

Exam Question 1 - Product Analysis
(This question is worth 15 marks in the exam)

Everyday we use thousands of different graphic products, from magazines to posters, packaged items to cards and drinks cans to media products. But have you ever thought about how they work or the way they are made?

Every product is designed in a particular way by a Graphic Designer - product analysis enables us to understand the important materials, processing, economic and aesthetic decisions which are required before any graphic product can be manufactured. An understanding of these decisions can help us in designing and making for ourselves.

Getting started: The first task in product analysis is to become familiar with the product!

Most products are designed as improved versions of existing products or they make use of new technology and manufacturing techniques or developments and availability of materials.

Graphic designers who design new products can protect their ideas using a form of intellectual property, such as copyright or trade mark.

Product Analysis helps us to gain knowledge to help us design new graphic products. We are in a sense evaluating them by doing this.

Product Design Analysis means studying how the product works and how well a graphic product does its job. This means how it interacts functionally. We can also learn about how the product is made and how all of the different parts fit together. This means how it is manufactured. It is important to look at the outside of products to see what it looks like and discover how it works and is made from the outside. This is called Above the Line Product Analysis. It is also just as important to see which materials have been used. If you take the product apart you can see the internal workings of the product and learn more about how it works and how it is manufactured.

This is called Below the line Product Analysis. A designer would look at products on the market and analyse them to gain an understanding about the graphic product, its design features and how it works in order to design a newer and better version.

Product Analysis

When you are doing a Graphic Product Design Analysis you should address the following points (known as ACCESS.FMM)

A	Aesthetics	What does it look like? Describe the shape, colour, typography, decoration and texture.
C	Cost	How much does it cost? Say how much the product is to buy.
C	Customer	Who would buy or use the product? Describe the <u>Target Market</u> for the product. [see below]
E	Environment (Sustainability)	Where is the product to be used? Describe where the product is to be used and consider the sustainability of the product. [section 2]
S	Size	How big or small is the product? Measure and record the product - size, weight, volume etc.. [section 6]
S	Safety	How safe is the product in use? Describe any dangers in using the product.
•		
F	Function (Quality)	How does the product work? Describe what the product does, how it does it and the quality / finish of it. [see below]
M	Materials	What is the product made from and why are these materials suitable for it (<u>Material properties</u>)? [section 6]
M	Manufacture	How was the product manufactured? Describe what processes were used to make the product, <u>Scale of Production</u> used and how safely they were made. [section 5 & 7]

Target Market

When analysing products it is important to consider who the product is aimed at. Designers carefully consider their target market when designing new products and may be influenced by such things as age, gender, income, hobbies and interests, cost, lifestyle and image. Questions you should consider are:

- Who would buy the product?
- Why would they buy it?
- Where would they buy it?
- Who would use the product?

Function and Quality

Packaging plays a large part in the application of graphics in the modern world. There are 4 main functions for packaging a product:

1. Protect the product (e.g. eggs kept in a box to stop them breaking)
2. Contain the product (e.g. milk kept inside a carton)
3. Advertise the product & other products (e.g. to help sell the product)
4. Inform the customer (e.g. nutritional information on a food product)

Give an alternative example for each of the functions above:

	Example
1. Protect the product	_____
2. Contain the product	_____
3. Advertise the product	_____
4. Inform the customer	_____

There are many types of packaging used. The main ones are:

1. Blister packaging / Bubble packaging

These usually involve moulding clear plastic over a mould the same shape as the product. This allows the customer to be able to see the product without removing it. The blister part of the packaging is usually Vacuum Formed using Polystyrene in large quantities in order to reduce waste. These are then Die Cut or Punched Out into individual units and stuck onto the card backing. The backing usually has the facility to hang up the packaging on hooks (Euro Slot) in the shop on a shelf, stand or Point of Sales unit.



2. Clam Shell packaging

These usually involve a Vacuum formed plastic shell that houses the product. It has a hinged lid incorporated into it. It is a popular form of packaging for sandwiches, small items such as screws, nails etc. The plastic used can be clear or is sometimes textured for added strength and decoration. Sometimes Expanded Polystyrene or Card is used to make fast food containers or burger boxes. Clam Shell packaging is very similar to Blister packaging as you can often see the product. It uses more plastic but the product is even more protected. Sometimes the Blister packaging and Clam Shell packaging are combined, PETE (Polyethylene terephthalate) is used and can be easily recycled.



3. Card Boxes

These usually involve designing a Net Design using a Computer Aided Design (CAD) software and cut out using a Die Cutter. The die cutter has sharp Blades in the shape of the net and Creasing Bars that create the folds. Graphics etc. are printed directly onto the card. Blister packaging is often added to card boxes to stop the product from moving inside the box (e.g. the tray inside a monopoly game box).



Probable Design Specification

Imagine you are an experienced Graphic Designer who's been given a new project. Following some detailed research you would then produce a Design Specification (a set of design instructions which must be met) early in your project. When you Analyse an existing product you are making a guess as to what you think that Design Specification was before the product was made. You can use the information above (including ACCESS.FMM) to help you guess what the Probable Design Specification was.

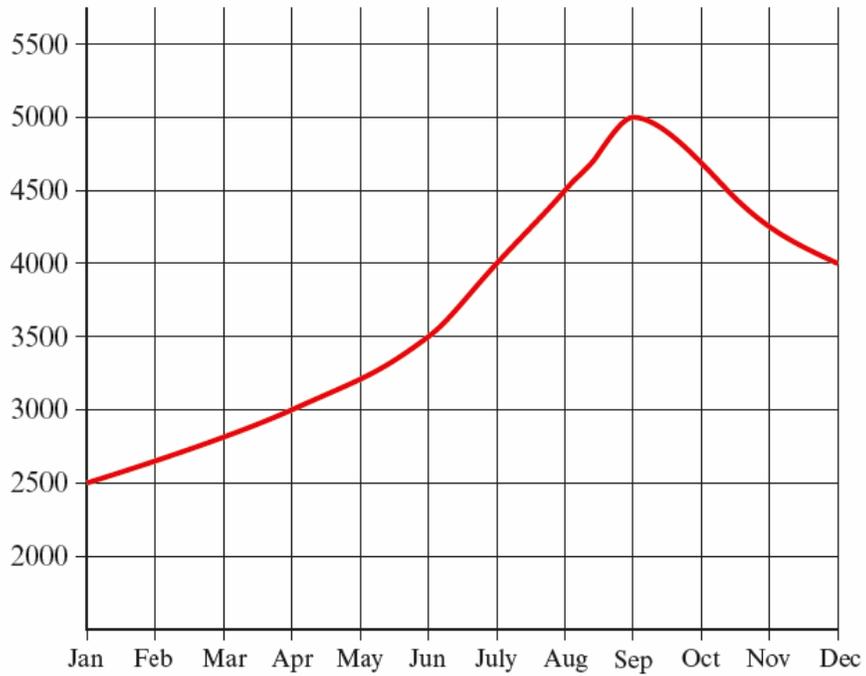
Probable Specification

Identify a Packaging product from home and complete a Product Analysis on it

A	Aesthetics	What does it look like? Describe the shape, colour, typography, decoration and texture.
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Maths Question Examples

The graph below shows annual sales for the desk tidy.



- (i) State the month when sales were at their highest. [1]

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- (ii) Calculate how many more desk tidies were sold in July than in January. [1]

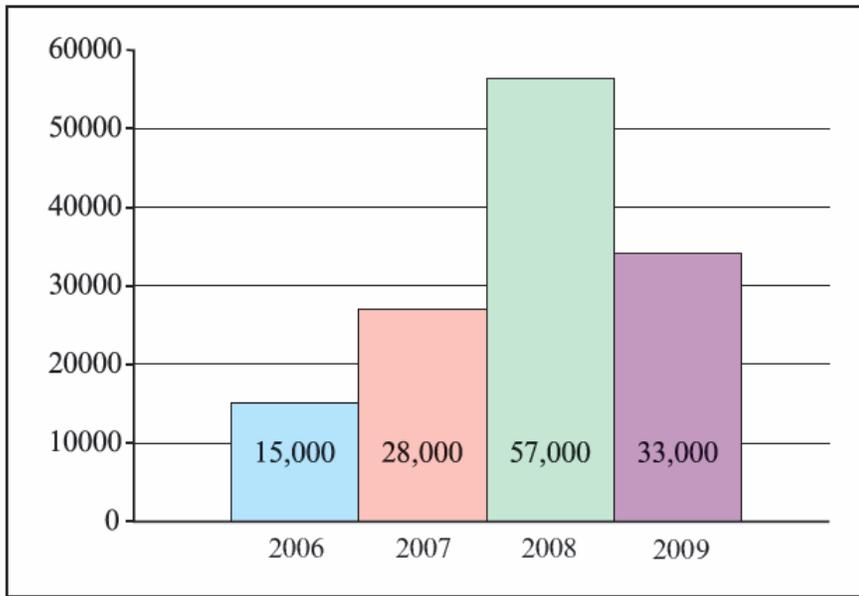
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- (iii) Calculate the percentage increase in sales between April and August. [2]
Show all your calculations.

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The graph shows annual sales of the lamp for four years.



Study the graph above and answer the questions that follow, showing **all** your workings.

- (i) Calculate total sales from 2006 to 2009. [1]

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- (ii) Calculate the percentage increase in sales between 2006 and 2008. [3]

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- (d) The cost of making parts goes down when more parts are made; this is known as economics of scale.

Number of parts made	1000	2000	10000
Fixed costs	£2000	£2000	£2000
Variable cost @ 50p per part	£500	£1000	£5000
Total cost	£2500	£3000	£7000
Cost per part	£2.50		

Study the table and calculate the cost per part for 2000 and 10 000 parts. Show *all* your workings.

- (i) Cost per part for 2000. [2]

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- (ii) Cost per part for 10 000. [2]

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