







Subject: Science

Year: 7 Teaching block: 2

Topic: Elements, Forces, Space and Reproduction

Assessment week: w/c 18th March

During this topic you will develop and demonstrate the following PLTS:

Creative thinker		Team player	
Reflective learner		Effective participator	
Independent enquirer		Self-manager	

What I will learn?

What elements, atoms and compounds are

How to write a chemical formula

What the different types of forces are and what makes forces balanced

What objects there are in our solar system

Why we have night/day and seasons.

How human reproductive systems works.

How plants pollinate and germinate.

Key vocabulary for this topic:

Element, chemical symbol, Periodic Table, atom, compound, molecules, formula, push, pull, contact force, friction, air resistance, gravity, interaction pairs, newtons, newton meter, deforms, compress, stretch, reaction, extension, tension, elastic limit, Hooke's Law, linear, lubrication, drag forces, streamlined, magnetic force, electrostatic, weight, mass, kilogram, gravitational field strength, balanced, equilibrium, driving force, resistive forces, satellite, orbit, solar system, comet, meteor, meteorite, galaxy, star, Milky way, Universe, astronomer, ellipse, asteroid, terrestrial, gas giant, dwarf planet, axis exoplanet, constellation, phases, eclipse, umbra, solar, lunar, adolescence, puberty, hormones, gametes, fertilisation, embryo, implantation, gestation, foetus, placenta, umbilical cord, periods, menstrual cycle, ovulation, contraception, pollination, germination, seed dispersal

Independent learning

What?

Elements, atoms and compounds
Forces
Study for Elements and Forces assessment
Space
Reproduction

When?

December
January
January
February
March

What will the best students be able to do/understand by the end of the topic:

State what an element is. Recall the chemical symbols of six elements. State what atoms are. Compare the properties of one atom of an element to the properties of many atoms. State what a compound is. Explain why a compound has different properties to the elements in it. Write the chemical names for some simple compounds. Write and interpret chemical formulae.

Explain what forces do. Describe what an interaction pair means. Describe how forces deform objects. Explain how solid surfaces provide a support force. Use Hooke's Law. Describe the effect of drag forces and friction. Explain why drag forces and friction arise. Describe the effects of a field. Describe the effect of gravitational forces on Earth and in space. Describe the difference between balanced and unbalanced forces. Describe situations that are in equilibrium. Explain why the speed or direction of motion of objects can change.

Describe the objects that you can see in the night sky. Describe the structure of the Universe. Name the objects in the Solar System. Describe some similarities between the planets of the Solar System. Explain the motion of the Sun, stars and Moon across the sky. Explain why seasonal changes happen. Describe the phases of the Moon. Explain why you see the phases of the Moon. Explain why eclipses happen.

State the difference between adolescence and puberty. Describe the main changes that take place during puberty. Describe the main structure and the function of the male and female reproductive systems. Describe the structure and function of gametes. Describe the processes of fertilisation. Describe what happens during gestation. Describe what happens during birth. State what the menstrual cycle is. Describe the main stages in the menstrual cycle. Identify the main structures of a flower. Describe the process of pollination. Describe the differences between wind-pollinated and insect-pollinated plants. Describe the process of fertilisation in plants. Describe how seeds and fruits are formed. State the ways seeds can be dispersed. Describe how a seed is adapted to its method of dispersal.