

## **What makes a good project?**

### **Creativity is highly valued**

- Scope for originality
- Room to develop ideas
- License to make mistakes

### **Take-home-ability**

- Intrinsic value
- Fun
- Completion rate

### **Develops design skills and design thinking**

#### **Making**

- Drawing
- Evaluation
- Documentation
- Meta-cognition

### **Knowledge and skills are at an appropriate level**

- Prior knowledge and skills are built upon.
- Students are prepared for higher level projects.
- Projects help students learn about the designed world

### **Teacher confidence**

- Skills.
- Experience.
- Available help.

## **Cost**

- All schools work on tight budgets.
- Amount of waste materials.

## **Resources**

- Available equipment.
- Finding reliable suppliers for consumable materials.
- Teaching aids such as books and videos.

## **Completion time**

- Some schools rotate projects.
- Ability to predict completion dates.
- Number of projects completed per year.

## **Syllabus requirements**

- Some requirements may be unclear.
- Some requirements difficult to apply in the classroom.
- Some requirements are difficult to assess.

## **Use of Appropriate technology**

- Best use of computers
- Incorporating CNC into projects
- Technology based projects.

No project gets top marks for every one of these criteria. There are always compromises. Developing new, good projects is not an easy task.

The following notes are summaries only.



### **Fiddly Puzzle**

- Brief: design and make a fiddly puzzle where the task is obvious to the user. It should be possible to complete. Almost any material can be used on the inside.
- Suited to Year 7-Year 9
- Main material: acrylic
- Special equipment: Strip heater
- Skills: working with acrylic, orthogonal drawing, perspective.



### **About Time**

- Brief: design and make a clock which embodies a particular design style or philosophy. Use a standard clock mechanism.
- Years 9 – 11
- Main materials: MDF, other.
- Skills: finishing MDF



### **Sheet Vase**

- Brief: Design and make a vase or desktop container using sheet materials. Consider finishes
- For Years 8-11
- Skills: spot welding, riveting, sheet metal folding, concept sketching
- Main material: 1mm steel or 1.6mm Aluminium



### **Flat pack Chair**

- Brief: design and make a chair which can be assembled easily

from 8mm plywood. It will be transported flat.

- Years 10-11
- Case Study: IKEA
- Skills: concept model making, working with wood.
- Main material: 8mm plywood.



### **Graphics Caddy**

- Brief design and make a plastic tray which fits in a drawer to hold your graphics equipment.
- For Years 7-8
- Special processes: vacuum forming
- Skills: working with wood, development drawing.
- Main material: Pine, 3mm MDF, styrene.



### **CD Rack**

- Design and make a CD rack for 10 CDs using the standard vacuum form mold.
- For Year 7-8
- Special process: vacuum forming.
- Skills: working with acrylic, concept sketching
- Main materials: polystyrene, 3mm acrylic.



### **Making Waves**

- Brief: Design and make an effective planing or displacement hull. Stability and direction are critical. Test with motorised propellers.
- For Year 7
- Special processes: vacuum forming

- Skills: cutting and shaping foam, soldering.
- Main material: blue modelling foam, styrene.



### **Sushi Tray**

- Design and make a simple curved sushi tray using the system of lamination.
- For Year 9-11
- Special process: lamination
- Materials: laminating wood, acrylic



### **Wilderness ways**

- Brief: Design and make a multitool for camping using 5mm aluminium (no sharp edges)
- For Year 8-9
- Skills: concept development, cutting and filing (milling can be used)
- Main material: 5mm aluminium



### **Case Study**

- Brief: Design and make a case for a defined purpose. Used the notched extrusion system. Explore a range of possibilities for the panel material.
- For Year 9-11
- Special processes: notching, folding
- Design catalyst: Droog Design



### **Icarus**

- Brief: Make a light-seeking robot. Give it personality by adding extra features.
- Year 8-9

- Skills: soldering, wiring, debugging.
- Design catalyst: nanotechnology



### **Qubelok**

- Design brief: Explore the structural and aesthetic possibilities of qubelok. Design and make a useful item using this system.
- For year 9-11
- Skills: cutting square, CAD



### **High tech lamp**

- Brief: Design and make a halogen lamp using 100mm dia aluminium pipe for construction.
- For years 10-11
- Skills: CAD, milling, centre lathe
- Main material: 100mm Dia, 6mm thick aluminium pipe; halogen downlight assembly
- Design catalyst: High-Tech



### **Luminaire**

- Design brief: design and make a lamp using an inverted halogen assembly and 150mm dia clear acrylic tube
- For Years 9-11
- Skills: working with acrylic
- Main material: acrylic plus halogen assembly
- Special equipment: this project is well suited to a laser engraver.



### **Sukiya Lamp**

- Design and make a lamp using 6mm aluminium, and a 40W globe.
- For Year 9-11
- Skills: drilling and tapping, milling, cutting aluminium.
- Main material: 6mm aluminium.
- Design catalyst: Sukiya architecture
- Safety: 240V wiring must be done by electrician.



### **Photon Factor**

- Design and make a lamp from sheet plastics provided and a 40W globe.
- For Years 8-11
- Skills: sheet material manipulation
- Main materials: white polypropylene, clear polycarbonate, globe assembly.
- Safety: 240V wiring must be done by electrician.
- Resource: Video, books, student notes and teacher notes, and all materials available from Designability



### **Briefhaus – Letter rack**

- Design a letter rack from 3mm MDF and pine. Use simple shapes and primary colours.
- Year 7
- Skills: basic woodworking skills, painting
- Material: 3mm MDF, pine, paint.

- Design catalyst: Bauhaus
- Resources: video, books, teacher and student notes, all materials supplied by Designability



### **Alubind - Informalist aluminium ring binder**

- Brief: design and make a ring binder made from aluminium. Consider a range of finishing techniques.
- For Year 7-9
- Skills: marking out, sheet metal folding
- Material: 1.6mm aluminium
- Design catalyst: Informalism
- Resources: Fully resourced by Designability



### **Biomouse - computer mouse concept**

- Brief: design a computer mouse which is ergonomic and biomorphic. Make a non-working model.
- For Year 7-11
- Skills: concept sketching, rendering, working with modelling foam
- Main materials: Blue modelling foam, polystyrene, spray paint.
- Equipment: vacuum former
- Resources: Designability supplies video, books teacher and student notes and all materials