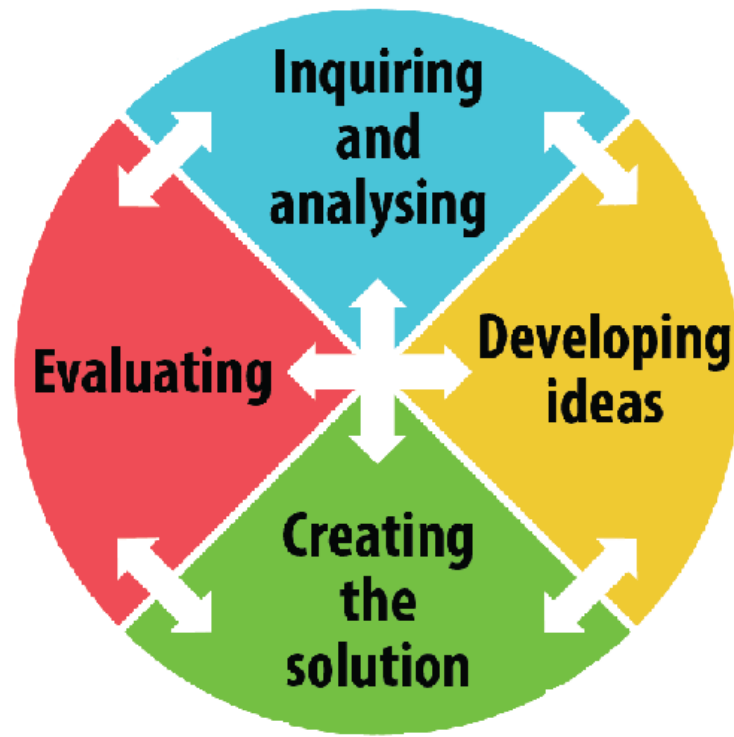
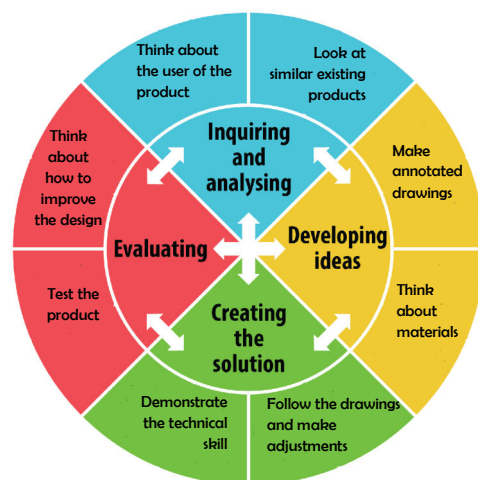


Structures: EYFS and Years 1,3, and 5

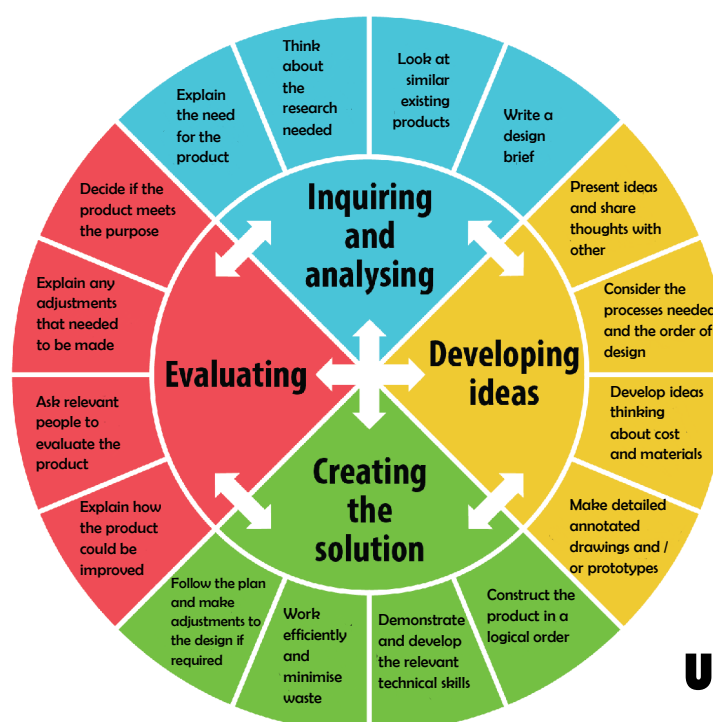
Design and Technology field: Structural design			
Year groups the field is covered: EYFS and years: 1,3 and 5			
Word colour key	Already covered in a previous year group in DT.	Cross-curricular links with science.	Cross-curricular links with maths.



EYFS/KS1



LKS2



UKS2

Structures: EYFS and Years 1, 3, and 5

<p><u>Designing</u></p> <p>Explore a range of materials and explore balancing and stacking them.</p> <p>If the structure falls, they may rebuild it and change it.</p> <p>Talk about what they are going to build.</p> <p>Use blocks to stack to understand how objects balance.</p> <p>They may talk about a stacking or balancing experience.</p>	<p><u>Making</u></p> <p>Explain what they are using and what they intend to do with it.</p> <p>Where necessary, ask for help to construct an object.</p> <p>Choose what materials to use to build with.</p> <p>When appropriate use fixing materials like tape and glue.</p>	<p><u>Evaluating</u></p> <p>Say if they like the construction.</p> <p>Talk about what the construction is for.</p>	<p><u>Technical Knowledge, vocabulary and understanding</u></p> <p>cut, card, paper, glue, tape, make, wall, tower, strong, top, side, blocks, bricks, shape</p> <p><u>Acquired skills:</u> Begin to understand that structures can fall over.</p> <p>Have an understanding that sometimes a fixing prevents a structure breaking.</p>	
<p><u>Prior knowledge</u></p> <p>Experience of using construction kits to build walls, towers and frameworks.</p> <p>Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card.</p> <p>Experience of different methods of joining card and paper.</p>	<p><u>Designing</u></p> <p>Draw on their own ideas and experiences to help to generate ideas.</p> <p>Suggest ideas and explain what they are going to do.</p> <p>Make simple models of their ideas.</p> <p>Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings.</p> <p>Make changes to their idea if they need to.</p>	<p><u>Making</u></p> <p>Explain their choice of tool and skill when asked.</p> <p>Where necessary, ask for help to construct or shape materials.</p> <p>Select new and reclaimed materials and construction kits to build their structures.</p>	<p><u>Evaluating</u></p> <p>Say if the product fits the purpose.</p> <p>Say what works well.</p> <p>Say what they might change.</p>	<p><u>Technical Knowledge, vocabulary and understanding</u></p> <p>cut, fold, join, fix Card, paper, fastener, glue, tape, design, make, evaluate, ideas, materials, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder</p> <p><u>Acquired skills:</u> Begin to understand how to make freestanding structures stronger, stiffer and more stable.</p>
<p><u>Prior knowledge</u></p> <p>Experience of constructing a freestanding structure in Year 1.</p> <p>A basic understanding of 2-D and 3-D shapes in mathematics and the physical properties and everyday uses of materials in science</p>	<p><u>Designing</u></p> <p>Generate realistic ideas and designs</p> <p>Discuss ideas with peers and work collaboratively.</p> <p>Make sketches and prototypes to model and communicate their ideas.</p> <p>Make changes to their idea based on their prototype if necessary.</p>	<p><u>Making</u></p> <p>Order the main stages of making.</p> <p>Select and use a simple range of tools.</p> <p>Measure, mark out, cut, score, shape and assemble safely with some accuracy.</p> <p>Explain their choice of materials.</p> <p>Listen to ideas about how to improve their work and follow them.</p>	<p><u>Evaluating</u></p> <p>Evaluate their product against some existing similar products.</p> <p>Discuss what works well.</p> <p>Suggest what they might change.</p>	<p><u>Technical Knowledge, vocabulary and understanding</u></p> <p>cut, fold, join, Card, paper, adhesives marking out, scoring, shaping, tabs, joining, assemble,, tape, design, make, evaluate, ideas, prototype, materials, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating font, lettering, text, graphics, three-dimensional (3-D) shape net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity</p> <p><u>Acquired skills:</u> Develop and use knowledge of how to construct strong, stiff shell structures. Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.</p>
<p><u>Prior knowledge</u></p> <p>Experience of constructing a freestanding structure in Year 1 and Shell structures in Year 3.</p> <p>Experience of using measuring, marking out, cutting, joining, shaping and finishing techniques with construction materials.</p> <p>Basic understanding of what structures are and how they can be made stronger, stiffer and more stable.</p>	<p><u>Designing</u></p> <p>Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources.</p> <p>Develop a simple design specification to take into account: time, resources and cost.</p> <p>Generate, develop and model innovative ideas, through discussion, prototypes and annotated sketches.</p>	<p><u>Making</u></p> <p>Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used.</p> <p>Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.</p> <p>Use finishing and decorative techniques suitable for the product they are designing and making.</p> <p>Adjust the design if any problems arise during making.</p>	<p><u>Evaluating</u></p> <p>Investigate and evaluate against a range of existing frame structures.</p> <p>Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development.</p> <p>Carry out appropriate tests.</p> <p>Seek an evaluative from others.</p>	<p><u>Technical Knowledge, vocabulary and understanding</u></p> <p>Freestanding structure, shell structure, frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional</p> <p><u>Acquired skills:</u> Understand how to strengthen, stiffen and reinforce 3-D frameworks.</p>