

Strand	Content Descriptions	Elaborations	Simple and Powered Machines Activity packs		
Science Understanding	Physical sciences Change to an object's motion is caused by unbalanced forces acting on the object. (ACSSU117)	Investigating the effects of applying different forces to familiar objects.	Principle Models (Both Packs) <ul style="list-style-type: none"> • Inclined Plane • Lever • Pulley • Wedge 	Activity Pack #2009686 <ul style="list-style-type: none"> • Fishing Rod • Land yacht 	Activity Pack #2009687 <ul style="list-style-type: none"> • Gear Racer
		Investigating common situations where forces are balanced, such as stationary objects, and unbalanced, such as falling objects.	<ul style="list-style-type: none"> • Inclined Plane • Lever • Pulley 	<ul style="list-style-type: none"> • Sweeper • Letter balance • Windmill • Land yacht • Flywheel 	<ul style="list-style-type: none"> • Beam balance • Tower Crane • Ramp
		Investigating a simple machine such as lever or pulley system.	<ul style="list-style-type: none"> • Lever • Pulley • Wheel and Axle • Inclined Plane • Wedge • Screw 	<ul style="list-style-type: none"> • The Hammer • Trundle wheel (gearing) 	<ul style="list-style-type: none"> • Ramp • Tower Crane

SCIENCE INQUIRY SKILLS

GRADE 7

Questioning and predicting	Planning and conducting	Evaluating	Communicating
<p>Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge. (AC SIS124)</p>	<p>Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed. (AC SIS125)</p>	<p>Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method. (AC SIS131)</p>	<p>Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate. (AC SIS133)</p>
	<p>In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task. (AC SIS126)</p>	<p>Use scientific knowledge and findings from investigations to evaluate claims. (AC SIS132)</p>	

SCIENCE
GRADE 8

Strand	Content Descriptions	Elaborations	Simple and Powered Machines Activity packs		
Science Understanding	Physical sciences Energy appears in different forms including movement (kinetic energy), heat and potential energy, and causes change within systems. (ACSSU155)	Summary <ul style="list-style-type: none"> • KE (moving bodies) • PE (Gravitational, chemical, elastic) • Heat Energy by products • Use of Flow diagrams 	Principle Models (Both Packs)	Activity Pack #2009686	Activity Pack #2009687
			<ul style="list-style-type: none"> • Pulley • Inclined Plane 	<ul style="list-style-type: none"> • Windmill • Flywheeler • Land yacht • Dragster 	<ul style="list-style-type: none"> • Tower Crane • Ramp • Gear Racer

SCIENCE INQUIRY SKILLS
GRADE 8

Questioning and predicting	Planning and conducting	Processing and analysing data & information	Evaluating	Communicating
Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge. (ACSIS124)	Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed. (ACSIS125)	Summarise data, from students' own investigations and secondary sources, use scientific understanding to identify relationships and draw conclusions. (ACSIS130)	Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method. (ACSIS131)	Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate. (ACSIS133)
	In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task. (ACSIS126)		Use scientific knowledge and findings from investigations to evaluate claims. (ACSIS132)	

Strand	Content Descriptions	Elaborations	Simple and Powered Machines Activity packs			Renewable energy Add-on set Activities	Teacher notes
Science Understanding	Physical sciences Energy conservation in a system can be explained by describing energy transfers and transformations. (ACSSU190)	Recognising that the Law of Conservation of Energy explains that total energy is maintained in energy transfer and transformation.	Principle Models (Both Packs)	Activity Pack #2009686 <ul style="list-style-type: none"> • Windmill • Flywheeler • Land yacht • Dragster 	Activity Pack #2009687 <ul style="list-style-type: none"> • Tower Crane • Ramp • Gear Racer 	Investigating energy supply, transfer, accumulation, conversion and consumption.	Wind Turbine Activity Solar Station Activity http://tinyurl.com/cfn58xu Also see Activity Pack for Renewable Energy Add-on Set (2009688) for additional lessons and problem-solving activities that allow students to explore the three major renewable energy sources, solar, wind and water, through real-life LEGO models.
		Recognising that in energy transfer and transformation, a variety of processes can occur, so that the usable energy is reduced and the system is not 100% efficient.	<ul style="list-style-type: none"> • Wheel and Axle • Pulley 	<ul style="list-style-type: none"> • Sweeper • Freewheeling • The Hammer 			
		Comparing energy changes in interactions such as car crashes, pendulums, lifting and dropping.	<ul style="list-style-type: none"> • Lever • Wheel and Axle • Pulley • Inclined Plane • Wedge • Screw • Gear • Cam • Pawl and Ratchet • Structures 	<ul style="list-style-type: none"> • Fishing Rod • Click-Clock 	<ul style="list-style-type: none"> • Beam Balance • Tower Crane • Ramp • Gear Racer 	Investigating energy supply, transfer, accumulation, conversion and consumption.	Wind Turbine Activity Solar Station Activity See above.

SCIENCE
GRADE 10

Strand	Content Descriptions	Elaborations	Simple and Powered Machines Activity packs		
Science Understanding	Physical sciences The motion of objects can be described and predicted using the laws of physics. (ACSSU229)	Gathering data to analyse everyday motions produced by forces, such as measurements of distance and time, speed, force, mass and acceleration.	Principle Models (Both Packs)	Activity Pack #2009686	Activity Pack #2009687
		Recognising that a stationary object, or a moving object with constant motion, has balanced forces acting on it.		<ul style="list-style-type: none"> • Power Car • Freewheeling • Windmill • Flywheeler • Land yacht 	<ul style="list-style-type: none"> • Tower Crane • Gear Racer

SCIENCE INQUIRY SKILLS
GRADE 10

Questioning and predicting	Planning and conducting	Processing and analysing data & information	Evaluating	Communicating
Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge. (ACSIS124)	Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed. (ACSIS125)	Summarise data, from students' own investigations and secondary sources, use scientific understanding to identify relationships and draw conclusions. (ACSIS130)	Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method. (ACSIS131)	Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate. (ACSIS133)
	In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task. (ACSIS126)		Use scientific knowledge and findings from investigations to evaluate claims. (ACSIS132)	