*Please use this grid when planning your D&T units for your class. Look carefully at the progression of skills and knowledge for your year group and ensure your teaching cover these areas.*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | EYFS | | | National Curriculum KS1 | | | National Curriculum KS2 | | | |
|  | Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  Use a range of small tools, including scissors.  Share creations, explaining processes they have used.  Use what they have learnt about media and materials in original ways, thinking about uses and purposes.  Represent own ideas, thoughts and feelings through design and technology.  Understand the importance of a healthy diet.  Talk about ways to keep healthy and safe.  Adapt work where necessary. | | | Through a variety of creative and practical activities, pupils should be taught the  knowledge, understanding and skills needed to engage in an iterative process of designing  and making. They should work in a range of relevant contexts [for example, the home and  school, gardens and playgrounds, the local community, industry and the wider  environment].  When designing and making, pupils should be taught to:  **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 products  **Cooking and nutrition**  **\***use the basic principles of a healthy and varied diet to prepare dishes  \*understand where food comes from | | | Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home,  school, leisure, culture, enterprise, industry and the wider environment].  When designing and making, pupils should be taught to:  **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.  **Cooking and nutrition**  \* 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. | | | |
|  | | **EYFS** | **Year 1** | | **Year 2** | **Year 3** | | **Year 4** | **Year 5** | **Year 6** |
| **Units** | | **Model Homes**  **Fruit Kebabs**  **Woodwork Animals** | **Making a bird house (Autumn - Structures)**  **Making a sandwich (Autumn - food and nutrition)**  **Making a hat from recyclables (Spring - Textiles)**  **Moving Pictures (Summer - Mechanisms levers and sliders)** | | **Puppets (Autumn - Textiles)**  **Healthy Omelette (Spring - Food and Nutrition)**  **Vehicles (Summer - Mechanisms wheels and axles )** | **Perfect Pizzas (Autumn - Food and Nutrition)**  **Moving Monsters (Spring Mechanisms pneumatic, levers and linkages)**  **Making a Garden Obelisk (Summer - Structures)** | | **Making a model house with electrics (Autumn 2- Electrical systems/ structures)**  **Making a Seasonal Dish (Spring 2- Food and Nutrition)**  **Making a wallet/ purse (Summer 2- Textiles)** | **Making Christmas Gingerbread (Autumn 1- Food and Nutrition)**  **Making and designing a model Rocket (Autumn 2- Mechanisms)**  **Making a Slow- Coaster (Spring- Structures)** | **Making and comparing Bread (Autumn 1- Food and Nutrition)**  **Leavers patchwork cushion. (Summer 2- Textiles)** |
| **Design** | | \*use language of designing and making e.g join, shape and build  \*plan simple ideas and adapt to make them better | \* have own ideas  \* explain what I want to do  \*explain what my product is for, and how it will work  \* use pictures and words to plan, begin to use models  \* design a product for myself following design criteria  \*research similar existing products | | \*have own ideas and plan what to do next  \* explain what I want to do and describe how I may do it  \* explain purpose of product, how it will work and how it  will be suitable for the user  \* describe design using pictures, words, models, diagrams and ICT  \* design products for myself  and others following design  criteria  \* choose best tools and  materials, and explain choices  \* use knowledge of existing  products to produce ideas | \*begin to research others’ needs  \* show design meets a range of requirements  \* describe purpose of product  \* follow a given design criteria  \* have at least one idea about how to create product  \* create a plan which shows order, equipment and tools  \*describe design using an accurately labelled sketch and words  \* make design decisions  \*explain how product will work  \* make a prototype  \* begin to use computers to  show design | | \*use research for design ideas  \* show design meets a range of requirements and is fit for purpose  \*begin to create own design criteria  \*have at least one idea about how to create product and suggest improvements for  design.  \* produce a plan and explain it to others  \*say how realistic plan is.  \*include an annotated sketch  \*make and explain design  decisions considering  availability of resources  \*explain how product will work  \* make a prototype  \*begin to use computers to show design. | \*use internet and questionnaires  for research and design ideas  \*take a user’s view into account when designing  \* begin to consider needs/wants of  individuals/groups when designing and ensure product is fit for  purpose  \*create own design criteria  \* have a range of ideas  \*produce a logical, realistic plan and explain it to others.  \*use cross-sectional planning and annotated sketches  \* make design decisions  considering time and resources.  \*clearly explain how parts of  product will work.  \*model and refine design ideas by making prototypes and using pattern pieces.  \*use computer-aided designs | \*draw on market research to inform design  \* use research of user’s individual needs, wants, requirements for design  \* identify features of design that will appeal to the intended user  \* create own design criteria and specification  \* come up with innovative design ideas  \*follow and refine a logical plan.  \*use annotated sketches, cross-sectional planning and exploded diagrams  \* make design decisions, considering,  resources and cost  \* clearly explain how parts of design will work, and how they are fit for  purpose  \* independently model and refine design ideas by making prototypes and  using pattern piece |
| **Make** | | \* construct with a purpose in mind  \* say what I’m making  \* select tools and techniques needed to assemble and join materials e.g scissors , hole puncher, staples | \*explain what I’m making and why  \*consider what I need to do next  \*select tools/ equipment to cut, shape, join, finish and explain choices  \*measure, mark out, cut and shape, with support  \*choose suitable materials and  explain choices  \*try to use finishing  techniques to make product look good  \*work in a safe and hygienic manner | | \*explain what I am making and why it fits the purpose  \*make suggestions as to what I need to do next.  \*join materials/components  together in different ways  \*measure, mark out, cut and shape materials and  components, with support.  \*describe which tools I’m using and why  \*choose suitable materials and explain choices depending on characteristics.  \*use finishing techniques to  make product look good  \*work safely and hygienically | \*select suitable  tools/equipment, explain choices; begin to use them accurately  \* select appropriate materials, fit for purpose.  \* work through plan in order  \*consider how good product will be  \* begin to measure, mark out, cut and shape  materials/components with some accuracy  \* begin to assemble, join and combine materials and  components with some accuracy  \* begin to apply a range of finishing techniques with some accuracy | | \*select suitable tools and equipment, explain choices in relation to required techniques and use accurately  \*select appropriate materials, fit for purpose; explain choices  \* work through plan in order.  \* realise if product is going to be good quality  \* measure, mark out, cut and shape materials/components with some accuracy \*assemble, join and combine materials and components with some accuracy  \*apply a range of finishing techniques with some accuracy | \*use selected tools/equipment  with good level of precision  \* produce suitable lists of tools, equipment/materials needed  \*select appropriate materials, fit  for purpose; explain choices,  considering functionality  \* create and follow detailed stepby-step plan  \* explain how product will appeal to an audience  \* mainly accurately measure, mark  out, cut and shape  materials/components  \*mainly accurately assemble, join  and combine  materials/components  \* mainly accurately apply a range of finishing techniques  \* use techniques that involve a small number of steps  \* begin to be resourceful with practical problems | \*use selected tools and equipment precisely  \*produce suitable lists of tools, equipment, materials needed, considering constraints  \* select appropriate materials, fit for  purpose; explain choices, considering functionality and aesthetics  \* create, follow, and adapt detailed step-by-step plans  \*explain how product will appeal to audience; make changes to improve  quality  \* accurately measure, mark out, cut and shape materials/components  \* accurately assemble, join and combine materials/components  \* accurately apply a range of finishing techniques  \* use techniques that involve a number of steps  \* be resourceful with practical problems |
| **Evaluate** | | \*talk about my work and what I like, dislike about it. | \*talk about my work, linking it to what I was asked to do  \* talk about existing products considering: use, materials,  how they work, audience,  where they might be used  \*talk about existing products, and say what is and isn’t good  \* talk about things that other people have made  \*begin to talk about what  could make product better | | \*describe what went well, thinking about design criteria  \* talk about existing products considering: use, materials,  how they work, audience, where they might be used; express personal opinion  \*evaluate how good existing products are  \*talk about what I would do differently if I were to do it  again and why | \* look at design criteria while  designing and making  \*use design criteria to  evaluate finished product  \* say what I would change to make design better  \*begin to evaluate existing products, considering: how  well they have been made, materials, whether they work,  how they have been made, fit for purpose  \* begin to understand by whom, when and where products were designed  \* learn about some  inventors/designers/  engineers/chefs/  manufacturers | | \*refer to design criteria while designing and making  \*use criteria to evaluate  product  \* begin to explain how I could  improve original design  \*evaluate existing products, considering: how well they’ve been made, materials, whether  they work, how they have been made, fit for purpose  \* discuss by whom, when and where products were designed  \* research whether products can be recycled or reused  \* know about some  inventors/designers  / engineers/chefs  /manufacturers  of ground-breaking products | \*evaluate quality of design while designing and making  \*evaluate ideas and finished  product against specification,  considering purpose and  appearance.  \*test and evaluate final product  \* evaluate and discuss existing products, considering: how well  they’ve been made, materials, whether they work, how they have  been made, fit for purpose  \* begin to evaluate how much products cost to make and how innovative they are  \*research how sustainable  materials are  \*talk about some key  inventors/designers/ engineers/  chefs/manufacturers of ground breaking products | \*evaluate quality of design while designing and making; is it fit for  purpose?  \* keep checking design is best it can  be.  \*evaluate ideas and finished product  against specification, stating if it’s fit  for purpose  \*test and evaluate final product; explain what would improve it and the  effect different resources may have had  \*do thorough evaluations of existing products considering: how well  they’ve been made, materials, whether they work, how they’ve been  made, fit for purpose  \*evaluate how much products cost to make and how innovative they are  \*research and discuss how sustainable materials are  \*consider the impact of products beyond their intended purpose  \*discuss some key  inventors/designers/ engineers/  chefs/manufacturers of ground breaking products |
| **Technical Knowledge structures** | | \*build structures, joining components together  \* use adhesives to join material | \*begin to measure and join materials, with some support  \*describe differences in  materials  \*suggest ways to make  material/product stronger  \*measure materials  \*describe some different  characteristics of materials  \*join materials in different  Ways | | \*measure materials  \*describe some different  characteristics of materials  \*join materials in different ways  \*use joining, rolling or folding to make it stronger  \*use own ideas to try to make product stronger | \*use appropriate materials  \*work accurately to make cuts and holes  \* join materials  \*begin to make strong  structures | | \*measure carefully to avoid mistakes  \*attempt to make product strong  \*continue working on product even if original didn’t work  \*make a strong, stiff structure | \*select materials carefully,  considering intended use of  product and appearance  \*explain how product meets design criteria  \*measure accurately enough to ensure precision  \*ensure product is strong and fit for purpose  \*begin to reinforce and strengthen a 3D frame |  |
| **Technical Knowledge – Mechanisms** | | \*look at simple wheels and axles | \*use sliders | | \*use levers or slides  \*begin to understand how to use wheels and axles | \*select appropriate tools /  techniques  \*alter product after checking, to make it better  \*begin to try new/different  Ideas  \*use pneumatics to create movement  \* use a simple lever and linkages to create movement | |  | \*refine product after testing  \*grow in confidence about trying new / different ideas  \*begin to use cams, pulleys or gears to create movement |  |
| **Technical Knowledge-**  **Textiles** | | \* describe the texture of things  \*explore a variety of textiles. | \*choose suitable textiles | | \*measure textiles  \*join textiles together to make a product, and explain how I did it  \*carefully cut textiles to produce accurate pieces  \*explain choices of textile  \*understand that a 3D textile structure can be made from two identical fabric shapes. |  | | \*think about user when  choosing textiles  \*think about how to make  product strong  \* begin to devise a template  \*explain how to join things in a different way  \*understand that a simple  fabric shape can be used to  make a 3D textiles project |  | \*think about user’s wants/needs and  aesthetics when choosing textiles  \*make product attractive and strong  \*make a prototype  \*use a range of joining techniques  \*think about how product might be sold  \*think carefully about what would improve product  \*understand that a single 3D textiles project can be made from a combination of fabric shapes |
| **Technical Knowledge –**  **Food and Nutrition** | | \*understand some of the tools and techniques in food preparation e.g stir, spread, shape, roll  \* Awareness of washing hands and basic hygiene | describe textures  \*wash hands & clean surfaces  \*think of interesting ways to decorate food  \*say where some foods come from, (i.e. plant or animal)  \*describe differences between some food groups (i.e. sweet, vegetable etc.)  \*discuss how fruit and  vegetables are healthy  \*cut, peel and grate safely with support | | \* Explain hygiene and keep a hygienic kitchen  \*describe properties of ingredients and importance  of varied diet  \*say where food comes from (animal, underground etc.)  \*describe how food is  farmed, home-grown, caught  \*draw eat well plate; explain there are groups of food  \*describe “five a day”  \*cut, peel and grate with increasing confidence | explain how to be  safe/hygienic  \*think about presenting  product in interesting/  attractive ways  \*understand ingredients can be fresh, pre-cooked or processed  \*begin to understand about  food being grown, reared or  caught in the UK or wider world  \*describe eat well plate and  how a healthy diet variety/  balance of food and drinks  \*explain importance of food  and drink for active, healthy  bodies  \*prepare and cook some dishes safely and hygienically  \*use some of the following  techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking | | \*explain how to be  safe/hygienic  \*think about presenting  product in interesting/  attractive ways  \*understand ingredients can be  fresh, pre-cooked or processed  \*Understand about food being grown, reared or caught in the UK or wider world  \*explain seasonality of foods  \*describe eat well plate and how a healthy diet variety / balance of food and drinks  \*explain importance of food and drink for active, healthy bodies  \*prepare and cook some dishes safely and hygienically  \*use some of the following  techniques: peeling, chopping, slicing, grating, mixing,spreading, kneading and baking | \*explain how to be safe and hygienic and follow own guidelines  \*present product well - interesting, attractive, fit for purpose  \*begin to understand seasonality of foods  \*understand food can be grown, reared or caught in the UK and the  wider world  \*describe how recipes can be adapted to change appearance, taste, texture, aroma  \*explain how there are different substances in food / drink needed for health  \*prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source  \* use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and  baking. | \*understand a recipe can be adapted by adding / substituting ingredients  \*learn about food processing methods  \*name some types of food that are  grown, reared or caught in the UK or  wider world  \*adapt recipes to change appearance,  taste, texture or aroma.  \*describe some of the different  substances in food and drink, and how  they can affect health  \*prepare and cook a variety of savoury  dishes safely and hygienically  including, where appropriate, the use  of heat source.  \*use a range of techniques confidently  such as peeling, chopping, slicing, grating, mixing, spreading, kneading  and baking |
| **Technical knowledge- electrical systems** | |  |  | |  |  | | \*use number of components in  circuit  \*program a computer to control product | \*incorporate switch into product  \*confidently use number of  components in circuit  \*begin to be able to program a computer to  control product |  |