


CAPS CURRICULUM
Grade 8 Technology

 Can use LEGO

TERM 1 – Gr. 8		
Hours	Topic	Content, concepts and skills
2	Structures	Frame structures Case study: use of <i>internal</i> cross-bracing and triangulation
2	Structures	Structural members Structural failure
4	Communication	Purpose of graphics , Working drawing, Artistic drawing
4	Mechanical systems and control Investigation skills	The wedge: e.g. inclined plane or ramp, door wedge, knife blade, etc. The wheel and axle: e.g. from bicycle to shopping trolley. Gears: <ul style="list-style-type: none"> • Gear ratios • The Cam • The Crank Graphic skills
FORMAL ASSESSMENT TASK 1: Mini PAT [70%]		TOPIC: Structures / Mechanical Systems and Control CONTENT: Frame structures with mechanisms
7	Structures	Evaluate: learners examine information on several complex structures and list advantages and disadvantages in the designs. Design, Make and Communicate
FORMAL ASSESSMENT TASK: [30%]		Formal Assessment Task: Test

19 hours in total: 15 hours use of LEGO

TERM 2 – Gr. 8		
Hours	Topic	Content, concepts and skills
2	Impact of technology Processing	The positive impact of technology Case study 1 and report
4		Case study 2 Investigation
FORMAL ASSESSMENT TASK 2: Mini PAT [70%]		TOPIC: Impact of technology / Processing / Structures CONTENT: Counteracting effects of negative technology
2	Investigating skills	Case study 3
2	Structures Processing	Forces that act on
2	Design Skills	Design
2	Making skills Evaluation skills	Make Evaluate
2	Communication	Communicate and present
FORMAL ASSESSMENT TASK: [30%]		Test

16 hours in total: 8 hours use of LEGO

TERM 3 – Gr. 8		
Hours	Topic	Content, concepts and skills
2	Mechanical systems and control	Levers and linkages – single levers and linked levers. Gear systems – concepts (counter rotation, idler, velocity ratio, force multiplication).
2	Communication skills Design skills	Represent gear systems graphically Design brief – using gears Draw: use an isometric projection using instruments
2	Mechanical advantage calculations	Levers: mechanical advantage (MA) calculations for levers using ratios. Gears: mechanical advantage calculations for gears using ratios.
2	Design skills Investigation skills	Sketches (2D) showing gear systems that: System analysis – bicycle gear system Analyse a mechanical system Plan a mechanical system to produce a specific output.
2	Investigation skills Impact of technology	Investigation
FORMAL ASSESSMENT TASK 3: Mini PAT [70%]		TOPIC: Structures / Mechanical Systems and Control CONTENT: a structure with a mechanism for lifting a load
2	Investigating/Design	Investigate: Lifting mechanisms
4	Evaluate, design, make and test	Simulation exercise
2	Communication skills	Present investigation
FORMAL ASSESSMENT TASK: [30%]		Test

18 hours in total: 18 hours use of LEGO

TERM 4 – Gr. 8		
Hours	Topic	Content, concepts and skills
2	Electrical systems and control	Electrical systems
2	Impact of/bias in technology	Energy for heating and lighting
2	Electrical systems and control	Batteries and Photovoltaic cells
2	Electrical systems and control	Electricity – how it is generated
FORMAL ASSESSMENT TASK 4: Mini PAT [70%]		TOPIC: Electrical systems and control CONTENT: Logic Gates
2	Design skills	Electrical circuits
4	Investigate and Design skills	Design brief, Circuit diagram Make and Communicate
YEAR END EXAM: 1½ hrs		

14 hours in total: 0 hours use of LEGO