

Design & Technology Course Planner

S1 Design & Manufacture

ORGANISERS

- Design and constructing models/product
 - Exploring uses of materials

Lesson/ Activity

Third level

Experiences & Outcomes

Intro to D and M & the S1 course

All practical projects start with an intro to safety in the workshop, reinforced with homework on identifying risks etc
Homework issued at regular intervals to reinforce areas in red

PHONE STAND

- **Factors that influence design—FEDSCAMP**
- **Softwoods/Hardwoods**
- **Design Folio**

METALWORK COATHOOK

- **Intro to metals and their properties**
- **All relevant processes-Filing/drilling/shaping etc**

PLASTIC KEYRING

- **Intro to plastic theory-thermosetting/thermoplastics**
- **Design task-pencil for a walk/card modelling/CAD modelling**
- **Cutting/filing/shaping**

ADDITIONAL PROJECTS

- **METAL WORK– KEY RING/SHOE HORN**
- **TEAM BUILDING EXERCISE-PAPER TOWER/BRIDGE**
- **PLASTIC-ICE SCRAPER**

Design and constructing models/product

I can create solutions and can justify the construction and design features to inform their design decisions.

EXPECTED BENCHMARKS

- Follows the stages of the design process to create a solution to a given brief
- Identifies relevant design factors in a design brief (Function, Environment, Ergonomics, Durability, Safety, Cost, Aesthetics, Material [performance], Manufacture)
- Use tools and equipment to manufacture models/products
- Apply safe working practices when creating a model/product
- Extract dimensions from a given drawing and transfer these onto wood, metal or plastic to create a model/product

Exploring uses of materials

I can explore the properties and performance of materials before justifying the most appropriate material for a task

EXPECTED BENCHMARKS

- Describe the different categories of materials
- Discuss the properties and uses of materials
- Recognise that material properties have an impact upon processing choices when working with materials. (Bending, shaping, cutting, drilling, and sawing, shearing).
- Recognise that materials come in different forms. (granules, sheets, bars, tubes, sections, planks, liquids)
- Justify selection of materials when developing a solution to a problem or brief

Throughout the year pupils will work on tasks that cover the following ICT outcomes and experiences. Using DTP, coral draw, Google sketch up, word, excel and Inventor CAD