



S3 Design and Manufacture: Research

We have discussed in class open and closed briefs and we have used these as the starting point of our design process for you childrens toy.

At N4 and N5 there is a few stages in between the brief and the intial ideas and the main one is research.



Task: On the following slides I will explain different methods of gathering research and set you some tasks to complete in order to gather research information.

Research Techniques

Questionnaires

These are a series of multiple choice questions that can find out information on:

- Aesthetics
- Target Market
- Price
- Consumer needs and wants in a product



Advantages

- Multiple choice questions are quick and easy to analyse
- Questionnaires can be sent to a large number of people to cover a broad target market

Disadvantages

- Often questionnaires have a poor return rate
- Multiple choice questions limit the detail available in answers

Product Comparison

This is when researchers look at existing products and evaluate them against each other. This might involve looking at online reviews and information. Evaluation factors might include

- Price
- Performance
- Secondary functions available
- Compatibility

Advantages

- Quick and easy to carry out
- Information is fact based

Disadvantages

- Only fact based elements can be compared there is no way of comparing design factors such as aesthetics as that comes down to personal opinion.



Task 1: Research Techniques

You have been asked to design and make a new bike.
Create a questionnaire for the target market to find out key information needed to start the design process.



Questionnaires

Your questionnaire should have at least 8 questions

These should be multiple choice

Think of the information you might need to gather:

- What it should look like
- How much do people have to spend on this
- Who would be using it and what for?

Questionnaire Example

If I was designing a range of garden furniture I might ask:

Q1. What type of garden furniture would you be most interested in?

- Sunlounger Chair Table Hammock

Q2. How much would you be willing to spend on a single item of garden furniture

- £0-£25 £25-£75 £75 – 100 £100+

Q3. How often would the furniture be outside

- Only on sunny days During Summer only All year round

Q4. Rate the following factors in order of importance to you. 1 Will be the most important 6 will be the least important

- Price Aesthetics (looks) Size
 Durability Comfort Ease of cleaning

Task 2: Research Techniques

Your company are designing a new mobile phone and you have been asked to evaluate the competition.

Identify 4 mobile phones currently on sale and compare at least 4 different factors to see which is the best value for money.

Product comparison

Your products must all be from different manufacturers

You are looking at the technical specifications of the product not things like contract types

Identify the things you are going to compare them for and make a table to show your results

Comparison Example

If I was designing a new sports car I might carry out the following product comparison:

Factor	Porche 911	Jaguar F Type	Lotus Evora	BMW i8
Top speed	182 mph	155 mph	186 mph	155.3 pmh
Fuel type	Petrol	Petrol	Petrol	Electric Hybrid
Power (brake horsepower)	385	300	410	275
Fuel Efficiency	26.2 mpg	34 mpg	26.7 mpg	130 mpg
Cost	£82,796	£54,060	£85,900	£114,200

From this I might say that in order to be successful any sportscar I design should:

Have a top speed no less that 155 mph

Be either petrol or an electric/petrol hybrid

Have no less that 300 bhp

Give at least 27 mpg and cost upwards of £80

Task 3: Research Techniques

Choose a product from the list below or pick one yourself.

Imagine you are on a design team looking to create a new design for this product.

Create a questionnaire for the target market to find out key information needed to start the design process and carry out a product comparison on your 3 biggest competitors



Watch
Pram

Product Options
Tablet/laptop
Camera

Motorbike
Lawnmower

Questionnaires

Your questionnaire should have at least 5 questions

These should be multiple choice

Think of the information you might need to gather:

- What it should look like
- How much do people have to spend on this
- Who would be using it and what for?

Product comparison

Your products must all be from different manufacturers

You are looking at the technical specifications of the product

Identify the things you are going to compare them for and make a table to show your results