

MARINA INTERNATIONAL SCHOOL

DESIGN & TECHNOLOGY SCHEME OF WORK

FORM 3 - TERM 1

WEEK	TOPIC	TOPIC DETAILS
1.1	Design brief/specification	Analyse and produce design specifications for problems which they, or others, have identified.
2.1	Identification/research	Identify the constraints imposed by knowledge, resource availability and/or external sources which may influence proposed solutions
3.1	Identification/research	Gather, order and assess information relevant to the solution of practical/technological problems
3.2	Identification/research	Produce and/or interpret data (e.g. diagrams, flow charts, graphs, experimental and test results)
4.1	Generation of possible ideas	Generate and record ideas as potential solutions to problems using a range of techniques
4.2	Generation of possible ideas	Identify what resources they need for solving
5.1	Generation of possible ideas	Use a variety of media and equipment to produce models and mock-ups as a means of exploring a problem and as a means of testing the feasibility of a solution
6.1	Generation of possible ideas	Recognize the need for continuous appraisal of their own progress, thinking and decision-making, in order to provide themselves with opportunities for review
6.2	Generation of possible ideas	Relate self-appraisal judgements to the purpose of their study, in particular the specification which they set themselves
7.1	Health and safety	Show an awareness of the correct use of hand and machine tools and equipment
7.2	Health and safety	Understand the need to take all mandatory and necessary safety precautions when using a variety of tools, machines, materials and other resources

WEEK	TOPIC	TOPIC DETAILS
8.1	Health and safety	Understand the responsibilities of designers to ensure that products are safe to use
8.2	Health and safety	Understand the importance of personal safety and the safety of others when designing and making products
9.1	Health and safety	Recognize basic safety symbols used in the workshop
10.1	Communication of design ideas	Use technical vocabulary, number skills, colour, shading and other media to produce sketches, models, diagrams, drawings and written materials, which communicate their ideas with precision and clarity
11.1	Design & technology in society	Show awareness of the effect of design & technology activity on social, environmental and economic issues
12.1	Design & technology in society	Demonstrate awareness of the role of designers, artisans and technologists in industry and society
13.1	Design & technology in society	Take a range of human needs into account
14.1	REVISION	REVISION
15.1	REVISION	REVISION

DESIGN & TECHNOLOGY SCHEME OF WORK

FORM 3 - TERM 2

WEEK	TOPIC	TOPIC DETAILS
1.1	Environment and sustainability	Recognize that different forms of energy sources exist, namely, fossil fuels, nuclear, renewable
1.2	Environment and sustainability	Understand the difference between the finite and almost infinite nature of energy sources and how design can help to conserve all energy sources
2.1	Environment and sustainability	Use energy sources effectively and efficiently
2.2	Environment and sustainability	Be aware of the responsibilities of designers towards sustainability of materials and other resources
3.1	Environment and sustainability	Select materials based on environmental and sustainable considerations
3.2	Environment and sustainability	<ul style="list-style-type: none">• Understand the need for recycling• Identify materials that can be recycled and those that cannot, including the use of recycling symbols on products
4.1	Environment and sustainability	Understand the importance of disassembly of products and the reuse of parts
4.2	Environment and sustainability	Understand that products may be designed with a limited lifetime
5.1	Isometric	Understand and draw isometric views, including views of circles, arcs and other curves (isometric scale is not required)
6.1	Estimated one-point and two-point perspective	Understand and draw estimated perspective, using one-point and two-point starts and perspective grids

WEEK	TOPIC	TOPIC DETAILS
7.1	Freehand drawings	Use freehand drawing to communicate ideas, thoughts and information from written, visual and tabular data, presenting these ideas in pictorial, plane or orthographic mode
8.1	Ellipses	Construct ellipses by any accurate method, including the use of a trammel
9.1	Use of instruments	Use instruments to produce graphical representations
10.1	Orthographic projection	Introduction to orthographic projection
11.1	REVISION	REVISION
12.1	REVISION	REVISION
13.1	REVISION	REVISION

DESIGN & TECHNOLOGY SCHEME OF WORK

FORM 3 - TERM 3

WEEK	TOPIC	TOPIC DETAILS
1.1	Orthographic projection	Identify and use both first and third angle orthographic projection
2.1	Reprographics	Have a knowledge of commercial printing methods such as gravure, screen printing and lithography
3.1	Developments (nets)	Construct developments of cubes, prisms, cylinders and cones and pyramids
4.1	Developments (nets)	Construct developments of frustum of prisms, cylinder, cone and pyramids
5.1	Use of appropriate and relevant geometrical constructions to determine basic shape	Construct regular and irregular plane linear shapes, including triangles, quadrilaterals, pentagons, hexagons and octagons
6.1	Use of appropriate and relevant geometrical constructions to determine basic shape	Construct regular and irregular plane linear shapes, including bisect, sub-divide and proportionally divide lines; construct circles, tangents and tangential arcs
7.1	Inscribed and circumscribed figures	Construct the following figures in a circle: equilateral triangle, square, pentagon, hexagon, heptagon, and octagon
8.1	Inscribed and circumscribed figures	Construct the following figures round a circle externally: equilateral triangle, square, pentagon, hexagon, heptagon, and octagon
9.1	Control	Identify the features of a control system in terms of inputting devices, processing elements, output devices, feedback.
10.1	Aesthetics	Define the term aesthetics

WEEK	TOPIC	TOPIC DETAILS
10.2	Aesthetics	Appreciate the use of line, shape, form, proportion, space, colour and texture as appropriate to their design situations and that of others
11.1	Projects	Graphic products in card and/or paper
12.1	REVISION	REVISION