| **DT Year 2 Structures Block F** |
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| **National Curriculum****Key Stage 2*** **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.
* **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.
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|  | Lesson 1 | Lesson 2 | Lesson 3 |
| **Learning intention** | How strong is a piece of paper? | How strong is a piece of paper? | How strong is a piece of paper? |
| **Skills taught** | Can fold paper in a variety of ways | Can use a combination of folded and flat cards to create a multistorey tower Can explore how the positioning of folded cards affects the stability of a tower | Can create a clear design and explain intentions, based on prior knowledge Can make a structure in accordance with a set of criteria Can conduct a series of tests and suggest ways in which a design should be modified as a result |
| **Recall and retrieval** | Use scissors correctly Build structures that are free-standing using a range of different materials | A free-standing structure is a structure that stands on its own foundation or base without attachment to anything else Folding paper can increase its strengthA cylindrical pillar is stronger than a rectangular one | A combination of folds can increase the stability of paper |
| **Sequence of knowledge throughout the lesson** | **Key knowledge**Can show an understanding of what a fair test isCan explain how to make the test fair Can take a systematic approach to testing materials and methods Can draw reasonable conclusions and record findings | **Key knowledge**Can explain what a storey is Can draw conclusions about how the shapes created by folded card affect the stability of a structure | **Key knowledge**Can draw conclusions about how the shapes created by folded card affect the stability of a structure |
| **Scaffolding** | Working examplesVisual steps to successTeacher guidance | Working examplesVisual steps to successTeacher guidance  | Working examplesVisual steps to successTeacher guidance |
| **Challenge** |  |  |  |
| **Key Vocabulary** | papercrease (noun)corrugatedstoreypillarload (noun) | papercrease (noun)corrugatedstoreypillarload (noun) | papercrease (noun)corrugatedstoreypillarload (noun) |