

DT

General skills

Designing

Pupils should be given opportunities to:

- Use a range of information sources to generate ideas for products e.g. *books, recipe, CDs, Internet*
- Investigate how existing products look and function as a source of ideas for their own products e.g. *Examine a range of products relating to their task, toys, puppets, healthy eating*
- Develop a simple specification/ recipe for their products indicating their intentions and approach
- Demonstrate their creative thinking when considering and recording solutions to problems that arise during their designing and making e.g. *realise that it would be quicker and easier to use ready made materials, components and ingredients rather than make their own*
- Develop and communicate their design ideas in a variety of ways, using ICT where appropriate e.g. *sketching, accurate drawing, graphics software packages, models.*
- Consider the safety and reliability of their activities/products e.g. *Consider how use or misuse of their products might cause injury, damage or poor health*
- Evaluate their design ideas as they develop
- Consider the needs of the user e.g. *Check against their original specification/ recipe*

Making

Pupils should be given opportunities to:

- Work to their specification/recipe to make products
- Choose appropriate materials, ingredients, equipment, tools/utensils and techniques, from a range made available to them
- Measure, mark out, cut, shape, join, weigh and mix a range of materials and ingredients, using appropriate tools/utensils, equipment and techniques
- Find alternative ways of making if the first attempt fails e.g. *Use Velcro on a textiles products where buttons are difficult to fix*
- Apply appropriate finishes to their products e.g. *food garnishing, textile embellishment, painting, cladding in card*
- Discuss their products and evaluate their work e.g. *explain why and how they made their product and what they think about its function, features, performance, taste.*

Food

Pupils should be given opportunities to:

- Plan and carryout a broad range of practical food preparation tasks safely and hygienically
- Apply current healthy eating messages and consider nutritional needs when undertaking food preparation tasks e.g. *high fibre, low fat, fruit, vegetables*
- Classify food by commodity/ group and understand the characteristics of a broad range of ingredients including their nutritional, functional and sensory properties e.g. *Meat, fish, fruit and vegetables*

Rigid and flexible materials

Pupils should be given opportunities to:

- Use a range of materials and components, making choices based on their developing knowledge on how they should be used e.g. *Using square section timbre or lollypop sticks to strengthen a cardboard structure*
- Learn about the efficient use of materials e.g. *Planning cutting from sheet materials to minimise waste*
- Use techniques for reinforcing and strengthening structures in their products e.g. *use triangulation and gussets in frame structures, using fabric reinforcing in bags, clothing and kites*
- Learn about the responsible use materials considering issues of sustainability

Systems and control

Pupils should be given opportunities to:

- Construct simple mechanisms to produce different types of movement e.g. *Use simple levers to move the wings on a bird made from flat card*
- Build simple low - voltage electrical circuits within products e.g. *Add a simple lighting system to a model house that includes a battery, switch and bulbs*
- Use programmable/ computer control systems that can create, test, modify and store instructions to control events e.g. *Enter and store instructions in a programmable toy, write a simple programme for a floor turtle, control their products using computer hardware/software.*

Level 2

- To ask questions and suggest ideas for making things based on examination of familiar products and their experience of using materials, ingredients and techniques ,When designing and making,
- To use pictures and words to convey what they want to do
- To manipulate simple tools/ utensils safely and assemble, join and mix materials and ingredients in a variety of ways
- To talk about what they like or dislike about what they have made

Level 3

- To gather given information to support their ideas when designing and making (with guidance,)
- To draw on their developing knowledge and understanding of materials, ingredients and components to develop their ideas, and begin to consider environmental issues related to the materials and ingredients they are working with
- To use labelled sketches, and or models to develop and show the detail of their designs
- To use simple tools/ utensils and techniques to cut, shape, join and mix materials and ingredients
- To products are similar to their design intentions and any changes are identified

Level 4

- To gather information independently and use it to help generate a number of ideas (when designing and making).
- To develop ideas for products recognising that users have views and preferences and consider sustainability

- To illustrate alternative ideas using sketches, models and or ICT , and make choices between them based on their experiences.
- To outline what they are going to make and how they are going to make it
- To select and use appropriate tools/ utensils and equipment when working with a range of given materials and ingredients, and produce functional or edible products
- To evaluate their work as it develops, making changes when necessary.

Level 5

- To develop an outline design specification/ recipe using supporting information gathered from various sources, and use it to help generate a number of imaginative ideas for products considering the user, health and safety and sustainability (when designing and making).
- To research a range of their ideas using sketches, models and or ICT , and make choices between them based on their knowledge and understanding
- To produce drawings/ patterns / recipes with outlined dimensions and sequence what they are going to do.
- To select and use appropriate tools/ utensils and equipment to measure, mark out, cut, join and mix a range of materials and ingredients, and produce products of acceptable quality, function or taste.
- To evaluate their work as it develops, bearing in mind their original intentions.