



Navigator

## Navigator Curriculum - Formal Curriculum

- A formal academic curriculum for students closer to age related expectations.
- Aspirational and challenging.
- It is typically for our children with high functioning autism or moderate learning difficulties.
- A broad and balanced secondary curriculum.
- Leads to good GCSE, Level 1 and Level 2 outcomes.
- Subjects become more specialist.

# 8N - Navigator Curriculum – Long Term Plan D.T

	2020 – 2021 Autumn 1	2020 – 2021 Autumn 2	2020 – 2021 Spring 1	2020 – 2021 Spring 2	2020 – 2021 Summer 1	2020 – 2021 Summer 2
Year 8	<p><b>Topic: Health and Safety Bird Table</b></p> <p><b>Key questions:</b>            What are the rules for the workshop? When can you use a hand tool or machine in the workshop?            Bird table: What materials are we using? What is a 'Farmhouse/ Cottage Style'? What are the two joints we are using? What are the names of tools for marking out and sawing straight cuts. What is a drilling/sawing jig? What is template? Why is it better to recycle materials? What are the reasons for using a wood finish? What are the names of two adhesives for wood? What is the CAD</p>	<p><b>Topic: Mechanical toy. Mechanisms.</b></p> <p><b>Key questions:</b>            Who are some of the main characters in 'The Lion , Witch, Wardrobe'? What are the three classes of lever- give examples for each lever? What is a cam? Can you name 3 common cams and describe how they work? How do gears work? What is a positive/ friction drive? Give examples. What joints are we using? What material are we using? What are the properties of MDF? How are man-made boards made?</p>	<p><b>Topic: Acrylic Salad Servers</b></p> <p><b>Key questions:</b>            Can you find examples of designs you like made by the Alessi Design group? Can you describe the features you like? What are the two types of plastic? Where does Plastic come from? What is specification? What is 'Ergonomics'? makes a good shape for a Salad Server? Name the shapes. What tools do we use to cut and shape acrylic? How do we finish the edges of acrylic? How do we make holes safely in acrylic? How can we bend and shape our acrylic? What is a former? How can a former build quality</p>	<p><b>Topic: Steel candle holder 1</b></p> <p><b>Key questions:</b>            What is the 'Victorian' design style? Can you find examples of the use of steel in design such as scrollwork? What are some of the features? How many classes of metal are there? What metal are we using, Where is it commonly used? Can you name any other metals? What are their properties? How is the metal produced? What is a permanent and non-permanent joint? What are the H&amp;S issues with the spotwelder? Name the wood we are using? How are we addressing sustainability issues?</p>	<p><b>Topic: Candle Holder 2</b></p> <p><b>Key questions:</b>            What is the 'Modernist' design style? Where can you find examples of the use of steel in modern design? What are some of the features? How many classes of metal are there? Can you name any other metals? What are their properties? How is the metal produced? What is a permanent joint? What are the H&amp;S issues with the spotwelder, mig welder, arc welder? Name the wood we are using? How are we addressing sustainability issues? Recycling, What is</p>	<p><b>Topic: Structures</b></p> <p><b>Key questions:</b>            What are the forces on a simple bridge? Stone is good for what type of force? Rope or cable is best in what type of force? Wood is best in what type of force? steel is best in what type of force? What are the forces on an arch bridge? Who made arch bridges? How is a girder bridge better than a stone bridge? What and where are the main forces on a suspension bridge? What is shell structure? Where do we see shell structures in nature and industry?</p>

	<p>program we use?</p> <p><b><u>Key skills and knowledge:</u></b> Review Health and Safety. FPT Make a wooden bird table. Research and analysis skills: Identify Key features. Know Properties of Pine. Properties of hard/ softwood. Know basic joints, Use basic wood work skills: Measuring, Marking out, sawing on waste side, straight cuts, using pillar drill, using jigs. Dowel, butt, screw and glue joints. Vacuum forming. Assembling dry and gluing up. Basic features of sketchup, use of publisher/ IT skills.</p> <p><b><u>Assessment outcome:</u></b></p> <p>Base line assessment for: Health and Safety. Making skills, Use of basic wood work skills. Effort making, research, independence. Use of CAD, research and IT skills.</p>	<p><b><u>Key skills and knowledge:</u></b> Make cam or friction drive toy. properties of Pine and PVA. Basic research skills, All to know a lever and cam. High ability to differentiate between types of lever, types of cam, cam pully and gears. Use variety of materials and measure cut and shape to make a mechanical system.. Supported design of shape linked to research. Use basic wood work skills (linked to English) curved sawing, drilling holes, marking out, Evaluation Compare outcome to design.</p> <p>Assessment outcomes: Research characters, Design reflects character and desired movement/ output, CAD Sketchup, knowledge of mechanisms. Template, marking out, cutting shaping curves. Accurate drilling and finish. Practise Man-made boards MDF. Evaluate against the design and intended output/ movement.</p>	<p>into productin? What are the H&amp;S issues with the strip heater/ vacuum former? Does the Salad Servers work? do they look good? Will they be used? What are the benefits of using CAD for design?</p> <p><b><u>Key skills and knowledge:</u></b> Design and make copper pendant with design element based on Mondrian, properties of Copper. Basic research skills, Supported design of shape. Use basic metal work skills (linked to English) curved/ straight sawing, tinsnips/ guillotine, drilling holes, marking out, Enamelling, H&amp;S Compare outcome to design. Design and make Acrylic(plastic) key tag based on design from Salvador Dahli, properties of Acrylic. Basic research skills, Supported design of shape. Use basic plastic work skills (linked to English) curved/ straight sawing, filing/ wet and dry, polish, drilling holes, marking out, heating: Strip heater/ vacuum former, H&amp;S Compare outcome to design.</p> <p><b><u>Assessment outcomes:</u></b></p> <p>Know basic properties of acrylic. Process and tools</p>	<p>Recycling, What is FSC? How can we reduce our Carbon footprint?</p> <p><b><u>Key skills and knowledge:</u></b> Research skills and identify key design features of Victorian or Modernist steel work. Design and make steel candle holder with design element based on Victorian/ modernist, properties of steel. Design through sketching and Modelling. Basic research skills, Supported design of shape. Use basic metal work skills (linked to English) curved/ straight sawing, tinsnips/ guillotine, drilling holes, marking out, bending jig, use brazing hearth, annealing, forging, brazing, spot welding. , H&amp;S Compare outcome to design.</p> <p><b><u>Assessment outcomes:</u></b></p> <p>IResearch skills, analysis, design/ sketching drawing skills and modelling skills. Properties of metals/ wood. Joining metals/ woods. Shaping metal/wood. H&amp;S issues. Evaluate.</p>	<p>FSC? How can we reduce our Carbon footprint?</p> <p><b><u>Key skills and knowledge:</u></b> Design and make steel candle holder with wooden base. Design elements based on research, properties of steel. Research skills, Identify key features. Supported design of shape. Use basic metal work skills. Curved/ correct saw, files, tinsnips/ guillotine, drilling holes, marking out, spot welding, H&amp;S Compare outcome to design.</p> <p><b><u>Assessment outcomes:</u></b></p> <p>design, Model+Template, properties of steel and ferrous metals, marking out, cutting shaping filing curves. Spot welding and finish.</p>	<p><b><u>Key skills and knowledge:</u></b> Investigate structures in nature and man-made. Structures: real life examples. Identify features. Identify stresses/ forces. Test and build a variety of structures. beam, girder/ truss. Triangulation. Arch. Shell. Using softwood, paper, card PVA, glue gun and vacuum formed plastic. Evaluation.</p> <p><b><u>Assessment outcome:</u></b> Knowledge of basic forces. Properties of materials linked to use in a structure. Frame structure, shell structure, bridge structure, Arch, Triangulation.</p>
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			<p>for cutting, shaping and finishing acrylic. Design a template and use to mark out, shape, finish. Use of heat and press to form and shape acrylic. Test and evaluate.</p>			
<p><b>Links to Gatsby benchmark</b></p>						

