

Subject:

# Graphics

Graphics Intent:

Graphics enables students to think creatively, converting ideas and raw materials into the products and services that we all need and use every day of our lives. Everything around us has been designed and this subject enables students to gain a better understanding of the world they live in and to improve and sustain this for future generations. Graphics is a creative and technical subject which involves designing, making and problem solving. Students use the iterative design process to develop innovative solutions to design problems and will be introduced to a range of design, modelling techniques and CAD packages.

Our Exam Board is: Edexcel

## The Big Questions...

Year 10	Year 11
<p><b>Packaging Project and Design Techniques- Chocolates for a Christmas promotion (Sept-Dec)</b> -How is packaging designed to effectively promote and advertise products? How are materials and manufacturing processes used to produce packaging that satisfies the design specification? How does life-cycle assessment, the 6Rs and environmental factors affect packaging? How can orthographic and isometric drawing techniques be used to communicate design ideas? How can CAD packages be used to develop, model, test and refine design proposals? What specific types of papers, boards and plastics can be used to produce packaging in batch production?</p> <p><b>Mechanisms Project- moving toy for a young child (Jan- Feb)</b> -How are mechanisms used to give mechanical advantage and how can this be applied to cams, levers, linkages, gears and pulleys? How can paper and board construction techniques be used to manufacture mechanisms? How can products be designed to meet the needs of a specific user group? How can traditional modelling techniques and components be used to model, test and develop designs? What printing processes could be used to manufacture the mechanical toy in batch production?</p> <p><b>Board Game- based on 'Energy'- to entertain a child during a long haul flight (March- May)</b> -How is energy generated and stored? What are the pros and cons of renewable and non-renewable energy sources? How is the iterative design process used to develop, test and model proposals? How can surface finishes and treatments be used to enhance products? How can CAD be used to design a quality product?</p> <p><b>Contextual Challenge (June- April in yr11)</b> -Please refer to yr11 section to the right.</p>	<p><b>Contextual Challenge (June- April) - Controlled Assessment (50% of GCSE)</b> -Student will produce a design folder and practical outcome in response to a contextual challenge set by the exam board (released in June of year 10) There are four parts to the assessment:</p> <p><b>Investigate (June- Sept)</b> -How can we apply a range of research strategies to investigate, analyse and evaluate the contextual challenge and develop a design brief and specification?</p> <p><b>Design (Oct- Dec)</b> How can we develop realistic design proposals as a result of the exploration of design opportunities and user needs, wants and values? How can we apply the iterative design process to explore, create and evaluate a range of outcomes? How can we apply a range of design strategies, communication and modelling techniques to design and develop solutions?</p> <p><b>Make (Jan- Feb)</b> How we apply a range of manufacturing processes and techniques (including CAD/CAM) to produce a quality prototype?</p> <p><b>Evaluate (March)</b> How can we test our product and evaluate it effectiveness in meeting the design specification?</p> <p><b>Technical Aspects of Designing and Making (Sept- May)</b>-How are materials selected for their physical and mechanical properties? How are materials manufactured and formed into a range of products? What is the impact of new and emerging technologies? What are the environmental, social and economical challenges designer face? How does the work of past and present designers influence the design of products?</p>

What skills will I develop?

The GCSE in Graphics enables students to understand and apply iterative design processes through which they explore, create and evaluate a range of outcomes. The qualification enables students to use creativity and imagination to design and make prototypes (together with evidence of modelling to develop and prove product concept and function) that solve real and relevant problems, considering their own and others' needs, wants and values. It gives students opportunities to apply knowledge from other disciplines, including mathematics, science, art and design, computing and the humanities.

How will I be assessed?

Project work is monitored through the use of progress tracking charts and formative feedback given at the end of each project, detailing the strength and areas for improvements against the GCSE assessment criteria. Homework, including exam question and flash cards, is set and marked each week and recorded in SMHW. Teacher feedback is given verbally and on assessed work so that pupils can improve their understanding before moving on to the next section of the course. Coursework accounts for 50% of the GCSE grade and the exam, sat in June in yr11, accounts for the other 50%.

### What great resources can I use?

<https://www.pearsonactivelearn.com/loginsso.asp>-

Our online Design and Technology textbook. For Graphics you need to learn the Core and Paper and Board chapters. Remember to use the log in details that you have been given.

<https://www.focuselearning.co.uk>- Design and Technology resource on the VLE- great diagrams and videos to explain materials and processes

The theory PowerPoints saved on the R drive along with the practise exam questions- these cover each theory topic

[www.bbc.co.uk/bitesize](http://www.bbc.co.uk/bitesize) contains links to the theory topics and tests you can take online

### Three ways that parents/carers can help...

1. Track your child's homework submissions using SMHW, for the majority of the course yr10 and 11 students will be set one exam HW and one flash card HW each week. This supports all of the theory work that we do.
2. Talk to your child about their project work, ask to see their design folder. They will need to gain third party feedback on their design work so you will be able to support them with this or even act as a client!
3. Encourage your child to complete all sections of the design project and attend the period 7 sessions each week. Ask them if they are 'green' for each page on the progress chart. If they complete each page to a good standard they will achieve highly in this subject.

# GCSE Graphics Example work

