Design Technology Progression Map


and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing].
They select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.

## Children can:

## Make

ools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately.
They select from and use a wider range of materials and components, including construction materials, textiles and
ingredients, according to their functiona properties and aesthetic qualities.

## Children can:

## Planning

with growing confidence, carefully select from a range of tools and equipment, explaining their choices:
select from a range of materials and components according to their functiona properties and aesthetic qualities;
place the main stages of making in a systematic order;

## Practical skills and techniques

learn to use a range of tools and equipmen safely, appropriately and accurately and learn to follow hygiene procedures; use a wider range of materials and components, including construction materials and kits, textiles and mechanical and electrical components;
with growing independence, measure and mark out to the nearest cm and millimetre: cut, shape and score materials with some degree of accuracy;
assemble, join and combine material and components with some degree of accuracy; demonstrate how to measure, cut, shape and join fabric with some accuracy to make a simple product:
join textiles with an appropriate sewing technique;
begin to select and use different and appropriate finishing techniques to improve the appearance of a product such as hemming, tie-dye, fabric paints and digital graphics.
Select a wider
range of tools and techniques for making their product.

Select and use a wider range of tools and techniques for making their product safely
equipment to perform practical tasks [for example cutting, shaping, joining and finishing], accurately.
They 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.

## Children can:

## Planning

independently plan by suggesting what to do next;
with growing confidence, select from a wide range of tools and equipment, explaining their choices;
select from a range of materials and components according to their functional properties and aesthetic qualities:
create step-by-step plans as a guide to making;

## Practical skills and techniques

earn to use a range of tools and equipment safely and appropriately and learn to follow hygiene procedures;
independently take exact measurements and mark out, to within 1 millimetre;
use a full range of materials and components, including construction materials and kits, textiles, and mechanical components;
cut a range of materials with precision and accuracy;
shape and score materials with precision and accuracy; assemble, join and combine materials and components with accuracy;
demonstrate how to measure, make a seam allowance, tape, pin, cut, shape and join fabric with precision to make a more complex product;
join textiles using a greater variety of stitches, such as backstitch, whip stitch, blanket stitch;
refine the finish using techniques to improve the appearance of their product, such as sanding or a more
cut, peel and grate ingredients, including measuring and weighing ingredients using measuring cups,
begin to use simple finishing techniques to improve the appearance of their product, such as adding
simple decorations.
Begin to make their
design using
appropriate
techniques.
Begin to build
structures,

Begin to select tools and materials use correct vocabulary to name and describe them.

|  | exploring how they can be made stronger, stiffer and more stable. <br> Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. <br> Identify and talk about products which use electricity to make them work <br> With help, measure, mark out, cut and shape a range of materials. <br> Explore using tools e.g. scissors and a hole punch safely. <br> Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. <br> Begin to use simple finishing techniques to improve the appearance of their product | Build structures, exploring how they can be made stronger, stiffer and more stable <br> Measure, mark out, cut and shape a range of materials. <br> Explore using tools e.g. scissors and a hole punch safely. <br> Begin to assemble, join and combine materials and components together using a variety of temporary methods e.g. glues or masking tape. <br> With help, measure, cut and score with some accuracy. <br> Start to assemble, join and combine materials in order to make a product. <br> Begin to use simple finishing techniques to improve the appearance of their product. <br> Start to choose and use appropriate finishing techniques based on their own ideas. <br> Join fabric using a running stitch, glue and tape. | of tools and <br> equipment in <br> relation to the skills and techniques they will be using. <br> Start to use simple electrical circuits and mechanical systems. <br> Measure, mark out, cut, score and assemble components with more accuracy. <br> Select the most appropriate too and techniques for the given task. <br> Begin to make choices of materials both for its appearance and qualities. <br> Begin to use some simple stitches. | measure, mark out, cut and shape a range of materials, using appropriate tools equipment and techniques. <br> Begin to combine components and materials in different ways. <br> Demonstrate how to measure, tape, pin, cut and join with accuracy. <br> Use some finishing techniques to strengthen and improve the appearance of their product using a range of equipment. <br> Use a range of different stitches to join fabric. | wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities. <br> Combine components and materials in different ways with accuracy. <br> Know how more complex electrical circuits and components can be used to create functional products. <br> Use a variety of finishing techniques to strengthen and improve the appearance of their product using a range of equipment. <br> Demonstrate motivation/perseverance to refine and improve their products. | achieve a quality product <br> Demonstrate when to make modifications as they go along. <br> Know how to combine complex electrical circuits and components to create functional products. <br> Make decisions and select the most appropriate mechanical system for a particular purpose. <br> Use finishing techniques to strengthen and improve the appearance of their product using a range of equipment. <br> Demonstrate motivation/perseverance to refine and improve their products. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Children explore and evaluate a range of existing products. They evaluate their ideas and |  | Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and |  | Children investigate and analyse a range of existing products. They evaluate their ideas and products against their own design criteria and consider the views of others to |  |

## products against design criteria

## Children can:

explore and evaluate existing products mainly through discussions, comparisons and simple written evaluations:
explain positives and things to
improve for existing products;
explore what materials products are made from;

Evaluate

## consider the views of others to improve their work

 They understand how key events and individuals in design and technology have helped shape the world.
## Children can

explore and evaluate existing products,
explaining the purpose of the product and whether it is designed well to meet the intended purpose;
explore what materials/ingredients products are made from and sugges reasons for this;
consider their design criteria as they make progress and are willing to alter their plans. sometimes considering the views of others if this helps them to improve their product;
evaluate their product against their original design criteria;
evaluate the key events, including technological developments, and designs of individuals in design and technology that have helped shape the world

Start to evaluate thei
product by discussing
how well it works in
relation to the
purpose.

When looking at
existing products,
explain what they like
and dislike about the
products and why.

Begin to evaluate their
products as they are

Evaluate their work against their design criteria.

Look at a range of existing products explain what they like and dislike about products and why.

Evaluate their products as they are developed, identifying what went well and
developed, identifying

Start to evaluate their product against their original design criteria.

Begin to evaluate familiar products and consider the views of others to improve them.

Suggest improvements to their final design.
Evaluate their product throughout the process making some simple changes where necessary.

Evaluate their products, thinking of both appearance and function.

Evaluate their products carrying out simple tests.

Identify improvements
to their final design explaining why these would improve the fina design.

## improve their work. They understand how key events and

 individuals in design and technology have helped shape the
## world.

## Children can:

complete detailed competitor analysis of other products on the market;
critically evaluate the quality of design, manufacture and fitness for purpose of products as they design and make;
evaluate their ideas and products against the original design criteria, making changes as needed.

## Start to evaluate a product against the

 original design specification and by carrying out appropriate tests.Evaluate their work both during and at the end of the assignment and seek evaluation from others.

Evaluate appearance and function against original criteria, suggesting improvements and refinements.

Evaluate their work continuously both during and at the end of the assignment and frequently seek evaluation from others.

Evaluate their products,
identifying strengths and areas for development, and carry out appropriate tests.

Record their evaluations using drawings with labels - clearly identifying improvements and efinements.

|  | strengths and possible <br> changes they might <br> make next time. might make next time. |  |  |
| :---: | :---: | :---: | :---: |
| Technical Knowledge | Children build structures, exploring how they can be made stronger, stiffer and more stable. <br> They explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. <br> Children can: <br> build simple structures, exploring how they can be made stronger, stiffer and more stable; <br> talk about and start to understand the simple working characteristics of materials and components; explore and create products using mechanisms, such as levers, sliders and wheels. | Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. <br> They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. <br> They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. <br> They apply their understanding of computing to program, monitor and control their products. <br> Children can: <br> understand that materials have both functional properties and aesthetic qualities; apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products; <br> understand and demonstrate how mechanical and electrical systems have an input and output process; <br> make and represent simple electrical circuits, such as a series and parallel, and components to create functional products; <br> explain how mechanical systems such as levers and linkages create movement; <br> use mechanical systems in their products. | Children apply their understanding of how to strengthen, stiffen and reinforce more complex structures. <br> They understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]. <br> They understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]. <br> They apply their understanding of computing to program, monitor and control their products. <br> Children can: <br> apply their understanding of how to strengthen, stiffen and reinforce more complex structures in order to create more useful characteristics of products; <br> understand and demonstrate that mechanical and electrical systems have an input, process and output; <br> explain how mechanical systems, such as cams, create movement and use mechanical systems in their products; <br> apply their understanding of computing to program, monitor and control a product. |
| Cooking and Nutrition | Children use the basic principles of a healthy and varied diet to prepare dishes. <br> They understand where food comes from. <br> Children can: <br> explain where in the world different foods originate from; <br> understand that all food comes from plants or animals; | Children understand and apply the principles of a healthy and varied diet. <br> They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. <br> They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. <br> Children can: start to know when, where and how food is | Children understand and apply the principles of a healthy and varied diet. <br> They prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques. <br> They understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed. <br> Children can: <br> know, explain and give examples of food that is grown (such as pears, wheat and potatoes), reared (such as |


understand that food has to be farmed grown elsewhere (e.g. home) or caught;
name and sort foods into the five groups in the Eatwell Guide;
understand that everyone should eat at least five portions of fruit and vegetables every day and start to explain why
use what they know about the Eatwell Guide to design and prepare dishes.

## grown (such as herbs, tomatoes and

 strawberries) in the UK, Europe and the wider world;understand how to prepare and cook a variety of predominantly savoury dishes safely and hygienically;
with support, use a heat source to cook ingredients showing awareness of the need to control the temperature of the hob and/or oven;
use a range of techniques such as mashing, whisking, crushing, grating, cutting, kneading and baking;
explain that a healthy diet is made up of a variety and balance of different food and drink, as represented in the Eatwell Guide and be able to apply these principles when planning and cooking dishes;
understand that to be active and healthy, nutritious food and drink are needed to provide energy for the body;
prepare ingredients using appropriate cooking utensils;
measure and weigh ingredients to the nearest gram and millilitre;
start to independently follow a recipe; start to understand seasonality

Begin to understand
that all food comes
from plants or
animals.
Start to understand how to name and sort foods into the five groups.

Know that everyone
should eat at least five portions of fruit

Understand that al food comes from plants or animals

Develop understanding of where different foods come from and also food from native to different countries.

Understand how to name and sort foods

Start to know that
food is grown reared and caught 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.

Know that food is grown, reared and caught in the UK, Europe and the wider world.

Understand why a healthy diet is important.

Know that to be active and healthy, food and drink are
poultry and cattle) and caught (such as fish) in the UK, Europe and the wider world
understand about seasonality, how this may affect the food availability and plan recipes according to seasonality;
understand that food is processed into ingredients that can be eaten or used in cooking;
demonstrate how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source;
demonstrate how to use a range of cooking techniques, such as griddling, grilling, frying and boiling;
explain that foods contain different substances, such as protein, that are needed for health and be able to apply these principles when planning and preparing dishes:
adapt and refine recipes by adding or substituting one or more ingredients to change the appearance, taste, exture and aroma;
alter methods, cooking times and/or temperatures; measure accurately and calculate ratios of ingredients to scale up or down from a recipe;
independently follow a recipe

Begin to explain how
ingredients are grown reared and caught in the UK, Europe and the wider world.

Begin to understand that seasons may affect the food available.

Evaluate a meal and consider if they

Explain how ingredients are grown, reared and caught.

Understand that seasons may affect the food available.

Know different food and drink contain different substances that are needed for health.
Plan a healthy and


