CIM - Curriculum Intent Map Human Biology
Exam board - A'Level: OCR AAQ

Curriculum objectives

To inspire a love of scientific discovery that empowers learners to meet the challenges of education, work and life.

- **Curriculum values and context**

Developing an understanding of each topic and an awareness of where the topic fits in to everyday life and career opportunities.

- **Knowledge and understanding being developed**

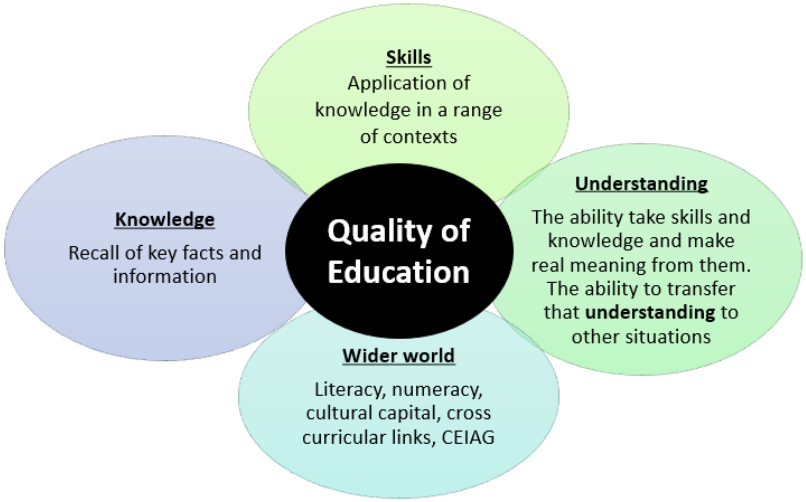
- **Curriculum sequencing and structure**

The AAQ builds on GCSE Combined Science.

- **Development of students' cultural capital, FBV's, personal development**

Discussions on cells and links to the biology A Level specification

- **Curriculum equality and access**



- What are the objectives for your curriculum? To inspire a love of scientific discovery that empowers learners to meet the challenges of education, work and life.
- What do you want pupils to be able to know and do by the time they leave? See Yr11 and Yr13 KSU
- How does your curriculum plan set out the sequence and structure of how it's going to be implemented? A spiral structure, which allows skills to be introduced at KS3 and worked on and revisited throughout KS3 and into KS4
- Why is it shaped the way it is? What values have guided your decisions about the curriculum you have in place? Providing the opportunity for skills to be introduced at KS3 and built upon, allowing for practice and revisiting with further complexity.
- How does your curriculum reflect your school's context? Allowing the subject to be taught as separate subjects so students understand the context and relevance of the subject.
- To what extent have you made these objectives clear? Does everybody know them? Specialist teachers, students are aware of which teacher teaches which subject,
- How does your curriculum reflect national policy (for example, British values and PSHE)? Discussions on cells and links to the biology A Level specification, discussions on chemical structure and links to the chemistry A Level specification, and discussions on waves and links to the physics A Level specification.
- How does your curriculum cater for disadvantaged and minority groups? How do you ensure these pupils aren't 'shut out' of pursuing subjects they wish to study because of too sharp a focus on exam results Opportunity to support students, making the content accessible and relatable through giving wider world scenarios that students can understand and see the relevance in.
- How do you ensure that curriculum knowledge is interleaved? Retrieval practice across the course, random topics starter quiz. Recall assessments at the start

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**

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of lessons. Looking at topics from previous key stages and building on this knowledge to level 3. . Knowing the spec and linking current topics to previous topics

Meeting the needs of SEND students within the classroom

Intent:

- Identification of key fundamental building blocks based on student need

Implementation:

- Knowledge of SEND need - knowing who they are, targeted T&L and classroom strategies to meet need.
- Staff trained to meet needs of SEND students specifically to their subject area
- Differentiated teaching and resources based on identified needs
- Targeted live marking and questioning
- Deploying TA's to support wider group to allow subject specialist support for SEND (helicopter approach)
- Personalised home learning
- Access arrangements – identification and application
- **Impact:**
- Grading below Grade 1 to monitor progress
- Structured accessible assessments.

	Knowledge	Skills	Understanding	Wider world
Year 13	• Health and disease • Disease causes, symptoms, prevention, and treatment strategies • Immune system function and immunology • Diagnostic and monitoring techniques • Ethical, legal, and confidentiality issues in health care • Human reproduction • The Brain	• Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures. • Apply knowledge and understanding of scientific ideas, processes, techniques and procedures: • in a theoretical context • in a practical context • when handling qualitative data • when handling quantitative data **Cognitive & Analytical Skills** • **Critical thinking** – evaluating scientific data and drawing evidence-based conclusions. • **Problem-solving** – applying biological knowledge to real-	• How to plan a scientific investigation • How to carefully, following a written risk assessment, carry out a scientific investigation • How to obtain, analyse and evaluate a scientific investigation • How enzymes work • How diffusion occurs	**Extracurricular activities** Visit to a local GP surgery or primary care centre Visit to a local hospital Community & Outreach • Health Awareness Campaigns • Organize events on nutrition, mental health, or disease prevention. Volunteering • Help at hospitals, care homes, or NGOs focused on health and wellness. Peer Tutoring • Teach younger students biology concepts or help them prepare for exams.

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		world health and medical scenarios. • **Data analysis** – interpreting graphs, tables, and experimental results. **Scientific & Technical Skills** • **Laboratory techniques** – understanding and applying methods like microscopy, dissection, and biochemical testing. • **Scientific writing** – producing clear, structured reports and evaluations. • **Understanding of scientific method** – designing experiments, controlling variables, and evaluating reliability.		**Careers Pathways** • Medicine / Nursing / Midwifery • Biomedical Science • Genetics / Genomics • Physiotherapy / Occupational Therapy • Pharmacology • Forensic Science • Public Health / Epidemiology • Neuroscience / Psychology • Biotechnology / Research Science **Communication Skills** • Written communication – explaining complex biological concepts clearly and concisely. • Oral communication – presenting findings or discussing ethical issues in biology. • Team collaboration – working with peers on practical tasks or group projects. **Organisational & Professional Skills** • Time management – balancing coursework, revision, and practical work. • Attention to detail – essential in lab work and when interpreting data. Ethical awareness – understanding bioethical
Year 12	**Fundamentals of Human biology F170)** • **Human cells and tissues (**Key features of the cell and methods to observe them; generalised human cell and cell specialisation; observing cells and organelles; link between organelle structure and function; structure and function of the cell surface membrane; mitosis and meiosis) • Tissue structure and function (definition of a tissue; the link	**F170 Fundamentals of human biology** How to use the equation: $\text{magnification} = \frac{\text{image size}}{\text{actual size}}$ • • Using a microscope • Calculating magnification • Use on an eye piece graticule • Conversions of units • Use of a haemocytometer	**F170 Fundamentals of human biology** • How these features are found in all specialised cells with the exception of the nucleus in the fully-formed erythrocyte • How ribosomes are located in the cytoplasm and on the surface of the RER and located in the matrix of the mitochondrion • How vesicles and lysosomes are both formed by the Golgi body/apparatus • How detailed cell features are seen in electrophotomicrographs using a transmission electron microscope (TEM) • Why and where stem cells are located in	

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	between tissue structure and function; use of tissues in research and development) • Human physiology (the concept of human physiology; the organ; biological basis of disease/failure of organs; transplanted and artificial organs) • Systems in the human body (the system; structure and function of different systems; measuring the activity of systems) • Key concepts of endocrinology, neurobiology and reproduction (the endocrine system and homeostasis; monitoring homeostasis; the structure and function of the nervous system; basic features of the brain and spinal cord; basic features of the brain and spinal cord; structure and function of the reproductive system; hormonal control of gametogenesis; reproductive changes during ageing) • Basics of microbiology (key features of microbes; features of bacteria found in humans; features of fungi found in humans; location of bacteria in the human body and external environment; reproduction and culture of bacteria; viruses; beneficial microbes)	• Calculating mean values • How to prepare slides for LM with appropriate stains available to schools • Using reagent test strips • Paper chromatography • Thin layer chromatography • How to carry out different types of titration to determine concentration • How to calculate concentrations determined by titration • How to identify and prepare the appropriate standard solution to use in a titration • How to select the correct indicator for a titration • How to select the correct type of titration to carry out • Calibration curves • Use of a colorimeter • Preparing a serial dilution • How to calibrate equipment to reduce errors • How to use appropriate mathematical skills • How to propagate uncertainties to determine total uncertainty •	different regions of the adult body • How dormant stem cells are triggered to differentiate by the microenvironment • How human pluripotent stem cells (PSCs) can be maintained and expanded in vitro for long time periods and then induced to differentiate • How and why the functions of embryonic and adult stem cells differ • How the abundance and features of key organelles differ in relation to the function of highly specialised cells • How eukaryotic (human) and prokaryotic (bacterial) cells compare • Why the mitochondrion may be considered as a prokaryote existing inside a eukaryotic cell (endosymbiotic theory) • How ribosomes in eukaryotic and prokaryotic cells differ • How the features and use of the TEM and SEM can be compared • How to measure the actual size of an image • Why different units (nm, µm or mm) for cell/organelle dimensions are used • Why different organelles or cell fragments are found in the supernatant and pellet • How the function of the nucleus and mitochondrion are linked • Why the functions of the nucleus, ribosome, RER, Golgi body and vesicle/lysosome are linked to complete the process of protein synthesis • How the phospholipid bilayer, extrinsic and	issues like genetic modification, organ donation, and clinical trials. **Curriculum links** • A-level Biology • Health and Social Care AAQ • Applied Science AAQ • GCSE Biology • GCSE Combined Science **Threshold topics** • In bold **PSHCE, PD and cultural capital links** Health and Wellbeing • Human Biology Topics: Nutrition, immune system, reproductive health, nervous system, hormonal control. • PSHCE Links: • Mental health and emotional wellbeing • Sexual health and contraception • Substance misuse and its effects on the body • Healthy lifestyles and disease prevention • Career planning and employability skills • Ethical and social implications of scientific research • Volunteering and community health initiatives

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	Genetics (F172 - NEA) • Fundamentals of genetics (DNA; Gene expression; Diversity and variation) • Mode of inheritance (Mendelian inheritance; DNA mutations; Genetic disorders) • Genetic counselling and genetic testing (Genetic counselling; Different types of genetic tests; Privacy and ethics) • Gene therapy and genetic engineering (Gene therapy; Genetic engineering) **Biomedical techniques F173** • Role of the biomedical scientists (the purpose of biomedical science; disciplines associated with biomedical science; handling specimens; biological variability) • Microscopy (types of microscope; cytology; histopathology; haematology; microbiology; immunological assays) • Reagent test strips (quantitative and qualitative analysis; identification of inorganic substances; alternative techniques using instrumentation; chemical tests for organic compounds; alternative techniques and instrumentation; techniques to separate biological materials; titration; colorimetry and spectrophotometry; biosensors)		intrinsic proteins, cholesterol and glycoproteins are arranged in a specific way in the fluid mosaic model • Why cell-to-cell recognition is the basis of transplant tissue/organ rejection • How base-pairing is the basis of genetics and inheritance • How to use and interpret the Punnett square • Why interphase is an active process • How a baby can have three 'biological parents' due to mitochondrial replacement therapy • How tissue and organ levels of organisation can be distinguished • Why the structure of squamous, ciliated and cuboidal epithelial tissues differs in relation to structure • Why skeletal, smooth and cardiac muscle tissues have different structures • Why bone and cartilage tissue can be viewed as special types of connective tissue • Why the three types of neuron (sensory, relay and motor) differ from each other in relation to their functions • How blood is composed of plasma, white blood cells (WBCs), red blood cells (RBCs) and platelets carried in the watery plasma • How tissue cultures are established and maintained in the laboratory • How human physiology is the applied study of organ system function • How the anatomy and histology of the organs relate to their function	

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	• Planning a clinical investigation (Understanding clinical conditions; creating a method for an investigation; generating a hypothesis; producing a method; safe handling of specimens; risk assessment; performing a scientific investigation) • Report writing (Analysis of data; drawing conclusions; evaluating results)		• Why all organs have their own blood routes via an artery and vein • How the cardiac cycle is regulated and maintained • How damaged bone has the ability to regrow, involving the migration and activity of fibrocytes and osteocytes and a supply of calcium ions and energy (via glucose molecules) • How the liver is formed from hepatocytes surrounding blood sinuses and canaliculi • Why the liver has a double blood supply (hepatic artery and hepatic portal vein) • How gas exchange occurs at the alveoli • How the stomach can be sealed using the cardiac and pyloric sphincters, is the site of digestion and absorption and how the gastric wall contains gastric pits for the secretion of hydrochloric acid, enzymes and mucus • How the small intestine carries out digestion and absorption • How the large intestine is involved in digestion, including water reabsorption and faeces formation • How the biome within the large intestine is responsible for different functions • Why the pancreas has both an exocrine and endocrine function • How the symptoms of disease and organ failure are linked to changes in the structure and function of cells/tissues • How the appearance of healthy and	

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			diseased heart and lung tissues differs • How osteoporosis can be monitored via DEXA (dual energy X-ray absorptiometry) • Why transplanted organs are rejected • How the blood circulatory and nervous systems support the functioning of the other systems • How the structure and function of the lymphatic system differs from that of the blood circulatory system • How the homeostatic system is responsible for the processes of thermoregulation, plasma glucose regulation and osmoregulation • How the excretory system includes the sweat glands in the skin but also the kidneys for the excretion of urea • How to use each measurement tool • How each type of measurement tool contributes to the diagnosis of a condition or disease • How to interpret blood glucose levels via the glucose tolerance test • How to calculate the pulmonary ventilation rate using PVR = breathing rate (breaths min–1) x tidal volume (cm3) • Why the endocrine system is generally slower to respond to stimuli but the response is longer lasting than the nervous system • How synthetic hormones can be used as a form of therapy • How malfunctioning osmoregulation can be	

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			offset by adequate body hydration (drinking an appropriate supply of water on a daily basis) • Why a fasting period is needed for the glucose tolerance test • How receptors, sensory, relay and motor neurons and effectors function in the spinal reflex arc • How to interpret vertical section (VS) and transverse section (TS) images of the brain and spinal cord • How the different structures work together within the systems • Why individuals with variations in sex traits (intersex) may have reproductive systems outside of the common male/female systems • How to interpret photomicrographs of structures in the reproductive systems • Why ovulation has evolved to become periodic but sperm production is continuous • How variations in sex traits (intersex) can be caused by differences in hormone levels and the impact on secondary sexual characteristics and gametogenesis • Why hypertrophy of the prostate gland affects urination and sperm discharge • How gram positive and gram-negative bacteria differ • How to collect samples, using the aseptic technique • How to interpret data via graphs showing growth of bacterial population	

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			• How to calculate bacterial population growth using, Estimate of bacterial population = 1 x $2^{\text{number of divisions}}$ • How agar is suitable as a growth medium for bacteria in the laboratory • How to create a health and safety record for carrying out the aseptic technique • Why viruses are not classified as living cells • How probiotic foods can increase the size and variety of the human biome • How rectal probiotic implants can be used safely to treat obesity and disorders of the gastrointestinal tract <u>F172 Genetics</u> • How gene expression is measured • What factors can influence gene expression • Why recombination is important • How the process of recombination has been used to map human genes • How recombination and variants contribute to evolution • What environmental factors can contribute to phenotypic variation in humans • How environmental factors can alter genes or gene expression • How investigations of phenotypic characteristics in a discrete population are carried out • Why it is important to compare data from investigations with national statistics • How two-trait Punnett squares are used • How chi-squared tests use expected and	

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			observed data • How human pedigree analysis is used to identify the type of single gene disorder • How single gene disorders can be tracked through families and risks to future generations predicted • How changes in the number and structure of chromosomes can occur • Why it is harder to track patterns of inheritance for complex genetic disorders • How people with a genetic predisposition may be able to reduce their risk • Why different individuals might have genetic counselling • Why individuals might have genetic counselling before or after genetic testing • How genetic tests are taken • What information each test provides • How tests differ from each other • Which disorders are targeted by both types of test, and why • How preimplantation tests are used in IVF • How each issue arises in genetic testing • Why each ethical issue is important • How the issues can be solved or minimised • How each concern arises • Why each concern is important • How the concerns could be addressed • Why vectors are used in gene therapy <u>F173 Biomedical techniques</u> • How each discipline contributes to diagnosis • How to select the appropriate type of	

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			microscopy to use for different biological samples and purposes • How to measure samples using an eyepiece graticule in eyepiece units and calibrating the units into µm using a stage micrometer • How to determine sizes of biological specimens • How to use a haemocytometer to calculate mean numbers of erythrocytes • How different cell samples are collected • How to compare healthy specialised cells with abnormal cells • How to identify normal cell structures and morphology using LM and types of abnormality that could be identified • How to dispose of cytology samples appropriately • How different tissue samples are collected • How to compare healthy tissues with abnormal tissue • How to select the appropriate analysis to carry out for diagnosis • How to carry out research to determine reference values for blood cell counts and iron levels • How to analyse blood films for abnormalities • How to dispose of haematology samples appropriately • disposal of cultures □ How to select different types of growth media in the culturing and identification of microorganisms • How to identify bacteria and fungi by cell and colony morphology	

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			• How reagent test strip work and how they are used • How to perform qualitative analysis for the presence (and absence) of the listed anions and cations • How to perform qualitative analysis for the presence of biological organic compounds • How these techniques can be combined to produce quantitative information • How to carry out paper and thin layer chromatography • How to use references and read chromatograms to determine the presence or absence of biological materials • How to use instrumentation in titration: • Thermometer for thermometric titration • pH meter for monitoring pH change • Autotitrators • How to use a colorimeter and spectrophotometer to determine the concentration of biological molecules • How to select and prepare appropriate blanks to use for calibration and create calibration curves • How to select the appropriate wavelength for analysing different types of materials • How biosensors are used to determine the presence and concentration of biological molecules • How to select the most appropriate biosensor to use for different biological materials • How to carry out research to identify a range	

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			of potential diseases and disorders based on a patient's symptoms • How to select the most likely diseases or disorders for a patient by taking into account their medical history • How to carry out research to find reference values for the tests that are used by biomedical scientists • How to select appropriate reference values to use that are appropriate for a patient • How to write a hypothesis and null hypothesis about a patient's diagnosis based on research • How to explain the hypothesis using scientific knowledge and details acquired through research • How to accept or reject a hypothesis • How to choose appropriate tests and techniques to qualitatively accept or reject a null hypothesis • Why there are limitations for the types of investigations that can be carried out in schools • How to justify the choice of tests and techniques appropriate for diagnosis • How to identify significant variables to control in an investigation • How to decide what values to select for the relevant variables in the investigation • How data of sufficient quality can be collected through equipment choice • How to determine the uncertainty associated with different measuring equipment and	

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			reduce uncertainty • How to create and maintain a sterile environment when carrying out diagnostic tests and techniques • How to plan to carry out diagnostic tests and technique that reduces contamination • How to handle specimens to reduce the risk of false positive and negatives • How to maintain the integrity of samples used in investigations • How to safely dispose of different types of specimen • How to complete a risk assessment • How to differentiate between a hazard and risk • How to identify appropriate risks and hazards for an investigation • How to select and interpret relevant information from chemical safety data sheets • How to explain control measures using scientific principles • Why it is important to be aware of emergency measures before carrying out an investigation • Why it is important to work safely and with due care and attention in a scientific practical investigation • How to select a format for recording data that suits the data being collected • How to select which mathematical skills are appropriate to use • How to determine if data is valid	

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			• How to identify each type of error in an investigation • How to explain reasons for errors • How to identify anomalous data in tables and graphs • How to account for anomalous data • How to write a concise conclusion(s) from primary data and justify the conclusion • How to select appropriate data from secondary sources to compare results to • How to make valid comparisons between primary and secondary data • What is meant by confidence in conclusions for an investigation • How to explain the impact of limitations on a conclusion • How to address the extent to which the hypothesis can be accepted • How to assess the effectiveness of the methods used to collect data • How to explain the limitations and sources of error in collected data • How to determine the reliability of secondary data used in the investigation • How to suggest improvements for an investigation, considering both the techniques used and those that would be available to a biomedical scientist • How to decide if the improvements are appropriate and what impact they will have	

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At The Elizabethan Academy we offer a curriculum that:

- is broad, balanced, inspiring and inclusive
- builds confidence, independence and **resilience**
- encourages students to develop the **skills, knowledge and understanding** required to succeed academically
- encourages students to participate in a wide variety of activities which extend beyond the classroom
- places creativity and imagination at the heart of learning to develop enquiring minds
- enables students to understand the connections and links between different subjects
- raises students' aspirations through promoting academic excellence
- develops students' **social and cultural knowledge**, skills and understanding
- develops students' **respect for spiritual and moral values**, and tolerance towards other races, religions and ways of life.
- gives students the opportunities to put theoretical skills into practice and expand their knowledge beyond the exam specification
- prepares students for the world of work in a rapidly changing world.

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2025-2026	Year 12 Human Biology					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 	**F170 Fundamentals of human biology** • TA1 Human cells and tissues • TA2 Human physiology, organs and systems • TA3 Key concepts in endocrinology, neurobiology and reproduction	**F170 Fundamentals of human biology** • TA3 Key concepts in endocrinology, neurobiology and reproduction • TA4 Basics of microbiology	**F172 Genetics** • TA1 Fundamentals of genetics • TA2 Mode of inheritance • TA3 Genetic counselling • TA4 Gene therapy	**NEA (None examined assessment) 172 Genetics** **F173 Biomedical techniques** • TA1 What biomedical science is • TA3 Diagnostic techniques: Biological Molecules	**F173 Biomedical techniques** • TA2 Diagnostic techniques: cells and microscopy • TA4 Planning a clinical investigation • TA5 Report writing **NEA 173 Biomedical techniques**	**NEA 173 Biomedical techniques**
	Wc. 29/9/25 TA2 Assessment Wc. 8/12/25 TA4 Assessment and TA3 Assessment		**External exam F170** **NEA None examined assessment) 172 Genetics**		**NEA 173 Biomedical techniques**	

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Embed your knowledge

Tissue Matching Game
- **Task**: Match tissue types to their functions and locations in the body.
- **Goal**: Reinforce understanding of tissue roles.
- **Extension**: Create flashcards or a digital quiz.

Cell Specialisation Poster
- **Task**: Research and create a poster on specialised cells (e.g., nerve, red blood, root hair).
- **Goal**: Explain how structure relates to function.
- **Extension**: Include how these cells contribute to tissue formation.

Organ System Breakdown
- **Task**: Choose an organ system (e.g., digestive, circulatory) and describe how cells and tissues work together.
- **Goal**: Show the hierarchy: cells → tissues → organs → systems.
- **Extension**: Present findings to the class or in a video.

Create a Quiz or Kahoot
- **Task**: Design a quiz on cell structures and tissue types.
- **Goal**: Reinforce learning through peer interaction.
- **Extension**: Include diagrams and challenge questions.

Genetics Comic Strip
- **Task**: Create a comic strip showing how a trait is passed from parents to offspring.
- **Goal**: Include Punnett squares and explain dominant/recessive inheritance.

Science TikTok or Video
- **Task**: Make a short video explaining a concept (e.g., genetic counselling).
- **Goal**: Teach others in a fun, clear way.

Quiz Creator
- **Task**: Design a quiz (paper or digital) on one of the topics.
- **Goal**: Test friends or family and explain the answers.

Case Study Detective
- **Task**: Research a real-world example of gene therapy (e.g., Luxturna for inherited blindness).
- **Goal**: Write a short report or presentation covering:
  - The condition
  - The faulty gene involved
  - How gene therapy works in this case
  - Benefits and risks

Gene Therapy Timeline
- **Task**: Create a timeline of key events in the history of gene therapy.

Risk-Benefit Analysis Table
- **Task**: Choose a clinical investigation (real or fictional) and complete a table showing:
  - Potential **benefits** (e.g., improved health outcomes)
  - Potential **risks** (e.g., side effects, ethical concerns)
- **Goal**: Understand the balance researchers must consider.

Clinical Investigation Quiz Creator
- **Task**: Create a quiz or flashcards to test knowledge of:
  - Key terms (placebo, double-blind, randomisation)
  - Stages of a clinical trial
  - Ethical principles
- **Tools**: Use Quizlet, Kahoot, or paper flashcards.

DIY Paper Chromatography at Home
- **Task**: Use filter paper, water, and felt-tip pens to separate ink pigments.
- **Goal**: Observe how different pigments travel at different rates.
- **Extension**: Calculate **Rf values**

Chromatography Comparison Chart
- **Task**: Create a comparison table between **paper chromatography** and **thin-layer chromatography (TLC)**.
- **Include**:

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	Research Phase: • Students research the **major endocrine glands** (e.g., pituitary, thyroid, pancreas, adrenal, ovaries/testes). • Identify the **hormones** they produce and their **functions**. Produce flash cards to revise each topic ready for the external exam.	• **Goal**: Understand how the field has developed over time. • **Extension**: Predict future developments in gene editing (e.g., CRISPR).	• Stationary and mobile phases • Sensitivity • Applications • Advantages/disadvantages **Research Diagnostic Techniques** Find out which **diagnostic techniques** are used to detect or monitor your chosen condition. These might include: • **Blood tests** (e.g., glucose, hormone levels) • **Urine tests** (e.g., ketones, proteins, leukocytes) • **Imaging** (e.g., X-ray, MRI, ultrasound) • **Biochemical tests** (e.g., ELISA, colorimetry) • **Rapid tests** (e.g., lateral flow, dipsticks) • **Genetic testing** or **biopsy**

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Extend your learning 	**Neurobiology Fact File**
	• Research and write a short summary of:
	  • The **structure of a neuron**
	  • How **synaptic transmission** works
	  • The role of **neurotransmitters** (e.g., dopamine, serotonin)
	  • One **neurological disorder** (e.g., Parkinson's, epilepsy, MS)
	
	Create a Brain Model
	• Use materials like clay, playdough, cardboard, or even cake!
	• Label key parts:
	  • **Cerebrum**
	  • **Cerebellum**
	  • **Brainstem**
	  • **Spinal cord**
	  • Optional: Include lobes (frontal, parietal, occipital, temporal)
	
	Research Phase
	Use trusted resources like:
	• MenoCare's Educational Library
	• The Menopause Guidebook
		Gene Therapy Video
		• **Task**: Create a short video (1–3 minutes) explaining what gene therapy is, how it works, and an example of a condition it can treat (e.g., cystic fibrosis, sickle cell anaemia).
		• **Goal**: Teach others using visuals, analogies, or animations.
		• **Extension**: Compare gene therapy to traditional treatments.
			Make a visit to a **GP surgery** and speak to them about how they use tests to inform the diagnosis and treatment of disease.
			
			Apply for **work experience** with a local health care provider so you could shadow the work of a nurse, doctor, biomedical scientist etc.
			
			Titration Simulation & Analysis
			• **Task**: Use an online titration simulator (e.g., ChemCollective or PhET) to perform a virtual titration.
			• **Goal**: Determine the concentration of an unknown acid or base.
			• **Extension**: Record results, plot a titration curve, and calculate the unknown concentration using the formula:

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	• Simply Menopause – Talking to Children Focus on: • What menopause is (biological definition) • Common symptoms (e.g., hot flashes, mood changes, sleep issues) • Treatments (HRT, lifestyle changes, natural remedies) • Emotional and social impacts • How to support someone going through menopause		

2025-2026	Year 13 Human Biology (to be completed once units have been released)					
	Half term 1	Half term 2	Half term 3	Half term 4	Half term 5	Half term 6
Knowledge, Skills and Understanding 						
						

Extracurricular activities Careers links Curriculum links Threshold topics (bold) PSHE, PD and cultural capital links

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 **Embed your knowledge**				
Extend your learning 				

Extracurricular activities **Careers links** **Curriculum links** **Threshold topics (bold)** **PSHE, PD and cultural capital links**