

Bungee Barbie - Syllabus

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
- exploring how gravity affects objects on the surface of Earth

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
- using flow diagrams to illustrate changes between different forms of energy

Year 10

Energy conservation in a system can be explained by describing energy transfers and transformations

- recognising that the Law of Conservation of Energy explains that total energy is maintained in energy transfer and transformation
- 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
- comparing energy changes in interactions such as car crashes, pendulums, lifting and dropping using models to describe how energy is transferred and transformed within systems

	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	Learner 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