

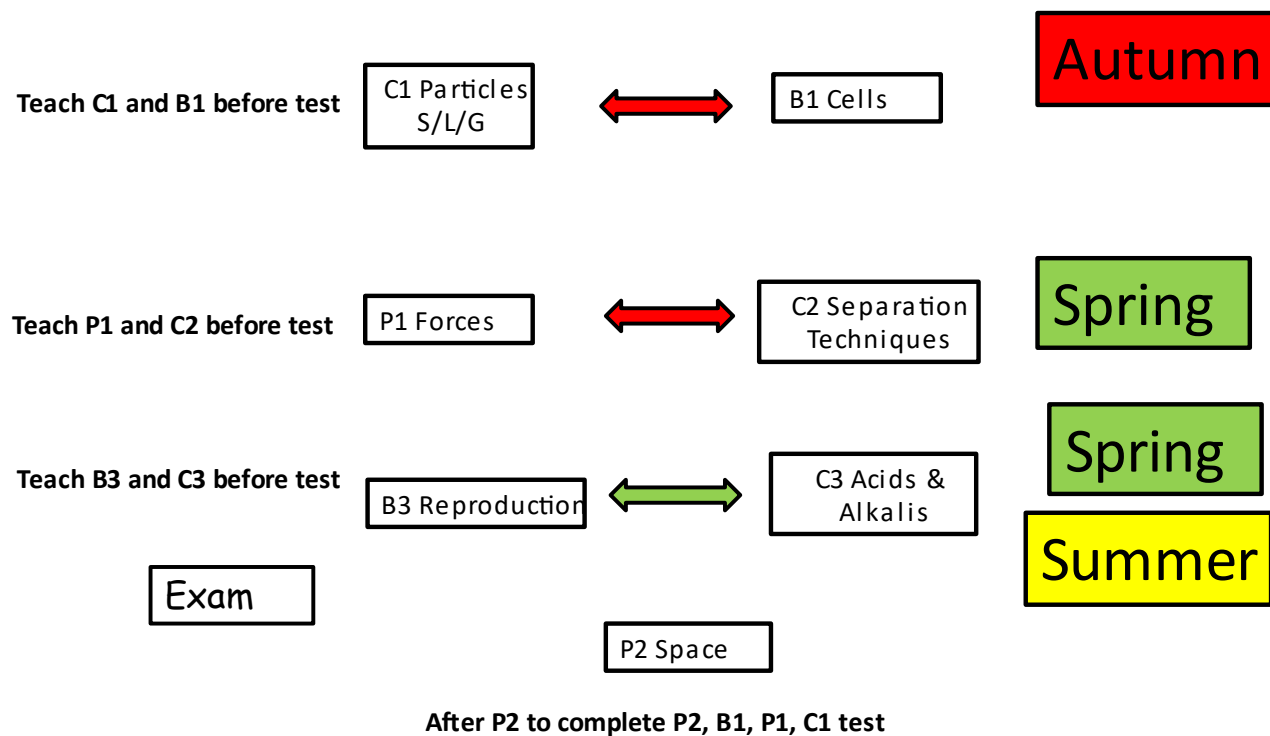
KS3 Science Curriculum mapping of topics

Year 7 Topic	Overview of Topic	Curriculum links to key concepts	Overview of key literacy, numeracy and practical skills
Introduction to Science – Science passport	Pupils will learn basic practical skills to support the curriculum including lab safety, apparatus identification, use of Bunsen burners, identifying hazards and risks, identifying variables.	NA	Basic practical skills Observing Interpreting Data Writing lab rules
Cells, tissues, organs and organ systems	Pupils will learn the fundamentals of living things, they will prepare cell slides and observe them using microscopes. They will study unicellular and multicellular organisms and look at the skeletal system as an example of an organ system	Cells	Preparing a slide Using microscopes Magnification calculations
Particles	Pupils will learn the arrangement of particles in solids, liquids and gases and the differences in particle behaviour in these three states of matter as well as the kinetic theory of matter	Particles Energy	Observing Concluding Graph Plotting Reading scales – thermometers
Forces	Pupil will learn the different types of forces, the effects of forces and the foundations of making objects move	Forces Energy	Using Newton meters Friction investigation Resistive Forces investigation Drawing force diagrams Calculations for up-thrust, buoyancy and density Investigating accuracy and precision
Separation Techniques	Pupils will learn how to separate substances using a variety of techniques such as filtering, evaporation , distillation and chromatography	Particles Energy	Calculating Rf values Observing Graph plotting Reading scales Method writing Rock salt practical Bunsens
Reproduction – Human & Plant	Pupils will learn key aspects of human and plant reproduction	Reproduction Genetics	Flower dissection Graph Plotting

			Interpreting data
Acids & Alkalis	Pupils will learn to identify substances based on their pH. Techniques to neutralise solutions and the function of indicators.	Particles Energy	Use of indicators Making red cabbage indicator Observing Method Writing Bunsens Titrations pH bar charts Comparing
Space	Pupils will learn about Earth and the Solar System	Forces Energy	Calculating gravity force Planet Research – reading for information Interpreting data Graph plotting Difference between mass and weight Calculating large distances in space

Yr7 Rotation

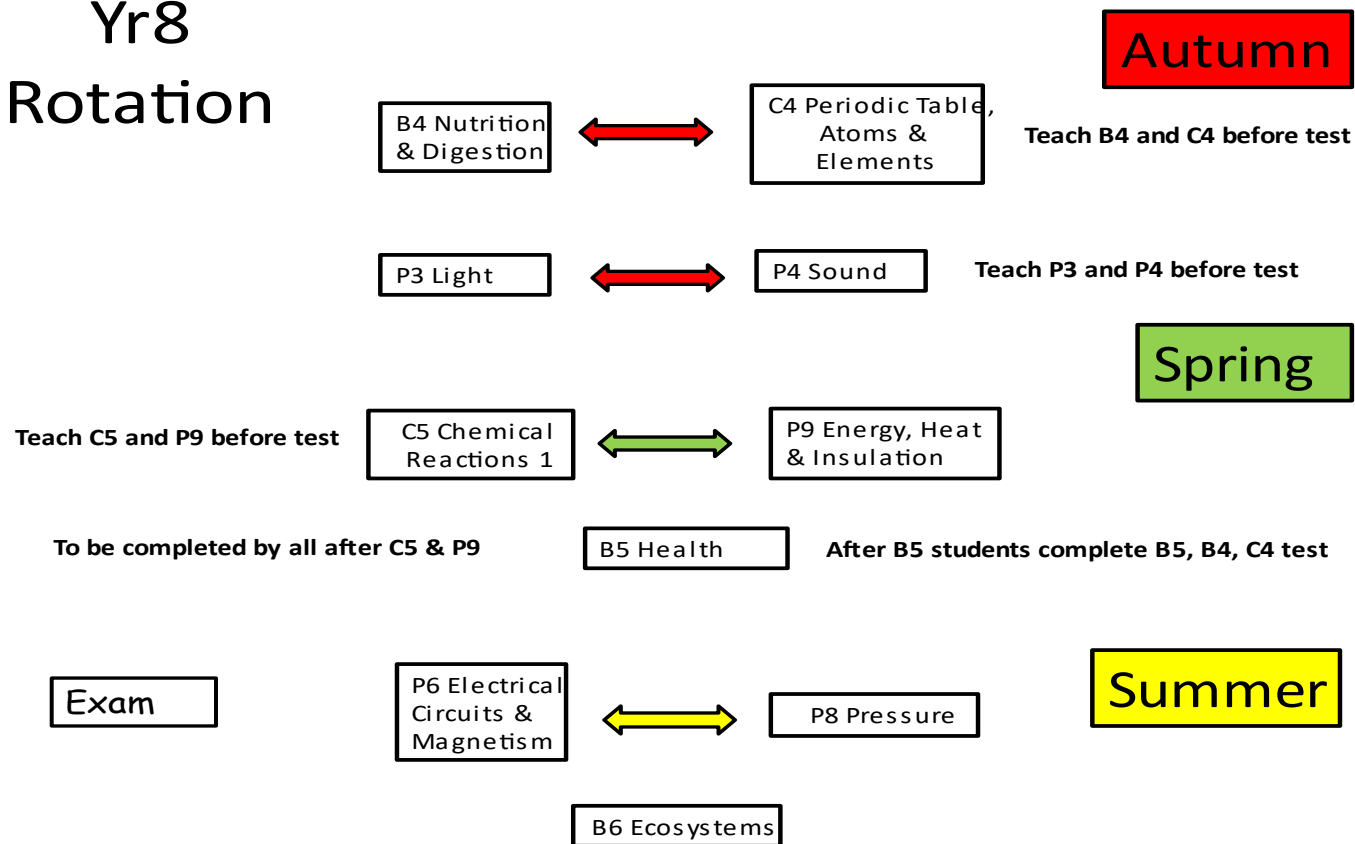
First 2 weeks only SCIENCE PASSPORT



Year 8 Topic	Overview of Topic	Curriculum links to key concepts	Overview of key literacy, numeracy and practical skills
Nutrition & Digestion	Pupils will learn the structure and function of the digestive system, importance of a balanced diet and the role of enzymes. The role of the dental hygienist.	Cells Particles	Interpreting data Food tests practical Calculating energy in food
Periodic Table, Atoms & Elements	Pupils will learn about the differences between elements, mixtures and compounds and look at trends in the periodic table.	Particles Energy	Observing Interpreting Data Testing metals and non-metal elements Making compounds Writing word equations
Light	Pupils will learn the properties of light and relate these to the eye and camera. They will learn how light can be reflected and refracted and how white light is formed. Role of the optician.	Particles Energy	Observing Measuring angles Reflection and refraction practicals Investigating coloured filters.
Sound	Pupils will learn the properties of sound and relate these to the ear and microphone. Pupils will learn about observed waves.	Particles Energy	Graph reading Investigating how sound is made
Chemical Reactions 1	Pupils will learn the basics of chemical reactions including combustion, gas tests, physical v chemical changes, thermal decomposition and exothermic reactions. Catalysts, flame tests and oxidation. Role of the pharmacist.	Particles Energy	Observing Bunsens Graph plotting Calculating means Measuring changes in mass
Energy, Heat & Insulation	Pupils will learn about energy stores and transfers including conduction, convection, radiation and thermal imbalance.	Energy Particles	Observing Bunsens Conduction practical – rods of different materials Insulation investigation
Health	Pupils learn about factors that affect health and fitness, including effects of drugs and alcohol.	Cells Evolution	Reading for information Interpreting data Lung Dissection – demo

	Pupils will learn about diffusion in the cells and body. Pupils will learn what respiration is, where it occurs and why it occurs and the differences in different organisms. Career of the health care assistant.		Measuring Recording Data Graph Plotting
Ecosystems	Pupils will study the interdependence of living organisms including limited resources. Career of environmental health officer.	Cells Evolution	Interpreting data Calculating accumulation of toxins Drawing food chains/webs Sampling techniques
Pressure	Pupils will learn about pressure in different environments	Energy Particles Forces	Pressure calculations Interpreting data Graph plotting
Electrical Circuits & Magnetism	Pupils will study the fundamentals of current electricity. Pupils will learn how to measure current and voltage in different types of circuit and relate this to resistance. Pupils will learn the properties of magnets and electromagnets and their uses. Career of mechanical engineer.	Energy Particles Forces	Observing Building series and parallel circuits Calculations Interpreting data Observing magnetic fields Plotting graphs

Yr8 Rotation



Year 9 Topic	Overview of Topic	Curriculum links to key concepts	Overview of key literacy, numeracy and practical skills
Photosynthesis	Pupils will learn about the structure of plants and the process by which plants make their own food. Structure of a leaf and chemosynthesis.	Cells Evolution Particles Energy	Observing Testing a leaf for starch Reading for information Interpreting data Bunsens
Chemical Reactions 2	Pupils will learn about the different types of chemical reactions and factors affecting the rate of reaction. The reactivity series and how metals are extracted. Comparing different materials.	Particles Energy	Observing Interpreting data Reacting metals practicals Measuring rate of reaction
Forces and motion	Pupils will study the effects of forces. Pupils will study the fundamentals of moments, calculating speed, calculating work done, Newton's laws and relative motion.	Energy Particles Forces	Observing Use of equations Distance Time graphs Use of significant figures and decimal places Calculating speed Newton's Laws of Motion Calculating resultant force
Genetics & Evolution	Pupils will learn about evolution by natural selection, selective breeding and extinction. Career of forensic scientist	Cells Evolution	Continuous & Discontinuous variation graphs Reading for information Interpreting data Research
Earth & Atmosphere	Pupils will learn about the rock cycle, the atmosphere and fossil fuels and link these to pollution and climate change	Particles Evolution Genetics	Interpreting data Reading for information Observing

Yr9 Rotation

