sketch, Annotations)</p> <p>Features, Quality, Usability, audience, function, appealing, food safety</p> <p>To design a product and make sure it is fit for purpose. (What will the use be How will it be made)</p> <ul style="list-style-type: none"> <li>To create and make a 3D model of a fire engine in a group.</li> </ul> <p>To select materials to complete the fire engine following the plan. To use split pins to attach the wheels- these must be strengthened to hold the weight of the box. To use cutting techniques to score out the windows so you can see inside the vehicle. To add a light or buzzer</p> <p>To choose a material for suitability and appearance.</p> <p>Strengthen materials using suitable techniques</p> <p>To select the most appropriate tools and techniques for a given task. (Glue gun, split pins, junk)</p> <p>Cut materials accurately and safely by selecting appropriate tools</p> | <p>Children will have experienced thinking of their own ideas and planning what to do next.</p> <p>Children will have experienced choosing tools and materials and explaining why they've been chosen.</p> <p>Children will have experienced evaluated their work.</p> <p>Children will have measured materials to use in a model or structure.</p> | <p>design, sketch, annotations, size, length, width, measurements, ruler, measure, 3D, model, product, purpose, materials, equipment, appearance, quality, vehicle, fire engine, movement, light, buzzer, electrical circuit, battery, switch, wheels, ladder, number plate, lights, windows, door, siren, hose, joining, combine, assemble, tools, glue, scissors,</p> |
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individuals in design and technology have helped shape the world.  
To apply their understanding of how to strengthen, stiffen and reinforce more complex structures.

Apply appropriate cutting and shaping techniques

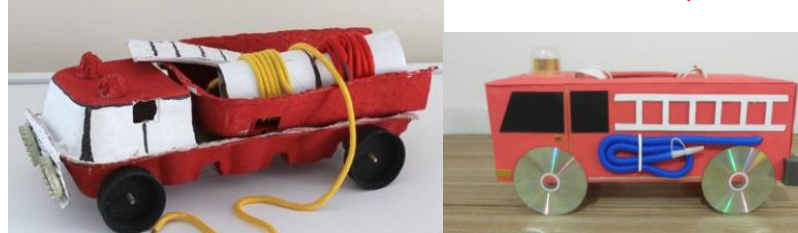
Cuts within the perimeter of the materials such as slots or cut outs.

To measure, mark and cut out with some accuracy To the nearest mm

Selects appropriate joining techniques and resources

Choose suitable tools for making whilst explaining why they should be used.

To assemble, combine and join materials and components with some accuracy.



- To evaluate the fire engines effectiveness against a set of given criteria.

Create an evaluation question

Reflect on originally created design criteria.

Is it fit for purpose

glue gun, adapt,  
edit, adjust,  
evaluate,  
improvements,  
adaptations,  
difficulties