



Area	Big Idea	Year 7	Year 8	Year 9	Year 10	Year 11
 Forces	BI-Forces Predict Motion	7U-Forces on materials 7KC-Balanced & unbalanced 7KC-Friction 7KC-Density	8U-Movement 8KC-Speed 8KC-Motion Graphs	9U-Force & direction 9KC-Force Vectors 9KC-Force equilibrium	10U-Newton's laws 10KC-Acceleration 10KC-Newton's 2 nd Law 10HKC-Momentum	
	BI-Fields Produce Forces		8U-Gravity 8KC-Weight 8KC-Gravitational Force 8KC-Solar system		10U-Magnetism 10KC-Electromagnetism 10KC-Motor Effect	
 Energy	BI-Energy is conserved	7U-Energy transfers 7KC-Heat & Temperature 7KC-Energy Sources 7KC-Wasted Energy			10U-Heating 10KC-Thermal Transfer 10KC-Specific & Latent 10KC-Pressure	11U-Energy & work 11KC-Kinetic & Potential 11KC-Work Done
	BI-Electricity transfers energy	7U-Electric circuits 7KC-Electric Current 7KC-Resistance	8U-Electrical energy 8KC-Electric Force 8KC-Voltage	9U-Home electricity 9KC-Ohm's Law 9KC-Electrical Power 9KC-Energy Resources		
	BI-Radiation transfers energy		8U-Light 8KC-Reflection 8KC-Refraction	9U-Sound & waves 9KC-Longitudinal & Transverse 9KC-Wave Model	10U-E.m. radiation 10KC-Electromagnetic Spectrum 10KC-Wave energy	11U-Radioactivity 11KC-Radioactive Decay 11KC-Half Life

U = unit KC = Key Concept HKC = Higher tier only Key Concept ↓ Within each unit, KC are in recommended teaching order

Year 7-11 progression:


- Later KC rely on understanding earlier KC
- Later KC Integrate earlier KC
- Later KC are more theoretical /quantitative
- Order is based on research

Teaching order

- 8U-Electrical energy after 8U-Pure substances and 8U-Gravity

Teaching order

- 10U-E.m. radiation after U-Magnetism

Area	Big Idea	Year 7	Year 8	Year 9	Year 10	Year 11
 <p>Matter</p>	BI-Structure determines properties	7U-Substances & particles 7KC-Particle lens 7KC-Mixtures 7KC-Solutions	8U-Pure substances 8KC-Elements & Compounds 8KC-Simple & Giant	9U-Periodic table 9KC-Subatomic Particles 9KC-Periodic Patterns	10U-Structure & bonding 10KC-Ionic, Covalent, Metallic 10KC-Electrolysis	11U-Carbon chemistry 11KC-Hydrocarbons 11KC-Refining
	BI-Reactions rearrange matter	7U-Changing substances 7KC-Chemical & Physical 7KC-pH Scale 7KC-Neutralisation	8U-Reactants & products 8KC-Acid reactions 8KC-Oxidation & reduction	9U-Matter & energy 9KC-Atom Conservation 9KC-Reaction energy	10U-Making substances 10KC-Making Salts 10HKC-Amount of Substance	11U-Controlling reactions 11KC-Reaction Rate 11KC-Equilibrium
	BI-Earth systems interact		8U-Earth systems 8KC-Earth Processes 8KC-Potable Water	9U-Using resources 9KC-Metal Reactivity 9KC-Product Lifecycle	10U-Atmosphere 10KC-Earth's Atmosphere 10KC-Global Warming	



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Teaching order

- 10U-Atmosphere after 10U-Plants

Area	Big Idea	Year 7	Year 8	Year 9	Year 10	Year 11
 Organisms	BI-Cells are alive	7U-Cells 7KC-Cell Structure 7KC-Specialised Cells	8U-Respiration 8KC-Cellular Energy 8KC-Aerobic & Anaerobic	9U-Growth & differentiation 9KC-Cell Transport 9KC-Cell Division	10U-Plants 10KC-Photosynthesis 10KC-Plant Transport	
	BI-Bodies are systems		8U-Tissues & organs 8KC-Cell Organisation 8KC-Digestive System 8KC-Gas Exchange	9U-Organ systems 9KC-Circulatory System 9KC-System Damage 9KC-Immune System	10U-Feedback & control 10KC-Nervous System 10KC-Endocrine System 10KC-Enzymes	
	BI-Organisms are interdependent	7U-Interdependence 7KC-Feeding Relationships 7KC-Competition 7KC-Abiotic & Biotic			10U-Human interaction 10KC-Biodiversity 10KC-Communicable Disease	
 Genes	BI-Characteristics are Inherited	7U-Reproduction 7KC-Sexual & Asexual 7KC-Menstrual Cycle 7KC-Embryo Development		9U-Genetics 9KC-Genes 9KC-Monohybrid Inheritance		11U-Controlling reproduction 11KC-Reproductive Hormones 11KC-Genetic Engineering
	BI-Species show variation		8U-Life diversity 8KC-Variation 8KC-Selective Breeding 8KC-Natural Selection			11U-Evolution 11KC-Evolutionary Theory 11KC-Classification

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Year 7-11 progression:

- Later KC rely on understanding earlier KC
- Later KC Integrate earlier KC
- Later KC are more theoretical /quantitative
- Order is based on research

Teaching order

- 8U-Tissues & organs' after 8U- Pure substances
- 8U-Respiration after 8U- Reactions & products

Teaching order

- 10U-Plants after 10U-Feedback & control
- 10U-Human interaction after 10U- Atmosphere

Year 7 teaching order

Unit	1	2	3	4
Physics	7U-Forces on materials 7KC-Balanced & unbalanced 7KC-Friction 7KC-Density	7U-Electric circuits 7KC-Electric Current 7KC-Resistance	7U-Energy transfers 7KC-Heat & Temperature 7KC-Energy 7KC-Wasted Energy	
Chemistry	7U-Substances & particles 7KC-Particle Model 7KC-Mixtures 7KC-Solutions	7U-Changing substances 7KC-Chemical & Physical 7KC-pH Scale 7KC-Neutralisation		
Biology	7U-Cells 7KC-Cell Structure 7KC-Specialised Cells	7U-Reproduction 7KC-Sexual & Asexual 7KC-Menstrual Cycle 7KC-Embryo Development	7U-Interdependence 7KC-Feeding Relationships 7KC-Competition 7KC-Abiotic & Biotic	

Year 8 teaching order

Unit	1	2	3	4
Physics	8U-Light 8KC-Reflection 8KC-Refraction	8U-Movement 8KC-Speed 8KC-Motion Graphs	8U-Gravity 8KC-Weight 8KC-Gravitational Force 8KC-Solar system	8U-Electrical energy 8KC-Electric charge 8KC-Voltage
Chemistry	8U-Pure substances 8KC-Elements & Compounds 8KC-Simple & Giant	8U-Reactants & products 8KC-Acid reactions 8KC-Oxidation & reduction	8U-Earth systems 8KC-Earth Processes 8KC-Potable Water	
Biology	8U-Tissues & organs 8KC-Cell Organisation 8KC-Digestive System 8KC-Gas Exchange	8U-Life diversity 8KC-Variation 8KC-Selective Breeding 8KC-Natural Selection	8U-Respiration 8KC-Cellular Energy 8KC-Aerobic & Anaerobic	