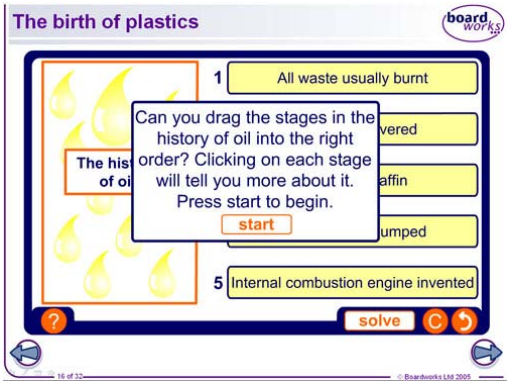
Resistant Materials and Control

Metals *17 slides*

This presentation explains where metals come from and how they are obtained. It also offers information on ferrous metals, non-ferrous metals and alloys, and the different properties these materials have. The students will also be taught the properties of other metals and what they are most suitable for as a result.

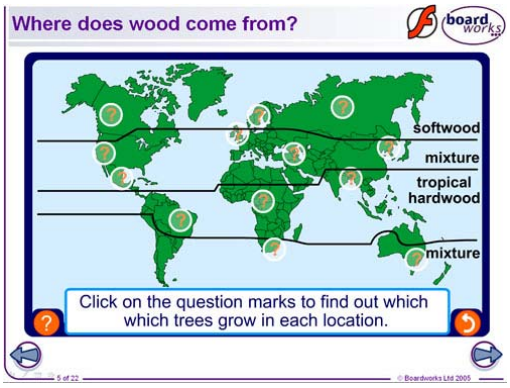
Plastics *31 slides*

This presentation explains the differences between thermoplastic and thermosetting plastics, as well as offering a brief history of crude oil and how plastics were discovered. It also goes into detail about the different industrial processes used to shape and colour plastics.

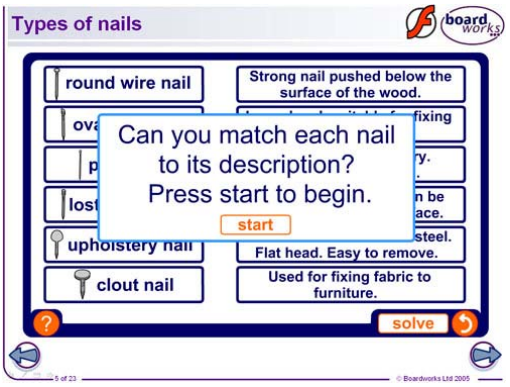


Woods *22 slides*

This presentation looks at hardwoods, softwoods and manufactured boards. It also talks about the different forms timbers come in, and the advantages and disadvantages of using them in manufacturing.

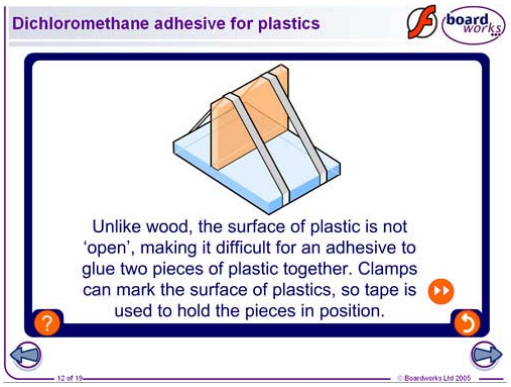


Boardworks
KS4 D&T Contents



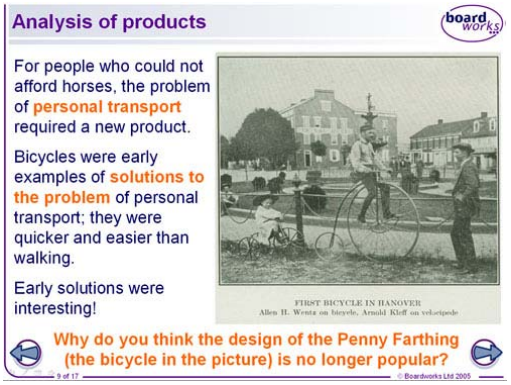
Components *23 slides*

This presentation looks at fixings, nails, screws, rivets, nuts, bolts, knock-down fittings, hinges and handles. It looks at the different types of each component, and what they are all used for.



Adhesives *19 slides*

This presentation discusses which adhesives are best for joining certain materials, as well as explaining the methods of applying each one.

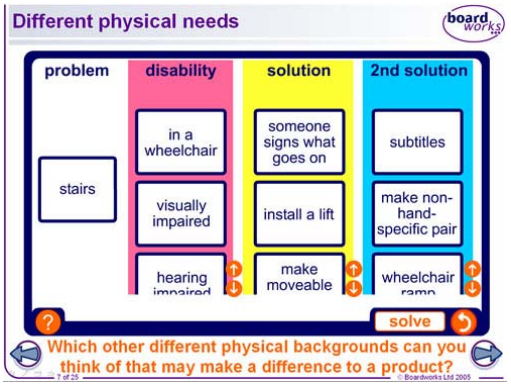


Product Analysis *17 slides*

This presentation is designed to show the importance of carrying a good product analysis when designing your own product. It also offers guidelines on the most important aspects of a product to analyse, as well as containing two case studies.

Evaluation Techniques *23 slides*
The presentation focuses on the importance of evaluation at all stages of the design process. This includes evaluation of other designers work, evaluation of your own work against your design criteria and evaluation by end users.

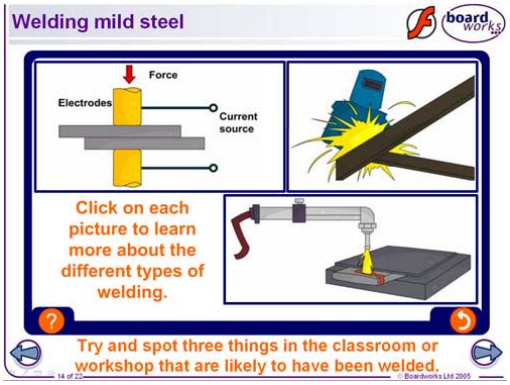
Social and Cultural Issues *23 slides*
Students look at the social, cultural and physical issues which must be considered when designing and making products. This presentation also covers the importance of ergonomic considerations, and introduces the idea of ergonomes to help make products more user-friendly. The students are also told about the different agencies set up to protect the consumer.



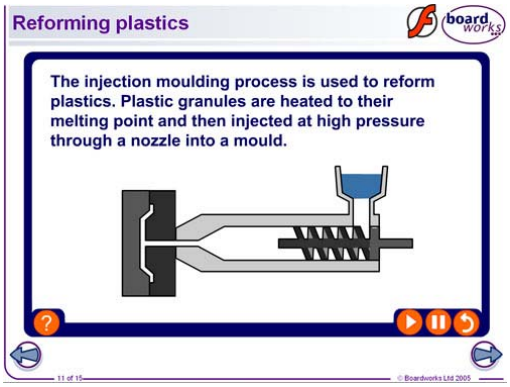
Moral and Environmental Issues *23 slides*
In this presentation, students learn the importance of considering other people and the environment when designing and making a product. They also learn about advertising and the significance of living in a throwaway society.

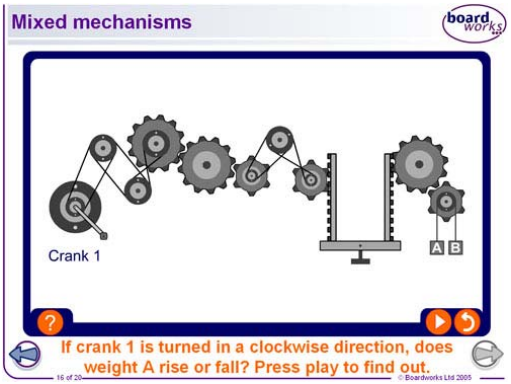
Health and Safety *22 slides*
This presentation covers the need for health and safety laws in school and the workplace, to ensure that products are safe to use. It highlights the need for proper risk assessment and the importance of using tools correctly and safely.

Tools and Techniques *22 slides*
In this presentation, students learn how to recognize and use a range of hand and machine tools, as well as being taught the various welding and soldering techniques.

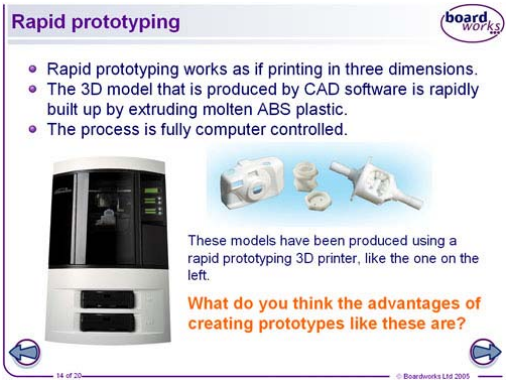


Manufacturing Processes *15 slides*
This presentation looks at the different reforming and deforming processes with regard to woods, metals and plastics.

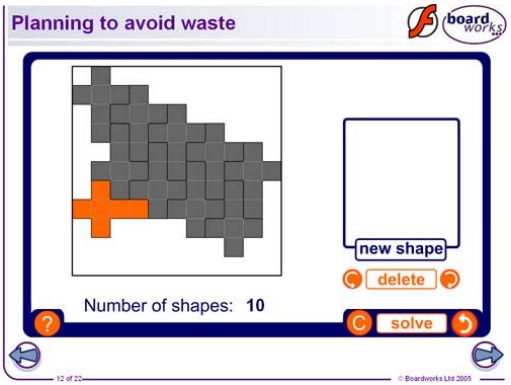




Systems and Control *23 slides*
This presentation explains what a system is, and teaches the students how to portray one in a systems diagram. It also applies systems to structures, transport and machines, as well as showing the students how to draw flow charts.



ICT in Resistant Materials *20 slides*
This presentation introduces the idea of using ICT to research, design, manufacture, present and market resistant materials products, both in the classroom and in industry. It also discusses the advantages and disadvantages of using CAD and CAM.



Industrial Practices *22 slides*
Here, the students learn the significance of the roles of the client, designer and manufacturer when developing products. They are also taught the different scales of production and the different systems used in each case.