SCIENCE GRADE 7

Strand	Content Descriptions	Elaborations	Simple and Po	wered Machines	Activity packs
Science Understanding	Physical sciences Change to an object's motion is	Investigating the effects of applying different forces to familiar objects.	Principle Models (Both Packs)	Activity Pack #2009686	Activity Pack #2009687
	caused by unbalanced forces acting on the object. (ACSSU117)		Inclined PlaneLeverPulleyWedge	Fishing RodLand yacht	Gear Racer
		Investigating common situations where forces are balanced, such as stationary objects, and unbalanced, such as falling objects.	Inclined PlaneLeverPulley	Sweeper Letter balance Windmill Land yacht Flywheeler	Beam balance Tower Crane Ramp
		Investigating a simple machine such as lever or pulley system.	Lever Pulley Wheel and Axle Inclined Plane Wedge Screw	The Hammer Trundle wheel (gearing)	Ramp Tower Crane



SCIENCE INQUIRY SKILLS

Questioning and predicting	Planning and conducting	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) In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task. (ACSIS126)	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) Use scientific knowledge and findings from investigations to evaluate claims. (ACSIS132)	Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate. (ACSIS133)



SCIENCE GRADE 8

Strand	Content Descriptions	Elaborations	Simple and Po	wered Machines	s Activity packs
Science	Physical sciences Energy appears in different forms	Summary • KE (moving bodies)	Principle Models (Both Packs)	Activity Pack #2009686	Activity Pack #2009687
Understanding	including movement (kinetic energy), heat and potential energy, and causes change within systems. (ACSSU155)	PE (Gravitational, chemical, elastic) Heat Energy by products Use of Flow diagrams	PulleyInclined Plane	WindmillFlywheelerLand yachtDragster	Tower CraneRampGear Racer

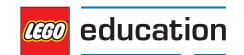
SCIENCE INQUIRY SKILLS

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) In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task. (ACSIS126)	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) Use scientific knowledge and findings from investigations to evaluate claims. (ACSIS132)	Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate. (ACSIS133)



SCIENCE

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 • Windmill • Flywheeler • Land yacht • Dragster	Activity Pack #2009687 • 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 Jessons
		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.	Wheel and Axle Pulley	Sweeper Freewheeling The Hammer			and problem-solving activities that allow students to explore the three major renewable energy sources, solar, wind and water, through real-life LEGO models.
		Comparing energy changes in interactions such as car crashes, pendulums, lifting and dropping.	• Lever • Wheel and Axle • Pulley • Inclined Plane • Wedge • Screw • Gear • Cam • Pawl and Rachet • Structures	Fishing Rod Click-Clock	Beam Balance Tower Crane Ramp Gear Racer		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 • Tower Crane • Gear Racer
		Recognising that a stationary object, or a moving object with constant motion, has balanced forces acting on it.		Power CarFreewheelingWindmillFlywheelerLand yacht	

SCIENCE INQUIRY SKILLS

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) In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task. (ACSIS126)	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) Use scientific knowledge and findings from investigations to evaluate claims. (ACSIS132)	Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate. (ACSIS133)

