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| **DT Year 1 Structures Block B** | | | |
| **National Curriculum**   * 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. | | | |
|  | Lesson 1 | Lesson 2 | Lesson 3 |
| **Learning intention** | What is a freestanding structure and what needs to be in place for it to be sucessful? | What is a freestanding structure and what needs to be in place for it to be sucessful? | What is a freestanding structure and what needs to be in place for it to be sucessful? |
| **Skills taught** | Can use their understanding of balance to choose how to place blocks when building a tower | Can manipulate, fold and cut cardboard accurately.  Can follow the model provided to make their own examples of different joins. | Can apply what they have learnt about joining materials effectively to create a stable structure |
| **Recall and retrieval** | Identify different types of building blocks. | A wide base or foundation provides greater stability  For an object or structure to balance, weight needs to be equal on each side | Some structures need support to stop them from toppling  Cardboard can be joined in a variety of ways to add stability to a structure |
| **Sequence of knowledge throughout the lesson** | **Key knowledge**  Can explain that a tower with a wide base and solid foundation will be less likely to topple  Can explain and demonstrate the meaning of balance  Can explain the most effective shapes and positions to use to build a stable tower  Can identify ways to improve the stability of their tower | **Key knowledge**  Can make decisions about the effectiveness of each join and explain their reasoning  Can label types of join correctly | **Key knowledge**  Can apply knowledge of what makes a structure stable to their own design  Can identify methods and materials they have used that have been effective  Can explain how their tower could be made more stable such as by widening the base, securing the joins or adjusting the position of the sections of the tower |
| **Scaffolding** | Visual steps to success. | Working examples.  Visual steps to success. | Working examples.  Visual steps to success. |
| **Challenge** |  |  |  |
| **Key Vocabulary** | Tower  Topple  Lean  Foundation  Balance  Perpendicular | Tower  Topple  Lean  Foundation  Balance  Perpendicular | Tower  Topple  Lean  Foundation  Balance  Perpendicular |