Education



Modelling methods

Models help designers to understand how their ideas will look and function. They also allow improvements to be made before the final product is manufactured.

Block modelling

 Models are made from Styrofoam blocks, which is extremely lightweight material.

 It can be cut and shaped using basic workshop tools and painted to give a quality finish and realistic appearance.

Virtual modelling

 Computer Aided Design (CAD) software is very accurate. It's used to view and simulate the product on a computer screen.

 No physical materials or tools are required, so changes can be made quickly and costs are reduced.

Mathematical modelling

 Using mathematical formulae to describe the performance of a product or system, e.g. calculating whether the head of a vacuum cleaner would withstand the forces placed on it if bumped into a wall.

Card modelling

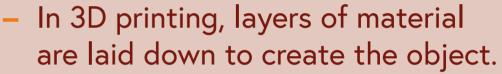
 Models are created by cutting card sheets into shapes and joining them together.

 Card is often used for rough or early models as it's relatively cheap and easy to cut.

- Corrugated card can be used for extra strength.

Rapid prototyping

 Allows complex models to be produced relatively quickly from CAD data.



 Other forms of rapid prototyping include fused deposition modelling and
 selective laser sintering.

Circuit modelling

- Electronic circuits
 can be modelled using
 modular kits, breadboards or
 CAD software.
- This allows the designer to test how they would work,
 e.g. modelling the motor circuit in a vacuum cleaner.

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