Curriculum Links

By Louise Lopes

Year 7: Change to an object's motion is caused by unbalanced forces, including Earth's gravitational attraction, acting on the object

- investigating the effects of applying different forces to familiar objects
- investigating common situations where forces are balanced, such as stationary objects, and unbalanced, such as falling objects
- investigating a simple machine such as lever or pulley system
- exploring how gravity affects objects on the surface of Earth
- considering how gravity keeps planets in orbit around the sun

Year 8: Energy appears in different forms, including movement (kinetic energy), heat and potential energy, and energy transformations and transfers cause change within systems

- recognising that kinetic energy is the energy possessed by moving bodies
- recognising that potential energy is stored energy, such as gravitational, chemical and elastic energy
- investigating different forms of energy in terms of the effects they cause, such as gravitational potential causing objects to fall and heat energy transferred between materials that have a different temperature
- recognising that heat energy is often produced as a by-product of energy transfer, such as brakes on a car and light globes
- using flow diagrams to illustrate changes between different forms of energy

Year 10: The motion of objects can be described and predicted using the laws of physics

- gathering data to analyse everyday motions produced by forces, such as measurements of distance and time, speed, force, mass and acceleration
- recognising that a stationary object, or a moving object with constant motion, has balanced forces acting on it
- using Newton's Second Law to predict how a force affects the movement of an object
- recognising and applying Newton's Third Law to describe the effect of interactions between two objects

All Years:

People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities

Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge

	Demonstrated inquiry	Prescribed inquiry	Structured inquiry	Guided inquiry	Open inquiry
Questions	No question	Teacher provides question	Learner sharpens question	Learner selects question	Learner poses questions
Plans	No planning	Teacher provides procedure	Teacher discusses possible plans	Learner guided while planning	Learner determines plans
Conducts	Teacher conducts	Learner told how to conduct and record	Learner sharpens plan and conducts	Learner guided while conducting and recording	Learner conducts and records
Analyse	Teacher analyses	Leaner told how to analyse data	Teacher discusses possible analyses	Learner guided in analysis	Learner analyses data identifying trends
Problem Solve	No problem solving	Teacher provides reasoning and links	Teacher discusses reasoning and conclusion	Learner guided in reasoning and formulate conclusion	Learner reasons to formulate conclusions
Communicate	No conclusion	Teacher writes conclusion	Learner writes conclusion	Learner guided on justifying findings and communicating	Learner justifies findings and conclusions