

## Cooper Perry Design and Technology Skills Progression

### EYFS

#### Expressive Arts and Design

- Explore and use a variety of materials and tools safely.
- Share ideas verbally and through drawings.
- Construct with a purpose, selecting simple tools.
- Begin to talk about what they have made and how they could improve it.
- Explore food through simple cooking and preparation.

|               | Year 1                                                                                                                   | Year 2                                                                                                                     | Year 3                                                                                                               | Year 4                                                                                                       | Year 5                                                                                                         | Year 6                                                                                                                                                                                |
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| <b>Design</b> | <p>Generate ideas through talking, drawing and play.</p> <p>Describe what their product is for and how it will work.</p> | <p>Generate ideas based on real-life problems.</p> <p>Develop designs using templates and mock-ups.</p>                    | <p>Plan designs using labelled diagrams.</p> <p>Consider functionality and user needs.</p>                           | <p>Use research to inform design choices.</p> <p>Develop prototypes and refine ideas.</p>                    | <p>Generate detailed design specifications.</p> <p>Keep records of changes and improvements</p>                | <p>Design innovative and appealing products with a strong sense of user, purpose and functionality.</p> <p>Produce detailed plans, annotated sketches and computer-aided designs.</p> |
| <b>Make</b>   | <p>Select from a limited range of tools and materials.</p> <p>Join materials using simple techniques (tape, glue).</p>   | <p>Select materials for purpose and function.</p> <p>Use tools like scissors, hole punches and simple sewing stitches.</p> | <p>Measure, cut and shape materials with accuracy.</p> <p>Use a wider range of joining and finishing techniques.</p> | <p>Accurately measure and assemble components.</p> <p>Use tools (saws, clamps) safely under supervision.</p> | <p>Use a range of tools with precision and control.</p> <p>Select materials based on functional properties</p> | <p>Work independently selecting suitable tools and processes.</p> <p>Produce high-quality working products with refined finishes.</p>                                                 |

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| <b>Evaluate</b>              | <p>Talk about their own product and what they like/dislike.</p> <p>Compare their product with an existing one.</p>               | <p>Identify strengths and areas for improvement.</p> <p>Understand how existing products are made for specific users.</p> | <p>Begin to evaluate against design criteria.</p> <p>Compare products based on purpose and quality.</p>              | <p>Evaluate effectiveness and suggest realistic improvements.</p> <p>Understand the role of designers in society.</p> | <p>Critically evaluate own product and others against clear criteria.</p> <p>Identify how innovations in design impact the world.</p> | <p>Thoroughly evaluate products considering sustainability, cost and user needs.</p> <p>Understand ethical, social and environmental impact of design.</p>                                       |
| <b>Technical Knowledge</b>   | <p>Understand how simple mechanisms work (e.g. sliders, levers).</p> <p>Begin to strengthen structures using simple methods.</p> | <p>Build structures and explore how to make them stronger.</p> <p>Understand wheels and axles.</p>                        | <p>Understand simple electrical circuits in products.</p> <p>Introduce mechanical systems (levers and linkages).</p> | <p>Apply electrical components: switches, bulbs, buzzers.</p> <p>Explore mechanical systems (gears, pulleys).</p>     | <p>Use more complex mechanical systems.</p> <p>Apply knowledge of strengthening and reinforcing techniques.</p>                       | <p>Apply complex electrical systems (e.g. sensors, motors).</p> <p>Use mechanical systems fluently in moving models.</p> <p>Understand computer control (e.g. Crumble/programmable devices).</p> |
| <b>Cooking and Nutrition</b> | <p>Name main food groups.</p> <p>Safely cut, mix and prepare basic ingredients.</p>                                              | <p>Understand where food comes from (plant/animal).</p> <p>Measure and combine ingredients with increasing accuracy.</p>  | <p>Follow a basic recipe and cook safely.</p> <p>Understand seasonality of foods.</p>                                | <p>Prepare savoury dishes safely.</p> <p>Understand a balanced diet.</p>                                              | <p>Understand cultural influences on food.</p> <p>Prepare healthy dishes using seasonal ingredients.</p>                              | <p>Plan, prepare and cook a full meal.</p> <p>Understand food sourcing, sustainability and nutritional content.</p>                                                                              |

| Vocabulary                   |                                                       |                                                       |                                                                  |                                                                    |                                                            |                                                                             |
|------------------------------|-------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>Design</b>                | design, idea, plan, purpose, user, product            | template, model, mock-up, criteria                    | research, prototype, purpose, labelled diagram                   | design specification, adapting, aesthetics, innovation             | annotated sketch, functionality, design brief, constraints | computer-aided design (CAD), prototype refinement                           |
| <b>Make</b>                  | materials, tools, cut, join, fix, assemble, component | measure, shape, smooth, mark out, attach, sew, stitch | accuracy, refine, strengthen, frame structure                    | assemble, reinforce, precise, finishing techniques                 | properties, durable, stable, fabricate, measure accurately | mechanism, control system, motor, sensor, program, input/output             |
| <b>Evaluate</b>              | slider, lever, wheel, axles, structure                | stronger, stiffer, stable, wheels, axles              | mechanical system, lever, linkage                                | electrical components: circuit, switch, buzzer, battery, conductor | pulley, gear, motion transfer                              | ergonomics, aesthetic qualities, innovation, impact                         |
| <b>Technical Knowledge</b>   | evaluate, like/dislike                                | improve, function, user needs                         | evaluation, effectiveness, compare                               | consumer, sustainability, designer                                 | critique, market research, target audience                 | sustainability, ethical design, environmentally friendly materials          |
| <b>Cooking and Nutrition</b> | food, ingredients, fruit, vegetables, healthy, safe   | hygiene, source, plant, animal, chop, peel, mix       | ingredients, standard unit (grams/ml), seasoning, seasonal foods | balanced diet, nutrition, savoury dish, utensils                   | culture, dietary requirements, portion, evaluate recipe    | nutrients (carbohydrates, proteins, fats), sustainable sourcing, food miles |