

Design Technology

Design Technology aims to encourage children to think freely and to design solutions for given problems. In these early stages the type of material used is secondary to the process of design and implementation. Currently card, timber, composite woods and some plastics are used.

Pupils at St. Andrew's are taught by a specialist Design Technology teacher in purpose-built accommodation from Year 5 onwards. They begin by designing, drawing and making a ball bearing maze in plywood and timber. After each design exercise pupils review their success and suggest improvements. This pattern of design, implementation and critical review becomes the basic model for all subsequent exercises as pupils progress up through the school.

Pupils move on to more complicated objects using gradually more types of "resistant" materials such as timber and composites. Thus for a pupil in Year 8, for example, the "brief" might be to design and make a pencil case with a Perspex lid. The design drawings would include 3D sketches and formal flat drawings, either produced on paper or with a C.A.D. (computer aided design) system. The progression through flat objects to complicated 3D ones and to the increased use of tools and processes is occasionally punctuated by exercises such as:

- The dismantling and evaluating of existing objects from everyday life to give the children opportunities to assess others' designs - currently a pupil in Year 7 dismantles and evaluates several humane mouse traps
- The design of an environment such as a room, a house or a factory system.

Pupils work at their own speed through design-and-make projects, pursuing their own degree of elaboration or refinement on each brief.

Sketches and drawings should be able to convey everything that another person would need to know in order to successfully manufacture the artefact. A principal aim is for pupils to realise that a degree of precision is not only attainable but also desirable.

Formal drawings should be accurate to the nearest millimetre by the time a pupil has reached Year 8.

Objects made in the workshop should be "finished" to a high standard so that they look and feel good.

On evaluating their own finished projects, pupils may decide to modify designs to improve them - a true "design loop" towards development.

As well as the present ability to design and plot drawings from computer the department will be investing in a computer controlled card cutter and scorer during 2007. Accurate card packages and models will then become an easier prospect.

