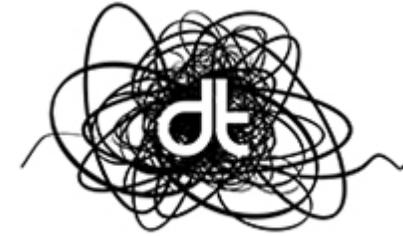


GCSE Design Technology

NEA Tracking sheet



Student Name:

Target Grade:

Research- 10 Marks	NEA Task	What you should include:
	Task analysis Page 1 <i>*Note this is extremely important as it sets the context for your chosen project!</i>	Write down which task you have chosen. You will then need to analyse this to start to figure out what type of project you could do. To do this produce a range of mind maps based upon the following headings- <ul style="list-style-type: none">• Who would the potential customers or users be?• What problems would be encountered within the context of this task?• As a result, what type of projects could you choose to do?
	Research Plan Page 1	You need to write a short plan. To do this you can use the headings that follow to structure your research plan. Include- What piece of research you will undertake, why you need this information (how will it help your project) and where you will source this information (i.e. internet/visit/existing product). Your areas of research should be based around- <ul style="list-style-type: none">• A mood board• Looking at existing products• Disassembling an existing product• Finding important dimensions (measurements)• Identifying a client and interviewing them• Analysing the needs and wants of your client

	<p>Informative Mood Board <i>Page 2</i></p>	<p>A mood board is a collection of images that start to visually show what your project could be about. The images could be based upon the following-</p> <ul style="list-style-type: none"> • Types of existing products • Where the product could be used • The types of people who may use your product • The types of colours/materials/shapes • This should be condensed into a single page. You should also add labels or a traffic lighting system showing which pictures you like and could be useful and which you don't and would avoid. Also include a key showing what the traffic light system means.
	<p>Product Analysis <i>Page 3</i></p>	<p>You need to find out about similar products to the one you wish to make. This will help you design a product that is new, exciting but also fits the purpose it is to be designed for. You should look at 2/3 products in depth.</p> <p>You can lay the product analysis out in the form of a table or as a report and must include a picture of the product you are evaluating.</p> <p>You then need to discuss the following points: -</p> <ul style="list-style-type: none"> • Cost: How much do you think the materials cost? • Aesthetics: Is it attractive, why and what makes it so? • Function: What does it do and how does it work? • Ergonomics: How easy or comfortable is it to use? • Quality: How well is it made, what materials are used? • User: Who is it for and is it appropriate? • Environment: What effect do the product's manufacture, use and disposal have? <p>Finally summarise the product analysis by stating any points that you would include in your own design work and why, and anything that you would avoid and why.</p>

	<p>Product Disassembly <i>Page 4</i></p>	<p>You will need to find a similar product to what you would like to design, or a product that would give you information to help your designing, and take it apart. If you can't take it apart you can photograph the different parts.</p> <p>Take photos and label each part of the product, what it is potentially made from, what its function is and if you can see any improvements that could be made or anything that is successful.</p>
	<p>Critical Dimensions <i>Page 4</i></p>	<p>You will need to find out the measurements of people, places or products that will help you decide on the final size of the product that you design. You will need to show a picture of what you are measuring along with the measurements. Don't forget to explain why you need to know these measurements.</p> <p>Possible things to measure could be-</p> <ul style="list-style-type: none"> • People • Existing products • Components • Rooms or places
	<p>Customer Profile <i>Page 1</i></p>	<p>Identify a shop that sells the style of products you are designing or choose a person who would use it.</p> <p>Then either-</p> <p>Write a brief paragraph about the shop's background-how it started, how many stores.</p> <p>Describe the typical type of customer.</p> <p>Analyse 4 of the typical products sold in the shop - Photos needed</p> <p>Or</p> <p>Write a description of the potential customer, what age range are they? Do they work? What type of jobs? Where are they likely to live? What disposable income would they have? What are their needs?</p>
	<p>Client Interview <i>Page 1</i></p>	<p>You will need to interview a person who would use your product in the future.</p> <p>Write a set of questions to find out what they would want from your product.</p>

		<ul style="list-style-type: none"> • What is their age/gender? • Why would they need your product? • What problems would it solve for them? • How do they overcome this problem at present? • What can they afford to pay? <p>Try to support with photos of the problems they encounter.</p>
	<p>Research Analysis Page 5</p>	<p>Once you have completed all of your research you will need to summarise it to state what you have found out that will be useful for the designing and making of your product.</p> <p>For each of the following sections summarise what you have found out that you would like to include in your product and what you would avoid and why.</p> <p>Cover the following pieces of work:</p> <ul style="list-style-type: none"> • Mood board • Product Analysis • Product Disassembly • Client interview

<p>Brief & Specification-</p>	<p>Design Brief Page 5</p>	<p>A design brief is an over view of what you have chosen to do for your project. It should also include points that you will need to do as part of the project. This is intend to be written at the start of your project as an explanation of what you have chosen to do. <u><i>*Note- this is not a description of the product you want to make!</i></u></p> <p>Points to consider including are-</p> <ul style="list-style-type: none"> • What the problem is you are trying to solve • Who the final product will be for and why • State that you will need to design a solution
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		<ul style="list-style-type: none"> • Also state that you will need to make a prototype • State other points you will need to consider i.e. safety/if the final product will be influenced by cost/ if there are specific functions it must include.
	<p>Design Specification Page 5</p>	<p>This is an overview of what you want your final product to do. For each point you must give a reason why it needs to do this and link it to something you found out in your research. Write each of the headings below in bold and then answer eth questions using full sentences.</p> <p>User/target market- who is your product designed for? What are their requirements? Economics/Cost- what price range must it come under? Ergonomics- shape/structure of the design. What are the considerations for its purpose? Safety- what techniques are being used in the manufacture? Dyed fabric (is it safe?) Performance/Use/ function- what does your product need to do? Appearance- what does your product need to look like and link to? Environment-does your product need to be environmentally friendly? Maintenance- how will you need to care for your product? i.e. easy care? Manufacture-what processes do you need to use to produce your product?</p> <p>Use sentence starters such as... The product will need to..... because</p>
<p>Ideas- 20 Marks</p>	<p>Initial Ideas (Drawings) Page 6/7/8</p>	<p>A range of various ideas that show a variety of functions, materials, and briefly evaluate the features you have included.</p> <p>Ideas can be hand drawn or drawn using CAD. Both should have colour and notes.</p> <p>You will need <u>at least 5 initial ideas</u> that need to be scanned into your PowerPoint and evaluated. On this page include a summary of which ideas you like/dislike and why, what could be developed further and how. Try to make comments linked to the needs of yore Specification.</p>

	<p>Final Idea Development <i>Page 9/10</i></p>	<p>Development is where you take an idea and start to work out <u>how it will be made</u> and <u>how it will work</u> in detail. This can vary according to the project. In general you should produce a sheet (or several sheets) that show all or any of the following-</p> <ul style="list-style-type: none"> • How you intend to make parts of your project • How parts of your project will function (work) • Changes that you have made from your original idea and why (i.e. as a result of making a model you found something out)
	<p>Final Solution (CAD) <i>Page 11</i></p>	<p>This is a sheet showing what your final idea is. There are 2 parts</p> <ul style="list-style-type: none"> • Part 1- a picture (hand drawn or CAD) showing what your final idea looks like and with notes explaining how it meets the design specification. Also add labels giving each part of your product a name i.e. shelf/draw/handle etc. • Part 2- This a measurement drawing or an orthographic drawing. Both show the main measurements of the product (you can do either).

<p>Development <i>20 Marks</i></p>	<p>Practical Development <i>(Modelling and test pieces)</i> <i>Page 12/13</i></p>	<p>Modelling: Physical Models Produce a range of small models of either elements or the whole idea you are developing. These should relate to your initial ideas. Take photos of the models in various stages and from lots of angles. Upload the photos onto your PowerPoint and analyse the models; were they successful? What have you learnt from the modelling process? How will it affect your developed ideas?</p>
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	<p>Modelling: CAD Models</p> <p>Produce a range of models on Google Sketch up and/or 2D design, of either elements or the whole idea you are developing. These should relate to your initial ideas. Take screenshots of the models in various stages and from lots of angles. Copy the screenshots onto your PowerPoint and analyse the models; were they successful? What have you learnt from the modelling process? How will it affect your developed ideas?</p>
<p>Client Feedback <i>Page 14</i></p>	<p>You will end to gain some feedback from your potential customer to see if your design is meeting their needs.</p> <p>Ask them their opinion on your work, what do they like and why and what do they think still needs to change.</p>
<p>Materials Research <i>Page 14</i></p>	<p>You will need to provide a sheet that shows potential material you could use to make your product. You should compare different types of materials.</p> <p>To do this-</p> <ul style="list-style-type: none"> • Find an image of the material, the name and what its properties are i.e. is it hard/soft/durable/flexible etc. • You should then evaluate the material stating whether it is suitable for you to use, for what part of your product and why. Also state anything that is not suitable for your product. • You then need to summarise the sheet stating which materials you have decided to choose and why.
<p>Processes Research <i>Page 15</i></p>	<p>You will need to research a range of possible industrial ways to make <u>parts</u> of your product. Produce a sheet that explains what processes you may use to make each part of your product. Explain briefly how this process works and why you have chosen it i.e. it's quick, it's accurate</p>
<p>Components <i>Page 15</i></p>	<p>You will need to investigate possible premanufactured components (i.e. items you would buy such as screw/fittings/handles).</p>

		<p>You will need to show a picture of the item, the cost and what it could be used for on your product. You will then need to state whether it would be suitable or not for your final product and why.</p>
	<p>Orthographic Drawing Page 16</p>	<p>You will need to produce a working drawing using orthographic projection. This should show 3 views of the final product and the main dimensions (measurements). You will need to use third angle projection-</p> <ul style="list-style-type: none"> Bottom left- Front view Top left- Top view Bottom right- right view <p>If you need to check the layout then search 'third angle projection' on the internet</p>
	<p>Cutting List Page 17</p>	<p>You will need to produce a table that outlines the materials and components that you need, the sizes and the quantities. Set your table up with the following headings:</p> <p>Name of part</p> <ul style="list-style-type: none"> • Type of Material or component • Thickness • Length • Depth • Width • Quantity <p>Complete the table according to the number of parts you will require to make your final product.</p>
	<p>Manufacturing Specification Page 17</p>	<p>You need to evaluate your original specification that you wrote towards the beginning of the project.</p> <p>Make a copy of this and for each of the points that you wrote you need to state-</p> <ul style="list-style-type: none"> • Any changes you have made as a result of your designing, development and testing work. • Why you have made these changes.

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Making- 20 Marks	<p>Manufacturing Plan Page 18</p>	<p>You will need to write a manufacturing plan that outlines, step by step, how you propose to make your final prototype.</p> <p>Set up a table with the following column headings:</p> <ul style="list-style-type: none"> • <u>Process</u>- this is step by step instructions explaining how to make your prototype • <u>Tools</u>- This is a list of tools for each instruction you wrote for the process column • <u>Materials</u>- this is a list of materials for each instruction you wrote for the process column • <u>Quality Control check</u>- this is a list of checks for each instruction you wrote for the process column • <u>What to do if check fails</u>- this is a suggest action if your instruction fails the quality control check. <p>The easiest way is to complete the process column first trying to include as many instructions as possible. Think about the process of making which involves- marking out, cutting, shaping and forming, assembly and finishing.</p>
	<p>Manufacturing Diary Page 19</p>	<p>You need to keep a photographic record of how you made your product. This is evidence that you made it.</p> <p>Include photos for each of the following steps-</p> <ul style="list-style-type: none"> • Marking out • Cutting • Forming i.e. bending, drilling etc. • Assembly (putting it together) • Finishing (painting/sanding/varnishing) • Also include photos of any specialist processes you may use i.e. laser cutting <p>For each photo write a brief explanation of what the photos show.</p>

	Final Practical Prototype <i>No page as this is your final practical</i>	<p>This is your final practical. You must ensure that it meets the following points-</p> <ul style="list-style-type: none"> • Can function (do what it is meant to) so you can test it • Be accurately made • Use a range of making process that are challenging i.e. use wood or metal joints/ use different making processes

Evaluation- 20 Marks	Specification Evaluation <i>Page 20</i>	<p>You need to evaluate your original specification that you wrote towards the beginning of the project.</p> <p>Make a copy of this and for each of the points that you wrote you need to state-</p> <ul style="list-style-type: none"> • Does your final made product meet this point or not? Give evidence (examples of how the product has or has not met the point). • If it has not met the point you need to say why it hasn't.
	Testing of Prototype <i>Page 20</i>	<p>For your final made product you need to take a series of photos of it being used. Include products or people in your photos to help support showing how it will be used.</p> <p>For each photo you will need to complete the following-</p> <ul style="list-style-type: none"> • What does the photo show you are testing?

		<ul style="list-style-type: none"> • Why is this test important? • Was the test successful? How do you know? • Does the test identify any issues or possible improvements and what are they?
	<i>Client Interview & Testing</i> <i>Page 21</i>	<p>You will need to show your final product to your client to get their opinion. Also, if possible ask them to test it and photograph them doing this.</p> <p>Record what they say including-</p> <p>What they like and why?</p> <p>What they feel could be further improved and why?</p>
	<i>Modifications</i> <i>Page 21</i>	<p>You will need to reflect upon your final practical and the testing and feedback that you have received. You will need to state what modifications you have made to the product whilst making it, explain the modification and why you did it. Also state if the modification was a success or if it could be further improved.</p> <p>You also need to state if your final product could be improved further if you had more time, how it could be improved and why?</p>
	<i>Evaluation of Product</i> <i>Page 21</i>	<p>This is your final summary evaluation of the product and the success of your project.</p> <ul style="list-style-type: none"> • Using evidence from your evaluation so far you need to state what went well with your project and why. • What didn't go well and how did you solve this? • If you had more time and resources what would you further develop about your product?