

### Evaluating a System

It is not only important to evaluate the product just by looking at its casing. We must also evaluate the system inside the product. When evaluating a system such as a circuit we must ask the following questions.

#### Does the System perform all of the intended functions?

#### How Neat is the soldering

Is the top view - circular shape around the leg?

Is the side view - 'volcano' shaped?

Is the appearance - bright and shiny?

#### Accuracy of soldering

Is the solder located evenly around component leg?

Is the solder on the pad not along the track?

Are there any solder 'stains' or 'dribble' on the printed circuit board (PCB)?

#### Circuit performance

Does the circuit work the way it was intended?

Does the circuit function consistently over time?

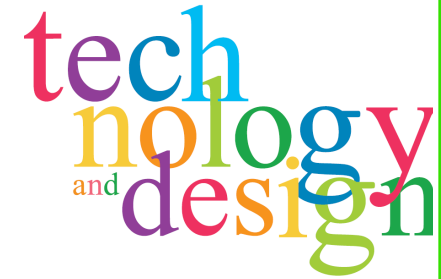
Does the circuit work whilst being shaken?

#### Product assembly

Are all the PCB, parts, and components secure?.

Is there any overlap of assembled parts?

Name: \_\_\_\_\_



#### Learning Intentions:-

- Pupils will understand the key terms for a product evaluation/specification
- Pupils will understand and be able to carry out a detailed product evaluation
- Pupils will be able to complete the product evaluation and research section of their Unit 5 coursework.

#### Success Criteria

- Pupils have clear understanding of each of the key terms used in the evaluations/specification
- Pupils have carried out a critical and detailed evaluation of the products
- Pupils can write a detailed specification for a product including the system

#### Discussions (Pairs)

- Discuss the task
- Prepare feed back to class
- Appoint person to report back
- Report back to the class

#### Skills/Dispositions

- Independence, Initiative
- Openness, Good Judgement
- Curiosity, Reflectiveness
- Collaboration

#### Creating Video Materials

- Introduce the video stating what it is about.
- Speak slowly and clearly.
- Do NOT use slang terms.
- Give full and detailed descriptions of the system operation.

#### Homework

- Write a clear and detailed product evaluation for a product which fits your chosen theme for the next lesson.

## Product Design and Evaluation

Successful product design involves learning from other designs which have features similar to the ones you want in your product.

You also need to be able to evaluate the quality of your product and to understand how to maintain quality throughout the design and manufacturing stage.

### Approaching design

It is important that you, the designer, are able to identify the features of a product that make it either a success or failure.

The first stage of design of a new product involves studying other products with similar or desirable features, through [identification](#), [analysis](#) and [evaluation](#).

This process helps the designer in a number of ways:

- It avoids copying other designers' work (this is called plagiarism).
- It identifies features or aspects of existing products which could be improved - such as by reducing the cost, adding extra features, making it easier or more comfortable to use or making it look more attractive to certain groups.

It can identify technologies or ideas which could be transferred or applied to a new function or area.



**Notes:**

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## Ergonomics: -

Sight:

Touch:

Taste:

Smell:

Sound:

Temperature:

Movement:

Anthropometrics (Body Dimensions):

## Quality: -

User (Who is the intended user): -

## Environment: -

What is the environment like which the product could be used in?

What special features have been included in the design to cope with this environment?

## Materials: -

Part 1:

Material:

Reasons for Use:

Part 2:

Material:

Reasons for Use:

Part 3:

Material:

Reasons for Use:

When answering the questions on the following pages now all points are suitable for the product you are evaluating e.g. You do not need to evaluate the taste of a torch!

### Product Name

•

### Model

•

### Cost

•

### Supplier

•

### Function(s)

•

•

•

•

**Aesthetics:-** (for each of the following headings ask your self the **WHAT?** and **WHY?**

Line, Shape, Form

Colour

Texture

Proportion

Balance

**Construction:-**

**Economics:-**

Notes: \_\_\_\_\_

\_\_\_\_\_

## Evaluating

What makes a design successful? How do you judge a design? There are a wide range of **methods** and **strategies** for analysing and evaluating designs. The two methods that follow are easy-to-remember acronyms:



## F.A.C.E. value

- Function - What does it do and how does it work?
- Aesthetics - Is it attractive, why and what makes it so?
- Construction - What is it made from, how and why?
- Economics - How much does it cost and is this good value for money?

## C.A.F.E.Q.U.E.

- Cost - How much does it cost and is it good value for money?
- 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 built, 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?

A product's unique characteristics and features are called the product [specification](#). You need to be able to identify these and compare them with the specification of other similar products. This will help you to evaluate how successful a product's design has been.

Notes: \_\_\_\_\_

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Material:

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