Topic: Memphis Light

Design Innovate

Research & exploration to understand & identify customer needs

READ.

Memphis Design Movement

Memphis is a design movement that began in 1981. While the name might make you think that it was born in Tennesse, it got its start in Milan, Italy. Designer Ettore Sottsass founded the Memphis Group with other designers and architects. They took their name from a Bob Dylan song titled *Stuck Inside of Mobile with the Memphis Blues Again* which was played on repeat during their first meeting.

CADCAM

CAD – Computer Aided Design

CAD can be either 2D or 3D design software such as AutoCAD or Sketchup, allow the designer to draw a product in detail. Products can be designed and modified quickly. CAD allows for the testing of prototypes during the design process, without the need to make it.

CAM- Computer Aided Manufacturing

Once a prototype design has been produced, it can be manufactured on a CNC machine or Rapid Prototyping machine. Computer Aided Manufacture (CAM) has meant that products and components can be made repeatedly to the same high standard. Accuracy of machining is consistently high and machining through CAM is much faster than machining by human control / by hand. Large quantities can be produced 24 hours a day, reducing the final cost/price.

2D Design

2D design software is a computer-aided design program that allows designers, artists, architects, and engineers to create two-dimensional drawings, drafts, and plans

Laser Cutting

Laser cutting / etching machines are quite simple in the way they work. The lens system that controls the position of the laser is itself moved by a motorised slide control system. This allows movement in any direction. The control system moves according to the programme being used by the machine.

SketchUp

SketchUp is a suite of subscription products that include SketchUp Pro Desktop, a 3D modeling program for a broad range of drawing and design applications, including architectural, interior design and product design, and much more.

Vacuum Forming

Vacuum forming is a technique that is used to shape a variety of plastics. In school it is used to form/shape thin plastic, usually plastics such as; polythene and perspex.

Vacuum forming is used when an unusual shape like a 'dish' or a box-like shape is needed. Below you can see the stages involved in vacuum forming.

Topic: Memphis Light

Design Innovate

Research & exploration to understand & identify customer needs

RECALL.

Memphis Design Movement

Memphis is a _____ movement that began in _____. While the name might make you think that it was born in Tennesse, it got its start in Milan, Italy. Designer _____ _____ founded the Memphis Group with other designers and architects. They took their name from a Bob Dylan song titled *Stuck Inside of Mobile with the Memphis Blues Again* which was played on repeat during their first meeting.

CADCAM

CAD – Computer Aided _____

CAD can be either 2D or 3D design software such as AutoCAD or _____, allow the designer to draw a product in detail. Products can be designed and modified quickly. _____ allows for the testing of prototypes during the design process, without the need to make it.

CAM- Computer Aided _____

Once a prototype design has been produced, it can be manufactured on a CNC machine or Rapid Prototyping machine. Computer Aided _____ CAM) has meant that products and components can be made repeatedly to the same high standard. _____ of machining is consistently high and machining through _____ is much faster than machining by human control / by hand. Large _____ can be produced 24 hours a day, reducing the final cost/price.

2D Design

2D design software is a computer-aided _____ program that allows designers, artists, architects, and engineers to create _____ dimensional drawings, drafts, and plans

Laser Cutting

Laser cutting / _____ machines are quite simple in the way they work. The _____ system that controls the position of the laser is itself moved by a motorised slide control system. This allows movement in any direction. The _____ system moves according to the programme being used by the machine.

SketchUp

SketchUp is a suite of subscription products that include _____ Pro Desktop, a 3D modeling (CAD) program for a broad range of drawing and design applications — including _____ interior design and product design, and much more.

Vacuum Forming

Vacuum forming is a technique that is used to shape a variety of plastics. In school it is used to form _____ thin plastic, usually plastics such as; polythene and _____.

Vacuum forming is used when an unusual shape like a 'dish' or a box-like shape is needed. Below you can see the stages involved in _____ forming.

Topic: Memphis Light

Design Innovate

Research & exploration to understand & identify customer needs

RETRIEVE.

Research

Based on the research you have just read, state why the products below would be fit for purpose of a lamp- remember to consider sustainability!

_____
_____
_____
_____
_____
_____
_____

_____
_____
_____
_____
_____
_____
_____

Specification

In order to _____, it is necessary to draw up a design specification which will detail the _____ of the project. It is a document that may change as the project _____ and details your _____ for the project.

A specification is a _____ that is used by _____ to give them a _____ of _____ that they must stick to when _____ a product. If a _____ says that a _____ should have a certain _____ and it does not, then the product would _____.

ACCESS FM

Using ACCESS FM, describe the night lamp below. You MUST use whole sentences.

_____
_____
_____
_____

Manufacturing Processes

What does CADCAM stand for?

CAD – C _____ A _____ D _____

CAM – C _____ A _____ M _____

Name a CAD software: _____ Name a CAM machine: _____

What is an advantage of using CADCAM manufacturing?

_____

What is a disadvantage of using CADCAM manufacturing?

_____

Topic: Memphis Light

Design Innovate

Research & exploration to understand & identify customer needs

RETRIEVE & APPLY.

Electronics and Systems

Input

Sensor	Function	Use
Light-dependent resistor LDR	The resistance changes as the light level changes, and the change in resistance can be used as an input	Solar garden lights and street lighting
	The resistance changes as the temperature changes, and the change in resistance can be used as an input	Fridges, central heating systems and freezers to maintain temperatures
	Can change mechanical motion or force into electrical energy - it can produce an electrical pulse from pressure, such as by hitting it	Igniting lighters and in microphones (where soundwaves create pressure that makes the electrical pulse)

Piezoelectric sensor	Thermistor	Light-dependent resistor (LDR)

Process

Control device	Function	Used
	A switch can either allow or prevent electrical power from flowing round a circuit	Any device that needs power to be turned on and off
	To limit the flow of current - they are made to restrict current flow in varying degrees (resistance)	All electrical products - it helps control the flow of current and protects delicate components from being overloaded
	A programmable component is a chip that can be programmed to make decisions based on an input	Most modern electrical products - washing machines are programmed to work when the drum door is shut and the on/off button is pressed

Switch	Programme Components	Resistors

Output

Output device	Function	Use
	Uses pulses of electricity to move an electromagnet that vibrates to create sound	Headphones and radios
	Converts power into rotary motion that can turn a spindle linked to gears or wheels to make them move	Cars and trains
	A long-lasting, low-power light	Torches, lamps and power indicators

Motor	Light-emitting diode (LED)	Speaker