

Crawley Ridge Junior School
Subject Specific Overview- Design and Technology
Design and make Something, for Somebody for Some purpose.
We use KAPOW and Projects on a Page to support our teaching of DT.

| | Autumn | Spring | Summer |
|---------------|---|---|--|
| Year 3 | <p align="center">Mechanisms</p> <p>Designing and making a moving monster using a pneumatic mechanism (Kapow)</p> <ul style="list-style-type: none"> To know that <i>pneu</i> in <i>pneumatic</i> means air To know that pneumatic systems force air over a distance to create movement To know that a mechanism needs an input and output To know that pneumatic systems can be used as part of a mechanism | <p align="center">Food</p> <p>Eating seasonally (Kapow)</p> <ul style="list-style-type: none"> To know that climate affects food growth To know how to work with cooking equipment safely and hygienically To know that imported foods travel from far away and this can negatively impact the environment To know that vegetables and fruit grow in certain seasons - To know that each fruit and vegetable gives us nutritional benefits Know how to use, store and clean a knife safely <p align="center">Textiles</p> <p>2-D shape to 3-D product Making a cushion (Kapow)</p> <ul style="list-style-type: none"> To know that a single fabric shape can be used to make a 3D textiles product. To know how to thread needles and do it with greater independence To know to tie knots in threads so that the thread stays secure To sew running stitch, cross stitch and appliqué To know how to securely join two pieces of fabric together | <p align="center">Structures</p> <p>(Forest schools) Constructing a Roundhouse from natural materials</p> <ul style="list-style-type: none"> To know that a structure needs, walls, insulation and a roof. To know which materials today, would be effective to make a Celtic roundhouse. To know that certain materials such as hazel twigs are effective for weaving due to their flexible properties. To know why clay in the past was used as a building material. |

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| | | <ul style="list-style-type: none"> To know what a seam is and understand the need for seam allowances | |
| Year 4 | <p align="center">Electrical (Kapow)</p> <p>To develop a new functional torch design</p> <ul style="list-style-type: none"> To know how simple electrical items work To know how simple electrical circuits and components can be used to create functional products To know what electrical conductors and insulators are To know that a battery contains stored electricity and can be used to power products To know a torch needs a housing, reflector and switch. <p align="center">Structures</p> <p>To create a safari buggy</p> <ul style="list-style-type: none"> To know a shell structure can be strengthened by accurate joining, selecting suitable glue and reinforcing corners. To know a net is a 2D shape, that can become 3D once assembled. To know a structure is something that has been made and put together and usually stand on its own. | <p align="center">Food (Kapow)</p> <p>Adapting a recipe</p> <ul style="list-style-type: none"> To know the importance of budgeting while planning ingredients for biscuits To know about the environmental impact on future products and cost of production | <p align="center">Textiles (Kapow)</p> <p>Design and make a fabric book sleeve</p> <ul style="list-style-type: none"> To know that there are different types of fastenings and what they are To know the benefits and disadvantages of different fastening types |
| Year 5 | <p align="center">Structures (Kapow)</p> <p>Design and create wooden bridge</p> <ul style="list-style-type: none"> To know the terms: compression and tension | <p align="center">Textiles</p> <p>Combining different fabric shapes Tudor posy bags (Projects on a page)</p> | <p align="center">Food</p> <p>What could be healthier? (Kapow)</p> |

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| | <ul style="list-style-type: none"> To know how to identify stronger and weaker structures To know ways to reinforce structures To know how triangles can be used to reinforce bridges To know the difference between beam, arch, truss and suspension bridges <p align="center">Mechanisms Pop-up book (Kapow)</p> <ul style="list-style-type: none"> To know that an input is the motion used to start a mechanism To know that output is the motion that happens as a result of starting the input To know that mechanisms control movement | <ul style="list-style-type: none"> To know how to sew a blanket stitch to join fabric To know how to apply a blanket stitch so the space between the stitches are even and regular To know how to thread needles independently To know that a 3D textiles product can be made from a combination of fabric shapes | <ul style="list-style-type: none"> To know where food comes from - that beef is from cattle and how beef is reared and processed To know what constitutes a balanced diet To know how to adapt a recipe to make it healthier |
| Year 6 | <p align="center">Structures Frame structures WW2 shelters (Projects on a page)</p> <ul style="list-style-type: none"> To know that structures can be strengthened by manipulating materials and shapes To know that the shell structure is used in everyday life (cars, aeroplanes, tins, cans) | <p align="center">Food Celebrating culture and seasonality Ancient Maya (Projects on a page)</p> <ul style="list-style-type: none"> To know how to record the relevant ingredients and equipment needed for a recipe To know which combinations of food complement one another To know where food comes from, describing the process of 'Farm to Fork' for a given ingredient | <p align="center">Digital world Navigating the world (Kapow) To know a cardinal compass uses N, S, E, W</p> <p align="center">Electrical</p> <p>To design and develop a steady hand game</p> <ul style="list-style-type: none"> To know that batteries contain acid, which can be dangerous if they leak To know complex electrical circuits and components can be used to create functional products To know the circuit components in a steady hand game are called |