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| Typically Rec, Y1 & Y2 | Typically Y3 & Y4 | Typically Y5 & Y6 |
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The RAINBOW Continuum: Design Technology: Children can …

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|  | OBSERVATION AND CONCLUSION |  | ENQUIRY, PREDICTION, TESTING |  | DATA COLLECTION |  | RECORDING |  |
|  | Talk about what they want to make  | YR | Make models randomly  | YR | Be excited about what they have made  | YR | Talk about what they want to make  | YR |
|  | Generate ideas from their own experience Talk about their ideas and say what will be done Describe what they want to do using pictures and words  Make lists of materials they will need  | Y1/2Y1/2Y1/2Y1/2 | Know the features of some familiar products  Join two materials together, often with glue Use scissors or a knife to cut, sometimes with help Make simple models, not necessarily with a purpose Use simple construction kits – e.g. Lego Know about basic hygiene and safety  | Y1/2Y1/2Y1/2Y1/2Y1/2Y1/2 | Recognise the characteristics of familiar products Know how some moving objects work  Use simple terms to talk about their own and others’ work  Identify materials and mechanisms in familiar products Know the benefits of fruit and vegetables  | Y1/2Y1/2Y1/2Y1/2Y1/2 | Generate ideas from their own experience Talk about their ideas and say what will be done Describe what they want to do using pictures and words  Make lists of materials they will need  | Y1/2Y1/2Y1/2Y1/2 |
|  | Generate ideas, and plan what to do next, using their experience of materials and components  Use their knowledge of some working characteristics of materials  when designing Use wheels, slides and levers in plans Use plans to show how to put their ideas into practice Say how the product will be useful to the user  Draw pictures with labels, with some text  | Y2Y2Y2Y2Y2Y2 | Begin to select tools for folding, joining, rolling Measure out and cut fabric Use a simple template for cutting out practice skills before using them  Use simple finishing techniques  Select tools and techniques appropriate to the job Follow basic safety rules Understand and use the terms ingredient and component  Use simple scales or balances Understand  main rules of food hygiene  | Y2Y2Y2Y2Y2Y2Y2Y2Y2 | Talk about how moving objects work Describe how a commercial product works  Use like and dislike when evaluating or describing Explain why some products are useful Use digital photography to present design or finished work Recognise what they have  done well and talk about what could be improved Seek out the views and judgements of others  Predict how changes will improve the finished product  | Y2Y2Y2Y2Y2Y2Y2Y2 | Generate ideas, and plan what to do next, using their experience of materials and components  Use their knowledge of some working characteristics of materials  when designing Use wheels, slides and levers in plans Use plans to show how to put their ideas into practice Say how the product will be useful to the user  Draw pictures with labels, with some text  | Y2Y2Y2Y2Y2Y2 |
|  | Use others to help generate their  ideas Use what they know about the properties of materials Plan their work to include a range of joins Ensure that plans are realistic and appropriate  for the aim Show the order of working in plans Use models, pictures and words in designs Make increasing use of ICT to plan ideas Recognise that designs must meet a range of needs Say why something will be useful Apply what they know about mechanisms to create movement when planning and designing Investigate a range of products to see how they work  | Y2/3Y2Y3 | Measure and cut out using centimetres and weigh in grams Choose tools and equipment which are appropriate for the job Prepare for work by assembling components together before joining  Use scoring and folding for precision Make holes using a punch and drill  Work out how to make models stronger Alter and adapt materials to make them stronger Combine a number of components together in different ways Make the finished product neat and tidy Begin to select their own ingredients when cooking or baking Make good presentation of food  | Y2/3Y3Y3Y3 | Be clear about their ideas when asked Can alter and adapt original plans following discussion and evaluation Recognise what has gone well, but suggest further improvements for the finished article Suggest which elements they would do better in the future  Identify where evaluation has led to improvements Understand safe food storage  | Y3Y2Y2/3 | Use others to help generate their  ideas Use what they know about the properties of materials Plan their work to include a range of joins Ensure that plans are realistic and appropriate  for the aim Show the order of working in plans Use models, pictures and words in designs Make increasing use of ICT to plan ideas Recognise that designs must meet a range of needs Say why something will be useful Apply what they know about mechanisms to create movement when planning and designing Investigate a range of products to see how they work  | Y2/3Y2Y3 |
|  | Collect and use information to generate ideas Consider the way  the product will be used  Understand designs must meet a range of criteria and constraints Take users’ views into account Understand how some properties can be used – e.g. waterproof Think ahead about the order of their work Add electricity to create motion or make light Produce step by step plans  Make ongoing sketches and annotations  | Y4Y4Y4Y4Y4Y4Y4Y4 | Increasingly model their ideas before making Measure accurately to centimetres and grams Combine materials for strength and to improve how the product looks Use permanent and temporary fastenings to join Join with a greater range of techniques – e.g. staples Strengthen joins and corners in a variety of ways Understand how wheels, axles, turning mechanisms, hinges and levers all work together    | Y4Y4Y4Y4Y4Y4Y4 | Talk about what they like and dislike, giving reasons Develop their designs through their own reflection and the evaluation of others Carry out tests before making improvements Evaluate food by taste, texture, flavour etc.   | Y4Y4Y4Y4 | Collect and use information to generate ideas Consider the way  the product will be used  Understand designs must meet a range of criteria and constraints Take users’ views into account Understand how some properties can be used – e.g. waterproof Think ahead about the order of their work Add electricity to create motion or make light Produce step by step plans  Make ongoing sketches and annotations  | Y4Y4Y4Y4Y4Y4Y4Y4 |
|  | Make more complex designs to include belts and pulleys, and a combination of other mechanisms Plan the order of work by thinking ahead Use sketches to show other ways of doing things – and then make choices Meet an identified need – e.g. a meal for an older person – by selecting ingredients or materials  Use various sources of information and draw on them in design  | Y5Y5Y6 | Carry out tests to see if their design works Make improvements from design suggestions Work in a safe and hygienic way Measure and cut precisely to millimetres Make stable and strong joins to stand the test of time Use proportions when cooking, by doubling and halving recipes   | Y5Y5Y5 | Identify what is working well and what might be improved – and make choices from several alternatives Refine the quality of the finished product, including making annotations on the design  Clarify ideas through drawing and modelling Increasingly use testing to improve models and finished products  | Y5Y5/Y6Y5Y5 | Make more complex designs to include belts and pulleys, and a combination of other mechanisms Plan the order of work by thinking ahead Use sketches to show other ways of doing things – and then make choices Meet an identified need – e.g. a meal for an older person – by selecting ingredients or materials  Use various sources of information and draw on them in design  | Y5Y5Y6 |
|  | Keep cost constraints in mind when selecting materials in design Use their knowledge of –e.g.- science and art when designing Be aware of commercial aspects and incorporate these into their designs Design including hydraulics and pneumatics when where appropriate Draw scaled diagrams with increasing use of ratio Calculate the amount of materials needed use this to estimate cost  | Y6Y6Y6Y6Y6 | Measure and cut out in precise detail, and make sure that finished products are carefully finished Make separate elements of a model before combining into the finished article Understand how an article might be mass produced Produce a simple instruction manual or handbook for their product   | Y6Y6 | Research products using the internet Test and evaluate commercial products, understanding how this information supports their own designs Evaluate a range of different sources of  information such as advertising and handbooks   | Y6Y6 | Keep cost constraints in mind when selecting materials in design Use their knowledge of –e.g.- science and art when designing Be aware of commercial aspects and incorporate these into their designs Design including hydraulics and pneumatics when where appropriate Draw scaled diagrams with increasing use of ratio Calculate the amount of materials needed use this to estimate cost  | Y6Y6Y6Y6Y6 |