# NHSG Key Stage 3 Unit Overview for Year 8 Product Design Theory Lessons

| *Scheme of Learning* | **POCKET MIRROR PROJECT** |
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| ***Learning outcomes*** | The aim of our Year 8 Product Design theory curriculum is for students to develop their understanding of plastics and using a theme for inspiration, communicating designs, applying their knowledge of materials, tools and equipment when making products.<br><br>**Subject Content:**<br>**Pocket Mirror Project**<br>Knowledge and understanding of:<br>• Art Deco<br>• Plastics – classification and manufacturing techniques<br>• Plastics and the environment, lifecycle of a product<br>• Planning manufacture, use of flow chart<br>• Smart Materials<br><br>**Skills Set:**<br>• Ability to communicate their ideas, by drawing in isometric and annotate to explain design ideas<br>• Ability to apply knowledge of Art Deco and plastics when designing<br>• Iterative design<br>• Ability to understand how plastic is classified and be able to select appropriate materials and manufacturing techniques when making products with regards to their properties |
| ***Key Questions*** | **Pocket Mirror Project**<br>• What are the key features of the Art Deco design movement?<br>• What adhesives would you join plastics together?<br>• How could you protect your mirror from scratching?<br>• How is plastic classified? What is a thermoplastic/thermosetting plastic?<br>• How will you make your product?<br>• What are smart materials? |
| ***Knowledge*** | **Pocket Mirror Project**<br>**Concepts:** health and safety, plastic classification, isometric drawing, evaluation, iterative design, environmental issues in relation to use of plastics<br><br>**Skills:** iterative design, designing and making skills, isometric drawing, modelling, measuring, calculating dimensions, planning manufacture |

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| | **Key terminology:**<br>line bending, vacuum forming, injection moulding, blow moulding, thermoforming, former, laser cutter, Tensol cement, liquid solvent, plan of action, plastic lifecycle, environmental issues, plus names of tools and machinery |
| ***Ongoing Assessment*** | **Pocket Mirror Project**<br>**Peer and self-marking using mark schemes:**<br>• Tools and equipment test<br>• Plastics Test<br>• Plastic Classification worksheet<br>• Final pocket mirror marked – considers skills gained, health and safety and working independently |
| ***End Product Assessment*** | **Pocket Mirror Project**<br>**Teacher marked assessments:**<br>• Pocket Mirror designs<br>• Development, Modelling and Testing<br>• End of term test – in class assessment without using notes (30 minutes) |
| ***Clear sequencing of content*** | In Year 8 we assume that students do not have any no prior knowledge of Plastics and Art Deco, but are given the opportunity to stretch and challenge themselves where applicable.<br>Students continue to learn how to work safely in the workshop. They learn how to use materials, tools and equipment so that they are able to select the most appropriate and use safely when making products and how to join materials together. Students will also be able to communicate their ideas applying the knowledge they have gained. This SOL builds on knowledge gained in Year 7 and can be built upon in Year 9. |
| ***Links to Careers*** | Civil Engineer, Mechanical Engineer, Aeronautical Engineer, Robotics Engineer, Systems Engineer, Architect, Landscape Architect, Industrial Designer, Interior Designer, Graphic Designer, Video Game Designer |
| ***Diversity and Inclusion*** | • Gender neutral themes given: Art Deco theme – students can use the theme for inspiration to design pocket mirror using key features, pocket mirror can be used by all,<br>• Art Deco mood board helps students understand the key features of Art Deco – geometric shapes, angular shapes, shells, symmetrical/asymmetric, glamorous |
| ***Intervention support*** | • PowerPoints available on subject SharePoint<br>• Structured activities to cover theory<br>• Revision list and tips provided for end of term test<br>• AfL mark schemes in booklet<br>• Examples of written work<br>• Glossary in booklet<br>• |

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| **challenge** | Challenge arises when students apply the theory covered in lessons to their practical designs. It is a challenge for students to ensure that their design is ambitious BUT achievable so that it can be turned into a high-quality final piece.<br><br>Resources to support students in meeting this challenge include:<br>• Technology student https://www.technologystudent.com/<br>• Art Deco https://www.theartstory.org/movement/art-deco/ https://www.tate.org.uk/art/art-terms/a/art-deco |