



TERM

**LESSON PLAN 1
TECHNICAL SCIENCES
GRADE 11**

KNOWLEDGE AREA	MECHANICS	TOTAL TIME: 33 DAYS
Term		
Unit 1	Introduction to mechanics Sign conventions Graphs Theorem of Pythagoras	
Date	/ /20__	
Resources	Doc Scientia Textbook and Workbook Technical Sciences Grade 11 P. 13 – 32	
Time	10 days	
Core knowledge	Introduction to mechanics Sign conventions <ul style="list-style-type: none"> • Use the Cartesian coordinates system to indicate the directions (+ve X and +ve Y as positive). • Use compass directions to indicate the directions. • Express the direction using bearing by measuring on the north line in the clockwise direction to the vector. Use the above methods to determine the directions of vectors. Guidelines for teachers: Recall that vectors have magnitude and direction. Graphs <ul style="list-style-type: none"> • Demonstrate the direct proportion graphs in the context of technology. • Demonstrate the indirect proportion graphs in the context of technology. Guidelines for teachers: Recall that straight line graphs are represented by $y = mx + c$ and hyperbolic graphs are represented by $xy = k$. Theorem of Pythagoras <ul style="list-style-type: none"> • Determine the resultant of two vectors acting perpendicular to each other using the theorem of Pythagoras: $F_R^2 = F_1^2 + F_2^2$ Use the theorem of Pythagoras to calculate the resultant of forces, in the context of technology. Guidelines for teachers: Recall theorem of Pythagoras.	



Activity/ Experiment/ Project			
Assessment methods	Class test	Control test	Research project
	Practical investigation	Class work	Building of models, posters or interviews
Resources	Textbook and Workbook, transparencies Summary P. 31 Mind maps P. 32		
Homework	Exercise 1 P. 17 – 20 Exercise 2 P. 23 – 25 Exercise 3 P. 28 - 30		