

Plan of Work Technology Studies (Design and Technology)

Grade 8

For examination in 2025

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Introduction

Prescribed textbook:

- Technology Studies Grade 8 by MIE

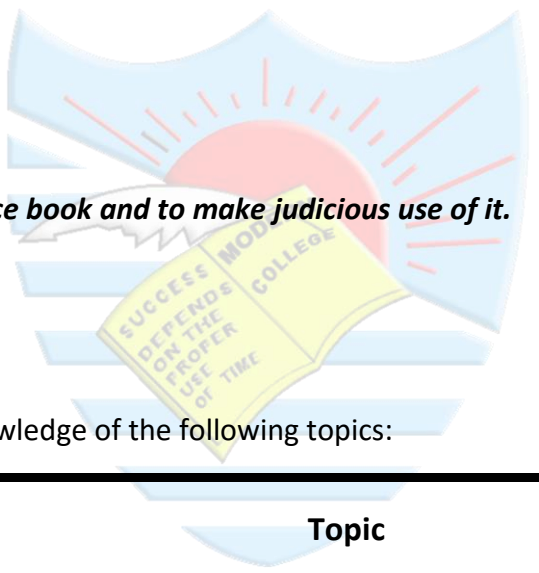
Reference book:

- Technology Studies Grade 8
- Videos
- Pictures
- Magazines

Students are STRONGLY advised to look for this reference book and to make judicious use of it.

Recommended prior knowledge

Learners beginning this course are expected to have knowledge of the following topics:



	Topic
1	Design Fundamentals
2	Pictorial Projection
3	Safety in the DT Workshop

4	Material Technology
5	Geometrical Construction
6	The Design Process

Websites and videos

This plan of work includes website links providing direct access to internet resources. Modern College is not responsible for the accuracy or content of information contained in these sites. The inclusion of a link to an external website should not be understood to be an endorsement of that website or the site's owners (or their products/services).

The website pages referenced in this plan of work were selected when the plan of work was produced. Other aspects of the sites were not checked and only the particular resources are recommended.

IMPORTANT NOTE: The objectives set in this plan of work is achievable if we have normal school day.

FIRST TERM [10/01/2025 – 11/04/2025]

Topic 1: Design Fundamentals

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
<i>Students should be able to:</i> <ul style="list-style-type: none"> a) Define the term ergonomics. b) Describe ergonomic factors to be considered when designing products. c) List the practical applications of ergonomics. d) Identify ergonomics in the design of workstations and ergonomics hazards. 	Page 1-5 Explanation with examples	Page 6,7 Activity 1	Page 11-13 Exercise 1-5	<ul style="list-style-type: none"> • Introduction of Ergonomics https://www.youtube.com/watch?v=xXGparpizns • What are Anthropometrics and Ergonomics? https://www.youtube.com/watch?v=dU_zyDYZiew
<ul style="list-style-type: none"> e) Define the term anthropometrics. f) Identify anthropometric data to be used when designing ergonomic products. g) List the importance of anthropometrics. h) Identify the environmental considerations in design and technology. 	Page 8-10 Explanation with examples	Page 11 Activity 2,3	Page 11-13 Exercise 1-5	

Topic 2: Orthographic Projection

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
Students should be able to: <ul style="list-style-type: none"> a) Identify the principles of drawing in orthographic projection. b) Draw in orthographic projection using two views – front and top view. c) Draw the views of a cuboid in orthographic projection (front and top view only). 	Page 16-19 Explanation	Page 20 Activity 1	Page 34-37, Exercises 1-11	<ul style="list-style-type: none"> • Creating orthographic projection from an isometric view https://www.youtube.com/watch?v=Zptb2epQoEc • Beginning Orthographic projection https://www.youtube.com/watch?v=ytwEDvX-l44 • Orthographic projection https://www.youtube.com/watch?v=YngslchApE4
d) Draw the front and top view of a shaped block.	Page 21,22 Explanation	Page 23 Activity 2		
e) Draw the side view of a shaped block in orthographic projection.	Page 24-26 Explanation	Page 26,27 Activity 3		
f) Identify hidden edges in orthographic projection.	Page 28 Explanation	Page 29,30 Activity 4		
g) Draw a shaped block with an inclined surface in orthographic projection.	Page 30-31 Explanation	Page 32,33 Activity 5		

Topic 4: Material Technology

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
<i>Students should be able to:</i> a) Demonstrate a brief introduction on materials technology. b) List and describe common properties of materials.	Page 69-73 Case Study and Explanation	Page 73 Activity 1	Page 82-85 Exercise 1-7	<ul style="list-style-type: none"> Material World: Crash Course Kids #40.1 https://www.youtube.com/watch?v=tGfLhPslEjQ
c) Describe the properties and applications of common softwoods and hardwoods.	Page 74-78 Explanation with Examples	Page 78 Activity 3	Page 75 Activity 2 Page 82-85 Exercise 1-7	<ul style="list-style-type: none"> Types of wood and Manufactured Boards 001 https://www.youtube.com/watch?v=SDF5_1KjWzE
d) Describe the properties and applications of common ferrous and non – ferrous metals.	Page 78-81 Explanation with Examples	Page 81 Activity 4	Page 82-85 Exercise 1-7	<ul style="list-style-type: none"> Introduction to ferrous and non-ferrous metals. https://www.youtube.com/watch?v=zwnblxXyERE
e) Define recycling of materials.	Page 82 Explanation	Page 84 Exercise 6	Page 82-85 Exercise 1-7	<ul style="list-style-type: none"> Know Your Plastics GOOD https://www.youtube.com/watch?v= qTelxi3MjU

Topic 8: The Design Process

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
<i>Students should be able to:</i> a) Describe the main stages of the Design Process.	Page 133 Case Study	Page 134 Activity 1	Coursework	<ul style="list-style-type: none"> The design process http://www.technologystudent.com/designpro/despro1.htm The Design Process for students https://www.youtube.com/watch?v=W-eqjMc1Efs
b) Identify and describe a problematic situation.	Page 134 Example	Coursework	Coursework	
c) Write a concise design brief	Page 135 Example	Coursework	Coursework	
d) Conduct a thorough brainstorming	Teacher's Example	Coursework	Coursework	
e) Analyse Existing products and write a list of specifications.	Page 136, 137 Example	Coursework	Coursework	

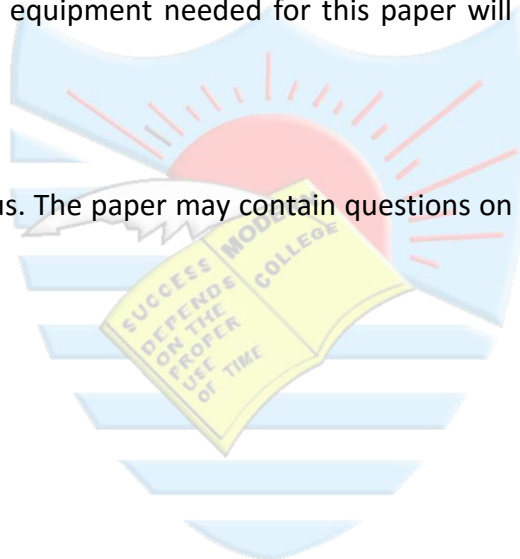
First Term Assessment

Component	Time Allocation	Type	Maximum Mark
Design and Technology	1 hour	Lower order to higher order questions	50

The paper will consist of about 6 questions. Additional equipment needed for this paper will be square grid or isometric paper. Omission of essential working will result in loss of marks.

Candidates should answer **all** questions.

Candidates are expected to cover the PROPOSED syllabus. The paper may contain questions on any part of the syllabus and questions will not necessarily be restricted to a single topic.



SECOND TERM [28/04/2025– 18/07/2025]

Topic 3: Development of solids

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
<i>Students should be able to:</i>	Page 40 Explanation	Page 41 Activity 1	Page 66, 67 Exercises 1,2	<ul style="list-style-type: none"> How to make a 3D cuboid (rectangular prism) https://www.youtube.com/watch?v=fnn7ujcZ8Ls
a) Distinguished between shapes and forms.				
b) Draw the development and make a model of a cuboid.	Page 42-48 Explanation and Demonstration	Page 48 Activity 2 Page 53 Activity 4		
c) Draw the development and make a triangular prism model.	Page 48-53 Explanation and Demonstration	Page 53 activity 5		
d) Draw the development and make a model of a cylinder.	Page 54-60 Explanation and Demonstration	Page 60 activity 6		
e) Draw the development and make a model of a cone.	Page 60-65 Explanation and Demonstration	Page 65 activity 7		<ul style="list-style-type: none"> How to make a 3D Cone https://www.youtube.com/watch?v=oH8eu59HOCY <ul style="list-style-type: none"> How to make a 3D cylinder https://www.youtube.com/watch?v=sqK62zcKUHg

Topic 5: Tool Technology

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
Students should be able to: a) Demonstrate a brief introduction on tool technology.	Page 87, 88 Explanation	Page 91 Activity 1	Page 103, 104 Exercises 1-3	<ul style="list-style-type: none"> Marking Out Woodwork – TOOLS https://www.youtube.com/watch?v=eTLYSarx5Zw Marking out metal https://www.youtube.com/watch?v=V2QT2C5larE What can you do with a Jigsaw? https://www.youtube.com/watch?v=jWneDzqAbH8 Safety in the workshop https://www.youtube.com/watch?v=164eh35WJTs
b) Identify measuring and marking out tools and state their functions.	Page 88-90 Explanation	Page 91 Activity 1		
c) Identify holding tools and state their functions.	Page 92-93 Explanation	Page 95 Activity 2 Question 1		
d) Identify driving tools and state their functions.	Page 94	Page 92 Activity 2 Question 2		
e) Identify cutting, state their functions and list the safety considerations when working with them.	Page 96-101 Explanation	Page 102 Activity 3		

Topic 6: Joining Methods

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
<i>Students should be able to:</i> a) Classify types of joints (Permanent Joint, Temporary Joint, Rigid Joint, and Flexible Joint).	Page 105, 106 Explanation	Page 107 Activity 1	Page 115, 116 Exercises	<ul style="list-style-type: none"> Woodworking 101 – Common woodworking joinery https://www.youtube.com/watch?v=zqXLYe783qw What kind of screw should I use? Woodworking Basics https://www.youtube.com/watch?v=1GiYrFyNVUU Wood joining methods https://www.youtube.com/watch?v=qkCRIAryoCw
b) Identify joining methods and their uses (Bolting, Screwing, Gluing, Riveting and Knock Down Fitting).	Page 107-109, 111-112, 113 Explanation	Page 109,110 Activity 2 Page 112 Activity 2 Page 114 Activity 4 Q1		
c) Identify wood joints (Butt Joint, Housing Joint, Mitre Joint, Dowel Joint, Finger Joint, Mortise and Tenon Joint).	Page 113,114 Explanation	Page 114 Activity 4 Q2		

Topic 8: The Design Process

Learning Objectives	Worked Examples	Classwork Homework	& Extra Work	Resources
<i>Students should be able to:</i> a) Draw, annotate 3 ideas and select 1 idea.	Page 138-140 Examples	Coursework	Coursework	<ul style="list-style-type: none"> The design process http://www.technologystudent.com/designpro/despro1.htm The Design Process for students https://www.youtube.com/watch?v=W-eqiMc1Efs
b) Develop the selected idea, draw a working drawing and a final solution.	Page 142-144 Examples	Coursework		
c) Design an action plan table.	Page 145 Examples	Coursework		
d) Use basic tools and Techniques for marking out, cut, join, and finish paper and cards in the realisation of artefacts.	Page 147-157 Examples and Explanation	Coursework		

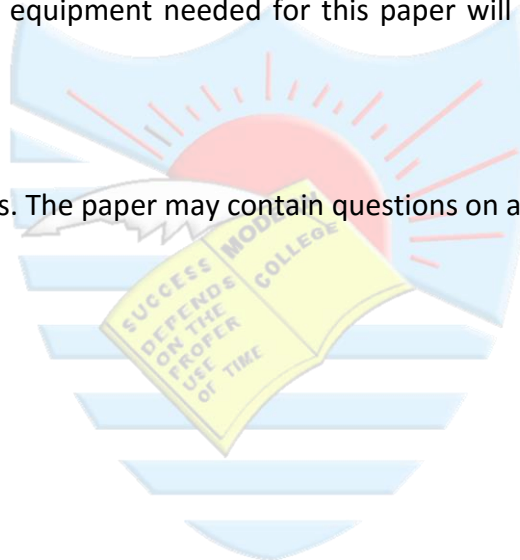
Second Term Assessment

Component	Time Allocation	Type	Maximum Mark
Design and Technology	1 hour	Lower order to higher order questions	50

The paper will consist of about 6 questions. Additional equipment needed for this paper will be square grid or isometric paper. Omission of essential working will result in loss of marks.

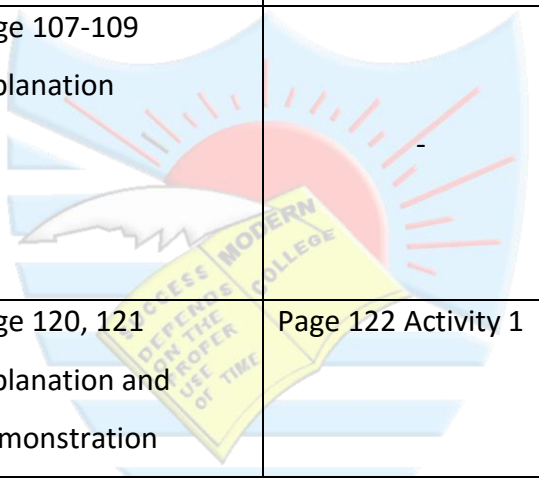
Candidates should answer **all** questions.

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THIRD TERM [11/08/2025 – 31/10/2025]

Topic: 7 One-Point-Perspective

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
<i>Students should be able to:</i> a) Understand perspective projection and related technical terms. b) Identify the rules for drawing using one-point perspective.	Page 107-109 Explanation		Page 126, 127 Activity 2 Page 131, 132 Activity 3	<ul style="list-style-type: none"> One Point Perspective https://www.youtube.com/watch?v=bjhkxFDvD78 Perspective 1 https://www.youtube.com/watch?v=IDtKxph-6Ew
c) Draw simple blocks in one-point perspective.	Page 120, 121 Explanation and Demonstration	Page 122 Activity 1		
d) Draw simple shaped blocks using one-point perspective.	Page 123-125 Explanation and Demonstration	Page 126, 127 Activity 2		
e) Draw shaped blocks having sloping surfaces in one-point perspective.	Page 128-130 Explanation and Demonstration	Page 131, 132 Activity 3		

Topic 8: Design Process

Learning Objectives	Worked Examples	Classwork & Homework	Extra Work	Resources
<i>Students should be able to:</i> a) Conduct appropriate tests of their product.	Page 157, 158 Explanation	Coursework	Coursework	<ul style="list-style-type: none"> The design process. http://www.technologystudent.com/designpro/despro1.htm
b) Evaluate their product against their specifications and conduct a personal evaluation.	Page 157, 158 Explanation	Coursework		

Third Term Assessment

Component	Time Allocation	Type	Maximum Mark
Design and Technology	1 hour	Lower order to higher order questions	50
Coursework	3 terms	Coursework	25%

The paper will consist of about 6 questions. Additional equipment needed for this paper will be square grid or isometric paper. Omission of essential working will result in loss of marks.

Candidates should answer **all** questions.

25% marks will be allocated for the Portfolio which will be added with the marks given for the exams.

Candidates are expected to cover the PROPOSED syllabus. The paper may contain questions on any part of the syllabus and questions will not necessarily be restricted to a single topic.

