

## Design Strategies

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Name three **approaches to design**.

1

## Design Strategies

Three approaches to design are **iterative design**, **user-centred design** and the **systems-based approach**.

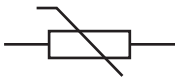
1

## Electronic Systems

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What is the name of this **component circuit symbol**?



2

## Electronic Systems

This component circuit symbol is a **thermistor**.

2

## The Work of Others: Designers

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Name the **British fashion designer** who was a major player in the New Romantic and New Wave pop culture fashions.

3

## The Work of Others: Designers

The name of this British fashion designer is **Vivienne Westwood**.

3

## The Work of Others: Companies

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Name the **international clothing retailer**, based in Dublin, which is known for its low cost fashion products.

4

## The Work of Others: Companies

The name of this clothing retailer is **Primark**.

4

## Ecological, Environmental and Social Issues

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What does the **Mobius Loop symbol** show?

5

## Ecological, Environmental and Social Issues

The Mobius Loop symbol shows that a product can be **recycled**.

5

## Research and Investigation

When using **anthropometric data**, designers often work from the 5th to the 95th percentile. True or false?

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6

## Research and Investigation

**True.** This ensures that the product is suitable for **90% of the population**.

6

## Briefs and Specifications

What is a **design brief**?

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7

## Briefs and Specifications

A design brief is a short description of the **design problem**, and how it will be **solved**.

7

## Exploring and Developing Ideas

What is a **toile**?

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8

## Exploring and Developing Ideas

A **toile** is a test version of a piece of clothing, made from cheap materials.

8

## Communication of Ideas 1

What do **exploded drawings** show?

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9

## Communication of Ideas 1

Exploded drawings show how all **parts of a product fit together**.

9

## Communication of Ideas 2

What are **working drawings** also known as?

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10

## Communication of Ideas 2

Working drawings are also known as **orthographic drawings**.

10

What does **spreadsheet software** help to create?

11

Spreadsheet software helps to create **data tables** and **calculations**.

11

What do the letters stand for in the **CAFÉ QUE** mnemonic?

12

The letters stand for:

- C – **cost**
- A – **aesthetics**
- F – **function**
- E – **ergonomics**
- Q – **quality**
- U – **user**
- E – **environment**

12

Name some **renewable energy sources**.

13

Renewable energy sources include **solar, wind, hydro-electrical, biomass** and **tidal**.

13

Why must there be **strict procedures** for the disposal and storage of **nuclear waste**?

14

Strict procedures must be followed as nuclear materials can stay **hazardous** for thousands of years.

14

What is the name of this type of **motion**?



15

This type of motion is called **reciprocating motion**.

15

**Cams** are usually used to convert rotary motion to oscillating motion. True or false?

16

False. Cams are used to convert **rotary motion** to **reciprocating motion**.

16

What **tensile strengths** do wood and metals have?

17

**Wood** has **low** tensile strength; **metals** have **high** tensile strength.

17

Name two **chemicals** that may be added during the **manufacture of paper**.

18

**Chalk and dye** may be added during the manufacture of paper.

18

Which size of **paper** is bigger: **A5** or **A6**?

19

**A5** is bigger than **A6**.

19

What does **MDF** stand for?

20

MDF stands for **medium density fibreboard**.

20

What is a **non-ferrous metal**?

21

A non-ferrous metal is a metal that **doesn't contain iron**.

21

What is a typical use of both **PP** and **HIPS**?

22

PP (polypropylene) and HIPS (high-impact polystyrene) are both used for **packaging**.

22

What **fossil fuel** is used to make **synthetic fibres**?

23

**Oil** is used to make synthetic fibres.

23

What is a **nanomaterial**?

24

A nanomaterial is a material that is made up of **particles less than 100 nanometres** in size.

24

Name three types of **standard component** that can be used with **paper and board**.

25

**Clips, fasteners and bindings** are standard components that can be used with paper and board.

25

What is meant by **galvanising**?

26

Galvanising is when **metal** is dipped into a bath of **molten zinc**.

26

What is meant by **aesthetics**?

27

Aesthetics refers to how an object **appeals** to the **five senses**.

27

Why might the surface of **aluminium** products be **anodised**?

28

The surface of aluminium products may be anodised to **improve hardness**.

28

What **type of manufacture** is used to produce high-street store clothing?

29

**Batch production** is used to manufacture high-street store clothing.

29

What is **die-cutting** used for?

30

Die-cutting is used to **cut shapes and holes**.

30

Name the different **types of saw** used for cutting **timber**.

31

**Tenon saws, coping saws, band saws, circular saws, fretsaws and jigsaws** can all be used for cutting timber.

31

What is **shearing**?

32

Shearing is the use of **metal shears** or a **guillotine** to cut **thin sheet metal**.

32

How are simple **bends** made in **thermoplastics**?

33

A **line bender** is used to create simple bends in thermoplastics.

33

What is the most common method of **joining fabrics** together?

34

**Sewing** with thread is the most common method of joining fabrics together.

34

How are **components** usually joined to a **circuit board**?

35

Components are usually joined to a circuit board by **soldering**.

35

What is the purpose of a **jig** when machining?

36

The purpose of a jig when machining is to ensure that the machining is carried out in the **correct place on the workpiece** and/or **hold it securely**.

36

**Precision** is how close a measurement is to its true value or standard. True or false?

37

False. **Accuracy** is how close a measurement is to its true value or standard. **Precision** is how repeatable/reproducible the measurement is.

37

Give examples of **virtual marketing**.

38

Examples of virtual marketing include the use of **website banner** advertising, **email marketing** and **social media** to promote products.

38

Give three examples of **CAM equipment**.

39

Examples of CAM equipment include **laser cutters**, **vinyl cutters** and **3D plotters**.

39

What is meant by **inclusive design**?

40

Inclusive design is about creating designs that can be **used by everyone** (ideally without any special adaptations).

40