GCSE Graphic products – coursework breakdown:-

Cover sheet

Cover sheet: Front cover sheet. On this sheet you should include:

- **Your name.**
- **Project title.**
- **Your candidate number.**
- **An illustration to represent your project.**

Sheet 1 - Contents page & Situation / Brief

Contents page & Situation / Brief: On this sheet you should include:

- **Page numbers.**
- **Page names and content.**
- **Situation.**
  - What is the problem, clearly explain?
  - 1 or 2 paragraphs in length.
  - Only state what the problem is not how you will solve it.
  - Add specific user issues sex, disabilities, and height, to portrait the situation better.
- **Design brief.**
  - I am going to design and make a…, clearly explain?
  - State how this will solve the situation.
  - Don't be too exact the brief should be general and give you some flexibility.
  - Don't be exact about materials instead state the properties such as it should be strong, light, natural, recycled, water-proof use broad descriptions.
  - State points such as safety, general sizes, its function, general material properties, who it is for, basic costs and any other issues.
- **Page number, title and your name.**

Sheet 2 – Timing plan (Planning)

Timing plan: This sheet is a timing plan of when you will complete the coursework and manufacturing of your project. On this sheet you should include:

- **Deadline dates, timescales, etc.**
- **Ideally you should create a gnatt chart in excel to gain valuable ICT marks.**
- **Page number, title and your name.**

Use the 'Pupil time plan and work deadlines' file to help you do this. Change this file to suit your project. This is located on the DT website under GCSE graphic coursework tips documents.

Sheet 3 – Research starting point (Research)

Research starting point: On this sheet you will brainstorm what sections you will research. It will help you address all the areas where you will be required to gain information. All projects are different so the points below are only guidelines. On this sheet you should consider:

- **Materials**
  - What materials will you use, Foam board, balsa, HIPS, card, etc.
  - Material problems and hazards, tools, joining issues.
- **Target market needs**
  - What are their interests, styles, colours, fonts they like?
  - What is there social economic group? Single mum, teenager, etc.
  - Questionnaires to find out information?
- **Existing products**
  - What products exist? And which will you evaluate?
  - How ill you evaluate? Photos, Drawings? Visits to shops to take photos?
- **Ergonomics**
  - How big will your product be?
  - What anthropometrics is your user? What is the average size?
- **Manufacturing techniques**
  - How will this be made in industry?
  - Research mass manufacturing techniques and processes?
  - Which processes techniques could you use?
- **Research techniques**
  - What tools will you use to plan your research?
  - Primary research, Interviews / questionnaires, Site visits, existing product evaluations.
  - Secondary research, Library, Books, Newspapers, Internet.
- **Other relevant research**
  - Any other relevant information that you will need for your research.
- **Page number, title and your name.**

Use the 'Research starting point file' to help you do this. This is located on the DT website under GCSE graphic coursework tips documents.

Sheet 4 – Mood board (Research)

Mood board (Primary research 1): This sheet is used to create a mood about the client, it displays there likes, styles, etc. It is often used as a theme for the inspiration of our design ideas. On this sheet you should consider:

- **Client likes.**
- **Similar products.**
- **Symbols.**
- **Colours.**
- **Styles.**
- **Images can come from anywhere, photos, magazines, internet images, cd-roms, etc.**
- **Page number, title and your name.**

This sheet will be stuck on images to display a design theme.

Sheet 5 – Questionnaire and findings (Research)

Questionnaire and findings (Primary research 2): This sheet contains the questionnaire you asked your users and the findings as graphs. Try to get it all onto one sheet. On this sheet you should include:

- **Appropriate questions! They should be very clear so not to confuse and they should not be open ended.**
- **Ensure questions do not offend different cultures or religions.**
- **Tick box questions are ideal to avoid confusion and allowing you to interpret the questions easier. However occasionally this is not possible.**
- **Keep questionnaires short and sweet ten questions max.**
- **Collect your information in excel so you can then interpret your data easier.**
- **Compare your findings in a visual way show pie charts, line charts, bar charts, etc. This will enable you to clearly see any trends.**
- **Page number, title and your name.**

Use the 'Creating a questionnaire' file to help you do this. This is located on the DT website under GCSE graphic coursework tips documents.

Sheet 6 – Evaluation of existing products (Research)

Evaluation of existing products (Primary research 3): This sheet contains evaluations of existing products, include photos or drawings / Or visits to shops and photographs of layout. On this sheet you should consider:

- **Describing the product, how the graphics and fonts are used to promote it?**
- **Is there any important information on the packaging?**
- **Who will use the product; break them down into age, sex, target group, social economic group, likes, dislikes, etc?**
- **Explain the need for the type of packaging; does it protect, preserve, etc?**
- **Do we use this product only at certain times if so why? E.g. Christmas, birthdays, etc.**
- **Draw diagrams or use thumbnail photos to explain how the product works and how it fits together.**
- **What industry manufacturing processes where used within this product? E.g. digital printing, embossing, etc.**
- **Where is the product to be sold?**
- **Where is the product used?**
- **How much does it cost?**
- **How safe and hygienic is it?**
- **Label all your diagrams, step 1, step 2, etc.**
- **Relate your specification points into the evaluation, how could these points help the development of your product?**
- **Environmental issues.**
- **Try comparing one product against another? E.g. Gorillaz music packaging against another band.**

Use the 'Evaluation of existing products' file to help you do this. This is located on the DT website under GCSE graphic coursework tips documents.

Sheet 7 – Graphics (Research)

Graphics research (Secondary research 1): This sheet contains graphical research information relevant to your user. On this sheet you should consider:

- **What fonts should you consider?**
- **Typography is the art of letter style consider:**
  - Letter spacing.
  - Line spacing.
  - Parts if the letter, capitals, small letters.
  - Serifs (The strokes which finish off a letter).
  - Word spacing
- **What graphical styles would suit your project?**
- **What colours should you consider?**
- **Does colour effect mood?**
- **What types of layout could you use?**

Sheet 8 – Materials (Research)

Materials research (Secondary research 2): This sheet will contain brief materials research. What materials will you use to make your product? What materials are used in industry? On this sheet you should consider:

- **What materials would you make your model from?**
- **State materials and the materials properties.**
- **How will you cut and join your materials?**
- **What tools will you use?**
- **What finishes could you use?**
- **What materials do designers use in industry use, the same, more expensive tools, CAD CAM equipment?**
- **Environmental issues.**

Sheet 9 – Ergonomics (Research)

Ergonomics research (Secondary research 3): This sheet will contain ergonomic and anthropometric information. Ergonomics is the application of scientific information concerning humans to the design of objects. On this sheet you should consider:

- **Research your users / client's human sizes e.g. heights, eye level, etc.**
- **Consider product size, weight, shape, compared to the size of your user.**
- **Will your product be in a well lighted place, will it be in a hot place, and so how will your product cope with this?**
- **Will your graphics be easy to read?**
- **Colour contrast is an ergonomic factor. A small amount of the population is red/green colour blind.**
- **What anthropometrics data will you consider? How high to make your point of sale unit, what will the target markets eye level is?**
- **Create a table to present your anthropometrics data in.**
- **Most graphical products are hand held so special attention should be made to hands and readability at varying distances from the eye.**

Sheet 10 – Manufacturing techniques (Research)

Manufacturing techniques (Secondary research 4): This sheet will contain Manufacturing techniques of how your final product would be made in industry (Vacuum forming, types of printing, barcodes). On this sheet you should consider:

- **Which printing will you use?**
  - Relief printing – block printing, letterpresses, flexography.
  - Intaglio printing – gravure.
  - Screen printing.
  - Planographic – lithography.
  - Dry printing.
  - Laser printers.
- **What CAD / CAM will be used?**
  - Spreadsheets.
  - DTP.
  - Graphic packages.
- **How will it be manufactured?**
  - Injection molding.
  - Extrusion.
  - Blow molding.
  - Compression molding.
  - Rotational molding.
  - Vacuum forming.
  - Line bending.
  - Calendaring.
- **Environmental issues.**
- **Page number, title and your name.**

Sheet 11 – Analysis of research (Analysis)

Analysis of research: This sheet will contain the findings from your research as a spider diagram basic summary sheet. Here you will map out the current market and what the user needs, this will help you make your specification. On this sheet you should consider:

- **Target market needs**
  - State the user's interests, styles, colours, fonts they like.
  - State there social economic group, Single mum, teenager, etc.
  - State the findings from their questionnaires.
- **Existing products**
  - State what products you evaluated and your findings.
  - Explain the current market for your product.
  - What type of product would be needed?
- **Ergonomics**
  - State how big your product is.
  - State anthropometrics averages of your user? What is the average size?
- **Other**
  - Any other relevant information from your research.
- **Page number, title and your name.**

Sheet 12 – Analysis of manufacture (Analysis)

Analysis of manufacture: This sheet will contain the findings from your research as a spider diagram summary sheet. Here you will map out all manufacturing research findings including how you will make your product and how it would be made in industry. On this sheet you should consider:

- **Workshop manufacturing techniques**
  - State how you will you make this product.
  - State what tools and processes you could use.
- **Industry manufacturing techniques**
  - State how your products will be made in industry.
  - State what mass manufacturing techniques and processes could be used.
  - State what processes techniques could you use.
- **Materials**
  - State what materials will you use, Foam board, balsa, HIPS, card, etc.
  - State the material problems and hazards, tools, joining issues.
- **Environmental issues.**
- **Page number, title and your name.**

Sheet 13 – Specification (Specification)

Specification: This sheet will list all your products details & say who it is aimed at. On this sheet you should consider:

- **Timescale**
- **Target market**
- **Function**
- **Size**
- **Weight**
- **Durability**
- **Aesthetics**
- **Ergonomics**
- **Materials**
- **Materials**
- **Safety**
- **Cost**
- **Environmental issues**
- **Manufacturing**
- **Quantity**
- **Packaging**
- **Instructions**
- **Testing**

Use the 'Specification' file to help you do this. This is located on the DT website under GCSE graphic coursework tips documents.

Sheet 14 – Busy ideas 1 (Development)

Busy ideas 1: This sheet will be your first ideas its called busy ideas as the page will look very busy when completed. At least 5 minimum ideas with information on logos, lettering, colour schemes, shapes, including annotations and evaluations. On this sheet you should consider:

- **Quickly drawn ideas.**
- **Ensure your ideas are all 'DIFFERENT' ensure they are not too similar.**
- **You will need to present a range of realistic and imaginative design ideas to achieve the highest marks.**
- **This area of your coursework is worth approximately 3 times more than your research section.**
- **You could develop each idea on the same sheet changing shape, colour, style, font, etc.**
- **Will it sell?**
- **Does it look attractive, is it colourful and eye catching?**
- **Does it fulfill its function?**
- **How much will it cost?**
- **Does the style suit the user group?**

Note: You may have 10 ideas on this sheet? Or you could spill into a third busy ideas sheet.

Sheet 15 – Busy ideas 2 (Development)

Busy ideas 2: This sheet will be your first ideas its called busy ideas as the page will look very busy when completed. At least 5 minimum ideas with information on logos, lettering, colour schemes, shapes, including annotations and evaluations. On this sheet you should consider:

- **Quickly drawn ideas.**
- **Ensure your ideas are all 'DIFFERENT' ensure they are not too similar.**
- **You will need to present a range of realistic and imaginative design ideas to achieve the highest marks.**
- **This area of your coursework is worth approximately 3 times more than your research section.**
- **You could develop each idea on the same sheet changing shape, colour, style, font, etc.**
- **Will it sell?**
- **Does it look attractive, is it colourful and eye catching?**
- **Does it fulfill its function?**
- **How much will it cost?**
- **Does the style suit the user group?**

Note: You may have 10 ideas on this sheet? Or you could spill into a third busy ideas sheet.

Sheet 16 – Development of busy ideas (Development)

Development of busy ideas: Refine your busy ideas to 3 good ones, include annotations and evaluations. Development means to gradually improve a design. On this sheet you should consider:

- **Draw much better with colour and more detail.**
- **Drawn in 3D or isometric view if possible.**
- **Ensure your ideas are all 'DIFFERENT' ensure they are not too similar.**
- **What material will you use?**
- **Combine many good designs to make one?**
- **Improve your initial ideas.**
- **Make mock ups to test out your ideas.**
- **Continuously evaluate against your specification.**
- **What manufacturing techniques will you use?**
- **Will it sell?**
- **Does it look attractive, is it colourful and eye catching?**
- **Does it fulfill its function?**
- **How much will it cost?**
- **Does the style suit the user group?**

Sheet 17 – Design evaluations (Development)

Design evaluations: This is where you decide which idea is the one you will turn into your final idea. Produce a small questionnaire and test the three designs on your user group then evaluate the findings. On this sheet you should consider:

- **Produce a small questionnaire to test the designs.**
  - Which design do you prefer?
  - Why do you prefer it?
  - How do you think it could be improved?
  - How much would you pay for it?
  - Does the style suit the user group?
- **Evaluate your findings with notes and evaluations.**
- **Produce a chart of your findings and suggested improvements to your designs.**
- **Continuously evaluate against your specification.**
- **Include developments of nets.**

Sheet 18 – Final design 1 (Development)

Final design 1: Isometric drawing of final idea includes your reasons for your choices made. Done in Pro-desktop or CorelDraw for extra marks or draw by hand. On this sheet you should consider:

- **Produce a colour 3D version of your final designs.**
- **Drawn in isometric view either by hand or on the computer.**
- **Include all products in the range.**
- **Add annotations and evaluations on:**

- Materials used.
- How it looks attractive and is eye catching?
- How it fulfill its function.
- How much it will cost.
- How the style suit the user group.

- **Continuously evaluate against your specification.**
- **Include developments of nets.**

Sheet 19 – Final design 2 (Development)

Final design 2: An orthographic projection of your products and nets drawn to scale, drawn to BSI standards and include a cutting list. (Use Corel Draw, Pro-desktop or draw by hand). On this sheet you should consider:

- **Drawn to BSI standards.**
- **Scale orthographic projection of your products.**
- **Include all measurements and scale options.**
- **Label views.**
- **Use CorelDraw or Pro-desktop to gain ICT marks.**
- **Include a cutting list of all your materials that you will need.**
- **Can someone else make this from your drawings?**

Sheet 20 – Final design 3 (Development)

Final design 3: This will be a pictorial drawing. A pictorial drawing is as drawing close to a photo as you can get it. Use Photoshop, or draw it by hand. If hand drawn use rendering techniques and shadings. On this sheet you should consider:

- **Shading and colour.**
- **Where are your shadows?**
- **Where the light source is coming from?**
- **How will you make it look like a texture?**
- **Which areas will be the lightest and darkest?**
- **Use graphic pens, pastels, coloured pencils, or a computer.**

Sheet 21 – Modeling (Prototyping)

Modeling: How have you developed your models? Photograph all prototypes and keep them, make a prototype sheet including evaluations. On this sheet you should consider:

- **Keep all models failed or working.**
- **Photograph them and create a thumbnail storyboard of how you developed your models.**
- **Include notes on changes, what worked and what did not work.**
- **Keep a log of changes, materials and dimensions.**
- **What tools worked and what did not?**

Sheet 22 – Production plan (Planning)

Production plan: A production plan is a stage by stage plan of how you will make your product. On this sheet you should consider:

- **Split plan into a number of stages.**
- **List all the correct tools to be used.**
- **List all the correct processes to be used.**
- **List all materials to be used.**
- **List all measurements.**
- **List all forming methods such as sanding.**
- **List all finishing techniques used.**
- **Include health and safety issues.**
- **Suggest quality control checks.**
- **Include plenty of sketches.**
- **Suggest a rough timescale.**
- **Suggest actions incase things go wrong.**

Sheet 23 – Modifications (Evaluations)

Modifications: This sheet includes the changes you made to the design during manufacturing. On this sheet you should consider:

- **Add photographs of making your final products.**
- **Include changes you made to them during manufacturing.**
- **Did you change the measurements?**
- **Did you change the graphics slightly?**
- **Did the flaps work did you need to make them bigger?**

Sheet 24 – Testing (Evaluations)

Testing: This sheet includes how you tested your product and how you recorded the results, compare them to BSI standards. On this sheet you should consider:

- **Destructive and Non-destructive tests.**
- **Compare it to other products?**
- **Tests that you did on prototypes.**
- **Tab tests, Net tests.**
- **Does your point of sale unit hold all your cd's well?**
- **Can the text be read easily, visual reading tests, colour contrast test?**
- **Impact tests, drop tests.**
- **Sharpness tests, Strength tests.**
- **See the BSI website for a list of the tests.**
  http://www.bsieducation.org/Education/14-19/developing-testing/default.shtml

Sheet 25 – Consumer evaluations (Evaluations)

Consumer reactions: This sheet includes questionnaire / Interview from your users and potential customers, would they buy your product, etc? On this sheet you should consider:

- **Create a questionnaire about your final products.**
- **Ask users and evaluate your findings.**
- **Use graphs to display some information.**
- **Would you buy this product?**
- **Does it fulfill its needs?**
- **Relate questions make to your specification.**
- **Get the users to suggest improvements?**
- **What would you do if you expanded the range?**

Sheet 26 – Proposed modifications (Evaluations)

Proposed modifications: How would you improve your product if you did it again, or if you made the second development of it? On this sheet you should consider:

- **What would you do if you had more time?**
- **Users suggested improvements?**
- **Did it meet all your specification points if so add in how you could improve the products?**
- **Maybe offer improvements to the whole range, new items?**

Sheet 27 – Final evaluation (Evaluations)

Final evaluation: On this sheet you reflect on your work. You will check your specification and use it as a guide, mention modifications you did, did you meet all the specification points? On this sheet you should consider:

- **How well did it go, do you like your final outcome?**
- **Did you meet all the specification points?**
- **Did it meet the user / clients needs?**
- **Is it easy to read and use?**
- **Does it function as well as it should have?**
- **What are the designs main advantages and disadvantages?**
- **Did you stay within budget?**
- **How safe is it?**
- **Is it environmentally friendly?**
- **Could it be mass produced if so which techniques?**
- **Is it easily transportable for delivery to shops?**

Sheet 28 – Industrial practices (Industrial practices)

Industrial practices: On this sheet you will consider how you produce this product in quantity in industry? What manufacturing techniques will you use? Social environmental issues. On this sheet you should consider:

- **How will it mass produced?**
- **Which printing will you use?**
  - Relief printing – block printing, letterpresses, flexography.
  - Intaglio printing – gravure.
  - Screen printing.
  - Planographic – lithography.
  - Dry printing.
  - Laser printers.
- **What CAD / CAM will be used?**
  - Spreadsheets.
  - DTP.
  - Graphic packages.
- **How will it be manufactured?**
  - Injection molding.
  - Extrusion.
  - Blow molding.
  - Compression molding.
  - Rotational molding.
  - Vacuum forming.
  - Line bending.
  - Calendaring.
- **Environmental issues.**
- **How will it be delivered?**
- **Will it be tested?**
- **Page number, title and your name.**

Sheet 29 – QA & QC & TQM (Quality control & Quality assessment & Total quality management)

QA & QC: On this sheet you will discuss what quality control and quality assessments and what total quality management you implemented and how is it done in industry? How did you ensure your product was made well and is suitable? On this sheet you should consider:

- **Quality control (QC)**
  - Quality control checks are done during making and construction?
  - How did you assess your products constructed quality?
  - Was it inspected? If so by who? What were there remarks?
  - Will it be checked against the specification?
  - How is this done in industry, explain?
- **Quality assessment (QA)**
  - How will you ensure your product is of a high quality? How will you assess this?
  - Did you use visual checks from other pupils and users?
  - At what stages did you ensure this happened?
  - How is this done in industry, explain?

- **Total quality management (TQM)**
  - These are checks that have you put in place to ensure your product is completed to a high standard.
  - Did you check your design work against your specification?
  - Prototype stage did you checked sizes, accuracy, against your final design?
  - Making how did you ensure it was finished to a high quality?
  - Did you use visual checks from other pupils and users?
  - What did you check? Joining, sizes, finish, accuracy?
  - What BSI safety checks did you do?
  - How is this done in industry, explain?