|  |
| --- |
| **DESIGN TECHNOLOGY LONG TERM PLAN**  |
| **Expressive Arts and Design ELG**: Creating with Materials Children at the expected level of development will: * Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function
* Share their creations, explaining the process they have used

KS1: Design * design purposeful, functional, appealing products for themselves and other users based on design criteria
* generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

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

Evaluate * explore and evaluate a range of existing products
* evaluate their ideas and products against design criteria

Technical knowledge * build structures, exploring how they can be made stronger, stiffer and more stable
* explore and use mechanisms [for example, levers, sliders, wheels and axles], in their

Food and cooking * use the basic principles of a healthy and varied diet to prepare dishes
* understand where food comes from.
 | KS2: Design * 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
* generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make * select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
* 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

Evaluate * investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
* understand how key events and individuals in design and technology have helped shape the world

Technical knowledge * apply their understanding of how to strengthen, stiffen and reinforce more complex structures
* understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
* understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
* apply their understanding of computing to program, monitor and control their products.

Food and cooking * understand and apply the principles of a healthy and varied diet
* prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
* understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed.
 |
|  | **Autumn** | **Spring** | **Summer** |
| **EYFS** | **Continuous Provision****Food- Rainbow Fruit cup**Tasting and smelling common fruit. Can I make a tasty and healthy snack? | **Continuous Provision****Mechanisms-**Assemble vehicles with moving wheels using construction kitsCan I make something that moves? | **Continuous Provision**Make a musical instrumentCan I make an instrument that makes a sound? |
| **Year 1** | **Autumn 2****Structures-playground equipment**Freestanding structuresCan I design and make playground equipment for a lego person? | **Spring 2****Mechanisms- Moving picture**Sliders and LeversCan I design and make a moving picture to share with reception at story time? | **Summer 2****Food- Garden salad**Preparing fruit and vegetablesCan I make a healthy salad for lunchbox? |
| **Year 2** | **Autumn 2****Mechanisms- Moving vehicles**Wheels and axelsCan I make a moving vehicle to take a teddy across the classroom? | **Spring 2****Food- Potato salad and Rainbow coleslaw**Preparing fruit and vegetablesCan I make food for a family picnic? | **Summer 2****Textiles- Puppets**Templates and joining techniquesCan I make a puppet for Mrs Ashcroft to use with Reception? |
| **Year 3** | **Autumn 1****Structure- Packaging for**Shell structures using CADCan I make a package to protect and advertise a healthy snack? | **Spring 2****Food- Pasta salad**Healthy and varied dietCan I make a healthy pasta salad for families at a BBQ? | **Summer 1****Textiles- Pencil case**2D shapes to 3D productCan I make a pencil case to use in Year 4 to keep my stationary safe? |
| **Year 4** | **Autumn 2****Food- Exotic fruit kebab**Healthy and varied dietCan I make an exotic fruit kebab for athletes as nutrition? | **Spring 2****Electrical systems- light box**Simple programming and control.Simple circuits and switchesCan I design and make a light box for shop keepers to advertise products? | **Summer 2****Mechanical systems- moving picture book**Levers and linkagesPneumatics Can I make a moving picture book to share with KS1 at story time? |
| **Year 5** | **Autumn 2****Mechanical systems-**Pulleys and Gears CamsCan I design a moving toy for a Christmas gift? | **Spring 2****Food- Mediterranean Cous Cous**Celebrating culture and seasonality Can I design a healthy lunch for a teenager? | **Summer 2****Structures- Hide**Frame structuresCan I design a hide for wildlife? |
| **Year 6** | **Autumn 1****Textiles- Shopping bag**Combining different fabric shapes.Using computer aided design in textilesCan I make a functional/eco shopping bag for supermarket customers? | **Spring 2****Electrical systems-Alarm**More complex switches and circuits.Monitoring and controlCan I make an alarm to protect an artefact? | **Summer 2****Food- Chicken Caesar salad wrap**Celebrating culture and seasonalityCan I make a chicken Caesar salad wrap for a diverse diet? |