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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 | Y1/2  Y1/2  Y1/2  Y1/2 | 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 | Y1/2  Y1/2  Y1/2  Y1/2  Y1/2  Y1/2 | 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 | Y1/2  Y1/2  Y1/2  Y1/2  Y1/2 | 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 | Y1/2  Y1/2  Y1/2  Y1/2 |
|  | 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 | Y2    Y2  Y2  Y2  Y2  Y2 | 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 | Y2  Y2  Y2  Y2  Y2  Y2  Y2  Y2  Y2 | 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 | Y2  Y2  Y2  Y2  Y2  Y2  Y2  Y2 | 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 | Y2    Y2  Y2  Y2  Y2  Y2 |
|  | 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 | Y2/3  Y2  Y3 | 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 | Y2/3    Y3  Y3  Y3 | 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 | Y3  Y2  Y2/3 | 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 | Y2/3  Y2  Y3 |
|  | 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 | Y4  Y4  Y4  Y4  Y4  Y4  Y4  Y4 | 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 | Y4  Y4  Y4  Y4  Y4  Y4  Y4 | 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. | Y4  Y4  Y4  Y4 | 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 | Y4  Y4  Y4  Y4  Y4  Y4  Y4  Y4 |
|  | 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 | Y5  Y5  Y6 | 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 | Y5  Y5    Y5 | 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 | Y5  Y5/Y6  Y5  Y5 | 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 | Y5  Y5  Y6 |
|  | 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 | Y6  Y6  Y6  Y6  Y6 | 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 | Y6  Y6 | 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 | Y6    Y6 | 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 | Y6  Y6  Y6  Y6  Y6 |