

## Design and Technology (Design)

| Design and Technology - Design                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| By the end of KS5 pupils should know how to:                                                               | Redway Pre-Formal Pathway<br>Encounter → Foundation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Redway Semi-formal Pathway<br>Core → Development                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Redway Formal Pathway<br>Enrichment → Enhancement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                            | <b>The pupil can:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>The pupil can:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>The pupil can:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Design purposeful, functional, appealing products for themselves and other users based on design criteria. | <ul style="list-style-type: none"> <li>a. Explore/co-explore materials with similar properties.</li> <li>b. Explore/co-explore materials with different properties.</li> <li>c. Explore/co-explore natural materials, indoors and outdoors.</li> <li>d. React to different materials through exploration/co-exploration.</li> <li>e. React to different colours through exploration/co-exploration.</li> <li>f. Explore materials when working alongside a peer</li> <li>g. React to the presence of a peer when exploring materials</li> <li>h. Respond to the reaction of a peer when exploring materials</li> <li>i. Indicate a preference from two colours.</li> <li>j. Indicate a preference from two objects or materials.</li> <li>k. Use and interact with materials in a meaningful way when engaging in a craft activity, with support.</li> </ul> | <ul style="list-style-type: none"> <li>a. Explore different materials with support, and/or independently, using a range of different senses to investigate them.</li> <li>b. Manipulate and play with different materials, with support and/or independently,</li> <li>c. Explore and manipulate materials when working/sharing with a peer</li> <li>d. Make a choice from at least two materials, or more than two materials.</li> <li>e. Make a choice from two colours, or more than two colours</li> <li>f. Make a choice from two embellishments, or more than two embellishments</li> <li>g. Make a choice of materials, colours, embellishments when turn-taking</li> <li>h. Create effects through repetition e.g. painting spots by dabbing a paintbrush.</li> <li>i. Participate in creating a simple design of a personal/meaningful product, using chosen materials, colours and/or embellishments.</li> </ul> | <ul style="list-style-type: none"> <li>a. Think of a design idea that meets the requirement of a product's task</li> <li>b. Think of a design idea that meets their own wishes or requirements</li> <li>c. Think of an idea that meets the requirements of other users</li> <li>d. Understand the following concepts:               <ol style="list-style-type: none"> <li>1. Purpose</li> <li>2. Appeal</li> <li>3. Function</li> <li>4. Process</li> <li>5. Design criteria</li> </ol> </li> <li>e. Break down different tasks that need to be included in the design idea.</li> <li>f. Have an awareness of their target consumer.</li> <li>g. Feed back to the design criteria if there are missing tasks that are needed.</li> <li>h. Analyse the product idea based on its purpose</li> <li>i. Analyse the product idea based on practicality and aesthetics</li> <li>j. Gather information about others' desires/needs, to include:               <ol style="list-style-type: none"> <li>1. Asking others</li> <li>2. Completing a survey</li> </ol> </li> </ul> |

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|                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>j. Participate in creating a simple design of a functional product using chosen materials, colours and/or embellishments.</li> <li>k. Work with a peer in creating a simple design idea</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"> <li>3. Researching</li> <li>k. Design purposeful products for themselves and/or other users based on design criteria.</li> <li>l. Share product prototype with others to see if they have successfully accomplished the functionality and appeal to their target consumer.</li> <li>m. Apply feedback to prototype to improve the product.</li> <li>n. Design functional products for themselves and/or other users based on their design criteria.</li> <li>o. Design appealing products for themselves and/or other users based on tested design criteria.</li> </ul>                                                                                                                  |
| Generate, develop, model and communicate their ideas through talking, drawing, diagrams, templates, mock-ups and, where appropriate, information and communication technology including computer-aided design | <ul style="list-style-type: none"> <li>a. Show awareness of marked differences between two different properties, to include:               <ul style="list-style-type: none"> <li>1. Rough and smooth</li> <li>2. Loud and quiet</li> <li>3. Light and dark</li> <li>4. Soft and hard</li> <li>5. Smell difference</li> </ul> </li> <li>b. React positively towards a particular property.</li> <li>c. React negatively towards a particular property.</li> <li>d. Indicate a preference from two different properties.</li> <li>e. Explore/co-explore a switch.</li> <li>f. Activate a switch with support.</li> <li>g. Activate a switch with purpose.</li> </ul> | <ul style="list-style-type: none"> <li>a. Communicate a preference of two given designs.</li> <li>b. Explore at least one given property of a design e.g. rough material.</li> <li>c. Match and/or sort two or more properties found on a design e.g. rough and soft materials.</li> <li>d. Identify at least one property of a design e.g. by matching/naming a colour they have seen.</li> <li>e. Indicate a preference using a switch, touch screen or other information technology e.g. via By Choice.</li> <li>f. Use a simple drawing/painting program to create a design.</li> <li>g. Create simple designs through play using construction toys such as Mega</li> </ul> | <ul style="list-style-type: none"> <li>a. Generate a range of ideas through talking (or other means of communication), to include where appropriate:               <ul style="list-style-type: none"> <li>1. Greetings card design</li> <li>2. Cake</li> <li>3. Paper-craft model</li> <li>4. Puppet/soft toy</li> <li>5. Iced lollipop</li> <li>6. Mechanical toy vehicle</li> </ul> </li> <li>b. Generate the idea through sketching using pencils, crayons and computer-aided drawing.</li> <li>c. Generate the idea through templates and mock-ups (e.g. looking for suitable templates, making a sample card)</li> <li>d. Develop their idea using information and communication technology (e.g. using the</li> </ul> |

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|                                                                                                                                                                                              | h. Choose between two resources                                                                                                                                                                                                                                                                                                                                              | <p>Bloks, Stickle Bricks, magnetic tiles etc.</p> <p>h. Create simple designs through play using computer programs/apps e.g. Busy Things 'Animal Muddle' or 'Body Boggle'.</p> <p>i. Generate an idea through communication, to include where appropriate:</p> <ol style="list-style-type: none"> <li>1. Card design</li> <li>2. Biscuits</li> <li>3. Smoothie</li> </ol> <p>j. Generate the idea through sketching using pencils, crayons</p>                                                                     | <p>computer to find templates and/or of art tool apps to draw the card).</p> <p>e. Develop their idea by making a model of their initial design</p> <p>f. Communicate their ideas through talking (or other means of communication).</p> <p>g. Can promote benefits of their design through communication</p> <p>h. Can self-critique their design through communication</p> <p>i. Can use the information gathered from previous experience to improve their design.</p> <p>j. Can use information gathered from research to improve their design.</p> |
| Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals, groups or situations. | <p>a. Be aware of a resource being used to engage</p> <p>b. Be aware of more than one resource being used to engage</p> <p>c. Explore a resource, or more than one resource, being used to engage</p> <p>d. Show anticipation of the function of a resource</p> <p>e. Show persistence when exploring a resource</p> <p>f. Display initiation when exploring a resources</p> | <p>g. Explore real-life examples or photographs of current designs to copy for their own work</p> <p>h. Use real-life examples or photographs of current designs to gain ideas for their own work</p> <p>i. Explore how designs create a product which can help a person, to include among others:</p> <ol style="list-style-type: none"> <li>1. Spoon</li> <li>2. Scissors</li> <li>3. Box</li> <li>4. Mixing bowl</li> </ol> <p>j. Explore how a design was created for one person, or a group, or a culture</p> | <p>a. Research British designs and their work to gain ideas for their own design(s).</p> <p>b. Understand how designs and products met a need and therefore a function and purpose, to include:</p> <ol style="list-style-type: none"> <li>1. Train</li> <li>2. Fire engine</li> <li>3. Rocket</li> </ol> <p>c. Understand how a design was created for one person, or a group, or a culture</p> <p>d. Understand why a design was created to resolve a particular situation</p> <p>e. Explore how a design has supported people and/or a culture</p>   |