

Geography
Paper 1
<u>Challenge of natural hazards</u> - tectonics, earthquakes, weather/tropical storms, global atmospheric circulation, UK extreme weather, climate change
<u>The living world</u> – ecosystems, UK and global biomes, tropical rainforest (Amazon) explaining the interconnections, causes of deforestation and solutions, sustainable management. Hot deserts explain the ecosystem interconnections, Thar desert case study challenges and opportunities there, desertification.
<u>Physical landscape of the UK</u> – the UK’s landscape of highland, lowland and river basins. Coastal processes, landforms, engineering, management (Holderness). Rivers – river valley terms, processes, landforms, River Tees example , hard/soft engineering and River Banbury flood defence
Paper 2
<u>Urban issues and challenges</u> – urbanisation, megacities, opportunities and challenges of cities (Mumbai & Dharavi), UK cities change (Multicultural Manchester and industry), Manchester example for sustainable transport, BedZED sustainable cities
<u>Changing economic world</u> – measure development, DTM, causes of uneven development, consequences of uneven development, reducing the development gap strategies, tourism (Jamaica), economic development in the UK
<u>Challenge of resource management</u> - where are the global resources, overview of food, water and energy. Water – what is the global demand for water, what is water insecurity and who has it, how to increase water supply, sustainable water supplies, examples: Whakel river Basin Project and the south to north water transfer
Paper 3
Issue evaluation (will be revised when we get the pre-release form AQA a few weeks before the exam)
Fieldwork – what are your field work titles? Methodology (what and why), location (where and why?), risk assessments, results, what graphs did you do and why?, results, Conclusion, evaluation, how do your methods impact on results and conclusions?
Skills – OS maps, contours, isolines, histograms, scatter graphs, dispersion graphs, population pyramids graph work, averages, range,, percentages statistical analysis, mode, medium, interpretation of figures

English Language and Literature
Language Paper 1
Analysing language for effect in fiction texts
Using structure to interest the reader in fiction texts
Evaluating effects achieved in fiction texts
Writing to describe
Writing a narrative
Language Paper 2
Summarising differences
Analysing Language for effect in non-fiction
Comparing ideas/perspectives/attitudes in non-fiction texts
Writing to argue/persuade
Writing to inform/explain
Using a range of punctuation
Literature Paper 1
A Christmas Carol
Context, characters/themes/ideas, quotations
Macbeth
Context, characters/themes/ideas, quotations
Literature Paper 2
Power and Conflict Poems x 15
Context, characters/themes/ideas, quotations
Analysing unseen poetry
Comparing poems seen/unseen
An Inspector Calls
Context, characters/themes/ideas, quotations

PE Paper 1: The Human body and movement in physical activity and sport	PE Paper 2:
Chapter 1a: Applied anatomy and physiology	Chapter 4: Sport Psychology
The structure of the skeleton	Skill
The functions of the skeleton	SMART targets
Synovial joints	Information processing system
Bones that form joints	Guidance
Chapter 1b: The structure and function of the cardio-respiratory system	Feedback
Gaseous exchange	Arousal
Breathing	Aggression
Lung volumes	Personality
Blood vessels	Chapter 5a: Socio-cultural influences
Structure of the heart	Barriers to participation
Cardiac cycle and cardiac output	Disability
Chapter 1c: Anaerobic and aerobic exercise	Women in Sport
EPOC (Oxygen debt)	Chapter 5b: Commercialisation of physical activity and sport
Immediate/Short term/long term effects of exercise	Commercialisation
Chapter 2: Movement analysis	Sponsorship
Levers and mechanical advantage	Media
Muscle action	Technology
Planes and axes	Chapter 5c: Ethical issues
Movement analysis	Players conduct
Chapter 3: Physical training	Performing-enhancing drugs
The relationship between health and fitness	Hooliganism
Components of fitness and how they are measured	Chapter 6: Health and Fitness
The principles of training	Health and Fitness
Types of training	Obesity
Safety principles when training	Balanced diet
Effective use of warm up and cool down	Somatotype
The three training seasons	Chapter 7 Data:
	Quantitative
	Qualitative

FRENCH - Reading and Listening Revision list Using AQA revision guide and Kerboodle Units.
1. General stuff
2. Me family friends
3. Free time
4. technology
5. customs and festivals
6. where you live
7. lifestyle
8. social and global
9. travel tourism
10. study and employment
Speaking and Writing exam Prep
Theme 1: Self/Family/Relationships 6+ questions prepared 3+ tenses included
Theme 2: Home town/Tourism/Environment/ Global Issues 6+ questions 3+ tenses included
Theme 3 School and Future plans 6+ questions 3+ tenses included
Grammar
Tense revision Present Past Future Other

History Paper 1:	History Paper 2:
Conflict and Tension, 1918-1939:	Elizabethan England 1568-1603
Peacemaking,	Elizabeth's Court and Parliament:
The 1918 Armistice	Elizabeth's background and character
The Versailles settlement and reaction	The Elizabethan Court and Government
Other treaties after WW1	Marriage and succession
The League of Nations and International Peace	The end of Elizabeth's reign
The formation of the League	Life in Elizabethan times
The weaknesses of the League	Poverty
The work of the League in the 1920's	Golden Age
The Great Depression	Elizabethan theatre
The Manchurian Crisis	Elizabethan exploration
The invasion of Abyssinia	Troubles at home and abroad
The collapse of the League	The religious settlement
The origins and Outbreak of the Second World War	Mary Queen of Scots
The rise of European Dictators	The Northern Rebellion
German expansion 1933-1938	The Catholic threat
The escalation of tension 1936-1938	The Puritan threat
The end of appeasement	War with Spain
The start of the Second World war	The Spanish Armada
Exam Skill practice	Historic environment: Site study
Source analysis (4 marks)	The Globe Theatre
How useful are sources .. and .. (12 marks)	The themes that can be applied to The Globe (use school resources)
Write an account (8 marks)	Exam question practice:
How far do you agree... (16 marks)	Interpretation 'how convincing' (8 marks)
Germany, 1800-1945: Democracy and Dictatorship	Explain (8 marks)
Germany and the growth of democracy	Write an account (8 marks)
Kaiser Wilhelm II	Globe site study question (16 marks)
The successes and failures of the Weimar Republic	Health and the People: c.1000 to the Present Day
The early stages of the Nazi party	Medicine stands still
Germany and the Great Depression	Disease and the supernatural
The Nazi rise to power	Islamic and Christian contributions to medicine
Establishing a dictatorship	Treating disease
Achieving total power	Health in towns and monasteries
The experiences of Germans under the Nazis	The Black Death in Britain
The Machinery of terror	The beginnings of change
Nazi propaganda	The Renaissance

<i>Nazis and the Church</i>	<i>Medical treatment: Change and continuity</i>
<i>Opposition to the Nazis</i>	<i>Doctors and surgery - Hospitals</i>
<i>Work and home – Young People</i>	<i>Jenner and Vaccination</i>
<i>Nazi racial policy</i>	A revolution in medicine
<i>Germany's war economy</i>	<i>Germ theory and the fight against germs</i>
<i>the impact of a total war</i>	<i>Anaesthetics - Antiseptics - Public health</i>
<i>Growing opposition</i>	<i>Modern Medicine</i>
<i>The Holocaust</i>	<i>The impact of the First World War</i>
Exam skill practice	<i>Penicillin - Modern treatments</i>
<i>How is interpretation A different to interpretation B? (4 marks)</i>	<i>The Liberal Social Reform</i>
	<i>Public health and the World Wars</i>
<i>Why is interpretation A different to interpretation B? (4 marks)</i>	<i>The National Health Service</i>
	Exam question practice
<i>How convincing is interpretation A and B? (8 marks)</i>	<i>How useful? Source question [8]</i>
<i>Describe (4 marks)</i>	<i>Explain the significance of Knowledge and analysis [8]</i>
<i>In what ways (8 marks)</i>	<i>Compare X and Y.... Knowledge and analysis [8]</i>
<i>Bullet point question (12 marks)</i>	<i>Extended essay response..... Knowledge and analysis. [16] + SPaG</i>

Psychology Paper 1:	Psychology Paper 2:
<i>Cognition and behaviour</i>	<i>Social context and behaviour</i>
<i>Memory</i>	<i>Social influence</i>
The processes of memory- <i>encoding, storage and retrieval</i>	Conformity -social and dispositional factors <i>Group size, anonymity, task difficulty</i>
The 'Multistore model of memory'-sensory, STM & LTM and evaluation	Key study: Asch conformity experiment – <i>Do people conform to the opinion of others to give an answer they know to be wrong?</i>
The coding, capacity and duration of each store Visual, acoustic, semantic.	Obedience - Milgram's Agency theory of obedience social and dispositional factors <i>Agency, authority, culture & proximity</i>
Difference between episodic, semantic and procedural memory	Adorno authoritarian personality
Explain the effects of serial position	Prosocial and bystander behaviour: the cost of helping & the presence of others
Key study: Murdock serial position curve Is there evidence for separate Short and long term stores?	Dispositional factors: similarity to victim and expertise
Memory as an active process	Key study: Piliavin's subway study- <i>Does appearance of victim affects helping behaviour?</i>
The theory of reconstructive memory -'effort after meaning'	Crowds effect on individual's behaviour – prosocial and antisocial behaviour
Key study: Bartlett – 'War of the Ghosts' do people alter unfamiliar information to make it more familiar to them?	Social factors affecting collective behaviour - <i>Social loafing, deindividuation and culture</i>
Factors affecting memory recall – interference, false memory and context	Dispositional factors - <i>Personality and morality</i>
<i>Perception</i>	<i>Psychological problems</i>
The difference between sensation and perception	Mental health and how cultural variations in belief differ
The differences between monocular & binocular depth cues	The incidence of significant mental health problems changing over time
The four monocular depth cues and the binocular cues retinal disparity and convergence	The effects of significant mental health problems have on individuals and society
Gibson's theory of direct perception-motion parallax, accordance.	The characteristics of clinical depression – ICD 10, unipolar bi-polar and sadness?
Explain how key visual illusions are created	Biological and psychological theories of depression- Neurotransmitters, negative schemas

(ambiguity, fiction, misinterpreted depth cues & size constancy)	
How visual illusions work – (Ponzo, Muller Iyer, Rubin's vase, Ames room, Kanizsa triangle, Necker cube)	How Interventions and therapies help depression antidepressants, CBT
Gregory's theory of constructive perception	Key study: Wiles' study of the effectiveness of CBT- What is the effectiveness of CBT in treating depressed people who have not improved after taking medication?
Factors affecting perception: culture motivation, emotion, expectation and perceptual set	Characteristics of addiction- ICD 10
Key study: Gilchrist and Nesberg – How does motivation affect perception? (hunger)	Biological & psychological theories and treatment of addiction –genetic vulnerability, peer influences,
Key study: Bruner and Minturn How expectations can direct perception (numbers or letters)	Treatment of addiction: Aversion therapy, self-management
Development	Key study: Kaij's twin study of alcohol abuse do hereditary factors influence the development of alcohol addiction?
Early brain development - brain stem, thalamus, cerebellum and cortex	Brain and neuropsychology
The roles of nature and nurture in brain development Piaget's theory of cognitive development and knowledge of the four stages	Structure and function of the nervous system CNS and PNS & somatic and automatic nervous systems
Assimilation and accommodation, egocentricity and conservation	Control of the flight and fight response
How Piaget's ideas can be applied to education. (active learning, student centred education, choose suitable stage/age for teaching ideas) Evaluation of ideas.	The James-Lange theory of emotion
Key study: Hughes 'Police man Doll' (challenging the way egocentrism was originally studied)	The structure and function of neurons-sensory, relay and motor neurons
Key study: McGarrigle and Donaldson 'Naughty teddy'(Challenging the way 'conservation' was originally studied)	Synaptic transmission :neurotransmitter release & reuptake/excitation & inhibition
Describe and evaluate Dweck's mindset- fixed and growth mindset	Hebb's theory of learning and evaluation
Learning styles - verbalisers and visualisers	The structures and functions of the brain: frontal, temporal, parietal, occipital & cerebellum

Willingham's Learning theory and his criticism of learning styles	Key study: Penfield's interpretive study of the cortex <i>How does the conscious mind work?</i>
Research methods	How cognitive neuroscience explains behaviour
Formulating testable hypotheses	How neurological damage affects motor abilities and behaviour
Describe the 3 types of variable – IV, DV and EV	Key study: Tulving's 'gold' memory study- <i>what is the connection between types of memory and brain activity?</i>
Explain designing, planning and conducting research experimental design, lab experiments, case studies & observations,	Language thought and communication
3 types of correlation and evaluation of this method	Describe & evaluate Piaget's theory – <i>language depends on thought COMPARE to The Sapir-Whorf hypothesis:</i> thought depends on language
The 4 sampling methods and how are they generated- Random, opportunity, systematic & stratified	How recall of events and colours may be affected by language
Ethics in psychological research (<i>Confidentiality, Consent, debriefing, protect from harm</i>)	The difference between human and animal communication
Data handling – qualitative vs quantitative, primary secondary data	The limited function of animal communication: survival, reproduction, territory and food
Descriptive statistics used- averages, graphs, bar charts, histograms and normal distribution	Key study: Von Frisch's Bee study- <i>How do Bees communicate the location of food source to each other?</i>
Exam Skill practice for both papers Understand and Identify (1-2 marks) Describing (3-5 marks) Planning a study (5-6 marks) Explaining (study or theory) (3-6 marks) Evaluating (study or theory) (6 marks) Applying knowledge to a scenario (3-6 marks) Describe and evaluate study or theory (9 marks)	The properties of human communication
	Non-verbal communication: eye contact plays vital role – regulating flow of conversation signalling attraction and emotions
	Explain body language – open and closed, posture, postural echo, & touch
	Explain factors affecting personal space
	Darwin's theory of NVC
	Evidence of Nature vs nurture causation
	Key study: Yuki's study of emoticons. <i>Does culture affect how facial cues are used to show emotion?</i>

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Combined Science Paper 1		
Biology – paper 1	Chemistry – paper 1	Physics – paper 1
Plant and animal cells	Formulae	Key concepts
Different kinds of cells	Equations	Scalar and vectors
Microscopes and magnification.	Ionic equations	Speed, distance and time
Dealing with numbers	Hazards, risks and precautions	Equations and motion
Using light microscopes	Atomic Structure	Velocity time graphs
Enzymes	Isotopes	Determining speed
pH and enzymes activity	Mendeleev's Table	Newton's first law
The importance of enzymes	The periodic table	Newton's second law
Getting in and out of cells	Electron configurations	Weight and mass
Osmosis	Ions	Force and acceleration
Mitosis	Formulae of ionic compounds	Circular motion
Cell growth and differentiation	Properties of ionic compounds	Momentum and force
Growth and percentile charts	Covalent bonds	Newton's third law
Stem Cells	Simple molecular substances	Human reaction time
Neurones	Giant molecular substances	Stopping distance
Responding to stimuli	Other large molecules	Energy stores and transfers
Meiosis	Metals	Efficient heat transfer
DNA	Limitations of models	Energy resources
Monohybrid inheritance	Relative formula mass	Patterns of energy use
Family Pedigrees	Empirical Formulae	Potential and kinetic energy
Sex determination	Conservation of mass	Waves
Inherited Characteristics	Reacting mass calculations	Wave equations
Variation and mutation	Concentration of solution	Measuring wave velocity
The human genome project	Avogadro's constant and moles	Waves and boundaries
Evolution	States of matter	Electromagnetic spectrum
Human Evolution	Pure substances and mixtures	Investigating refraction
Classification	Distillation	Wave behaviour
Selective breeding	Filtration and crystallisation	Dangers and uses
Genetic engineering	Paper chromatography	Changes in radiation

Stages in genetic engineering	Investigating inks – Core Practical	Structure of the atom
Health and disease	Drinking water	Atoms and isotopes
Common infections	Acids and alkalis	Atoms, electrons and ions
How pathogens spread	Strong and weak acids	Ionising radiation
STI's	Bases and alkalis	Background radiation
Human defences	Neutralisation – Core practical	Measuring radioactivity
The immune system	Salts from insoluble bases – Core Practical	Models of the atom
Immunisation	Salts from insoluble bases	Beta decay
Treating infections	Making insoluble salts	Radioactive decay
Aseptic techniques	Electrolysis	Half-life
Investigating microbial cultures	Electrolysing solutions	Uses of radiation
New medicines	Investigating Electrolysis – Core Practical	Dangers of radiation
Alcohol and smoking	The reactivity series	Contamination and irradiation
Malnutrition and obesity	Metal displacement reactions	
Cardiovascular disease	Explaining metal reactivity	
	Metal ores	
	Iron and Aluminium	
	Biological metal extraction	
	Recycling metals	
	Life-cycle assessments	
	The Haber Process	

Combined Science Paper 2		
Biology – paper 2	Chemistry - Paper 2	Physics – paper 2
Photosynthesis	The alkali metals	Work, energy and power
Limiting factors	The halogens	Interacting forces
Light Intensity	Reactions of halogens	Free-body force diagrams
Specialised plant cells	Halogen displacement reactions	Resultant forces
Transpiration	The noble gases	Circuit symbols
Translocation	Rates of reaction	Series and parallel circuits
Water uptake in plants	Investigating rates of reaction	Current and charge
Hormones	Heat energy changes	Energy and charge
Adrenalin and Thyroxine	Reaction profiles	Ohm's law
The menstrual cycle	Calculating energy changes	Resistors

Control of the menstrual cycle	Crude oil	I-V graphs
Assisted reproductive therapy	Fractional distillation	Electrical circuits
Blood glucose regulation	Alkanes	The LDR and thermistor
Diabetes	Incomplete combustion	Current heating effect
Exchanging materials	Acid rain	Energy and power
Alveoli	Choosing fuels	a.c and d.c circuits
Blood	Cracking	Mains electricity and the plug
Blood Vessels	The early atmosphere	Magnets and magnetic fields
The heart	Greenhouse effect	Current and magnetism
Aerobic respiration		Current, magnetism and force
Anaerobic respiration		Electromagnetic induction and transformers
Rate of respiration		Transmitting electricity
Changes in heart rate		Changes of state
Ecosystems and abiotic factors		Density
Biotic factors		Investigating density
Parasitism and mutualism		Energy and changes of state
Fieldwork techniques		Thermal properties of water
Organisms and their environment		Pressure and temperature
Human effects of the ecosystems		Elastic and inelastic distortion
Biodiversity		Springs
The carbon cycle		Forces and springs
The water cycle		
The nitrogen cycle		

Triple Biology	
Biology Paper 1	Biology Paper 2
Plant and animal cells	Photosynthesis
Different kinds of cells	Limiting factors
Microscopes and magnification.	Light Intensity
Dealing with numbers	Specialised plant cells
Using light microscopes	Transpiration
Enzymes	Translocation
pH and enzymes activity	Leaf adaptations
The importance of enzymes	Water uptake in plants

Using reagents in food tests	Plant adaptations
Using Calorimetry	Plant hormones
Getting in and out of cells	Uses of plant hormones
Osmosis	Hormones
Mitosis	Adrenaline and thyroxine
Cell growth and differentiation	The menstrual cycle
Growth and percentile charts	Control of the menstrual cycle
Stem Cells	Assisted reproductive therapy
The brain and spinal cord	Homeostasis
Treating damage and disease in the nervous system	Controlling body temperature
Neurones	Blood glucose regulation
Responding to stimuli	Diabetes
The Eye	The urinary system
Eye problems	The role of ADH
Asexual and sexual reproduction	Kidney treatments
Meiosis	Exchanging materials
DNA	Alveoli
Protein Synthesis	Rate of diffusion
Gregor Mendel	Blood
Genetic terms	Blood Vessels
Monohybrid inheritance	The heart
Family Pedigrees	Aerobic respiration
Sex determination	Anaerobic respiration
Inherited Characteristics	Rate of respiration
Variation and mutation	Change in heart rate
The human genome project	Ecosystems and abiotic factors
Evolution	Biotic factors
Human Evolution	Parasitism and mutualism
Classification	Fieldwork techniques
Selective breeding	Organisms and their environment
Genetic engineering	Energy transfer between trophic levels
Tissue Culture	Human effects on ecosystems
Stages in genetic engineering	Biodiversity
Insect resistant plants	Food security
Meeting population needs	The carbon cycle
Health and disease	The water cycle
Common infections	The nitrogen cycle
How pathogens spread	Pollution indicators

STI's	Decay
Human defences	
The immune system	
Immunisation	
Treating infections	
Aseptic techniques	
Investigating microbial cultures	
New medicines	
Monoclonal antibodies	
Non Communicable diseases	
Alcohol and smoking	
Malnutrition and obesity	
Cardiovascular disease	
Plant defences	
Plant diseases	

Chemistry Triple

Chemistry Paper 1	Chemistry Paper 2
Formulae	The alkali metals
Equations	The halogens
Ionic equations	Reactions of the halogens
Hazards, risks and precautions	Halogen displacement reactions
Atomic Structure	The noble gases
Isotopes	Rates of reaction
Mendeleev's Table	Core pract – investigating rates
The periodic table	Heat energy changes
Electron configurations	Reaction profiles
Ions	Calculating energy changes
Formulae of ionic compounds	Crude oil
Properties of ionic compounds	Fractional Distillation
Covalent bonds	Alkanes
Simple molecular substances	Incomplete combustion
Giant molecular substances	Acid rain
Other large molecules	Choosing fuels
Metals	Cracking
Limitations of models	The early atmosphere
Relative formula mass	Greenhouse effect
Empirical Formulae	Test for metal ions

Conservation of mass	More tests for ions
Reacting mass calculations	Instrumental methods
Concentration of solution	More about alkanes
Avogadro's constant and moles	Alkenes
States of matter	Addition polymers
Pure substances and mixtures	Condensation polymers
Distillation	Biological polymers
Filtration and crystallisation	Polymer problems
Paper chromatography	Alcohols
Investigating inks – Core Practical	Making ethanol
Drinking water	Carboxylic acids
Acids and alkalis	Nanoparticles
Strong and weak acids	Bulk materials
Bases and alkalis	
Neutralisation – Core practical	
Salts from insoluble bases – Core Practical	
Salts from insoluble bases	
Making insoluble salts	
Electrolysis	
Electrolysing solutions	
Investigating Electrolysis – Core Practical	
The reactivity series	
Metal displacement reactions	
Explaining metal reactivity	
Metal ores	
Iron and Aluminium	
Biological metal extraction	
Recycling metals	
Life-cycle assessments	
Transition metals	
Rusting	
Alloys	Chemistry Paper 1 continued
Accurate titrations – Core practical	The Haber process
Concentration calculations	More about equilibria
Titration calculations	Making fertilisers
Percentage yield	Fuel cells
Atom economy	

Molar gas volume	
Gas calculations	

Physics Paper 1	Physics Paper 2
Key concepts	Work, energy and power
Scalar and vectors	Energy and forces
Speed, distance and time	Interacting forces
Equations and motion	Free body force diagrams
Velocity time graphs	Resultant forces
Determining speed	Moments
Newton's first law	Levers and gears
Newton's second law	Circuit symbols
Weight and mass	Series and parallel circuits
Force and acceleration	Current and charge
Circular motion	Energy and charge
Momentum and force	Ohms law
Newton's third law	Resistors
Human reaction time	I-V graphs
Stopping distance	Electrical circuits
Energy stores and transfers	The LDR and thermistor
Efficient heat transfer	Current heating effect
Energy resources	Energy and power
Patterns of energy use	AC and DC circuits
Potential and kinetic energy	Mains electricity and the plug
Waves	Static electricity
Wave equations	Electrostatic Phenomena
Measuring wave velocity	Electrostatic uses and dangers
Waves and boundaries	Electric fields
Sound waves and the ear	Magnets and magnetic fields
Ultrasound and Infrasound	Current and magnetism
Sound wave calculations	Current, magnetism and forces
Waves in fluids	Electromagnetic induction
Reflection and refraction	Microphones and loud speakers
Total internal reflection	Transformers
Colour of an object	Transmitting electricity

Lenses and power	Changes of state
Real and virtual images	Density
Electromagnetic spectrum	Investigating density
Investigating refraction	Energy and changes of state
Wave behaviour	Thermal properties of water
Temperature and radiation	Pressure and temperature
Thermal energy and surfaces	Volume and pressure
Dangers and uses	Elastic and inelastic distortion
Changes in radiation	Springs
Structure of the atom	Forces and springs
Atoms and isotopes	Upthrust and pressure
Atoms, electrons and ions	Pressure and fluids
Ionising radiation	
Background radiation	
Measuring radioactivity	
Models of the atom	Physics Paper 1 continued
Beta decay	Nuclear power stations
Radioactive decay	Nuclear fusion
Half-life	The solar system
Uses of radiation	Satellites and orbits
Dangers of radiation	Theories about the Universe
Contamination and irradiation	Doppler effect and red shift
Medical uses	Life cycle of stars
Nuclear power	Observing the Universe
Nuclear fission	