

Mapping Guide

DRAFT

LEVEL 3 CAMBRIDGE ADVANCED NATIONAL (AAQ) IN

APPLIED SCIENCE

Certificate H051

Extended Certificate H151

For first teaching in 2025

**Mapping the Cambridge Advanced National in Applied
Science to Cambridge Technicals Applied Science
Level 3: 05847-05849, 05879, 05874**

Introduction

Cambridge Advanced Nationals are our new Level 3 qualifications, available for first teaching in 2025. We've worked closely with teachers and representatives from higher education institutions throughout the development process to ensure that these qualifications are of the highest quality, preparing your students for their next steps.

These qualifications offer current, engaging content that is relevant for young people pursuing degree courses and careers across various fields. Students will learn and develop vital practical skills, which they can directly apply to real-life situations and professional scenarios. At the same time, they will also develop a solid foundation of theoretical knowledge and understanding necessary for their progression to university. We've designed these new qualifications to be accessible for all students.

We've created this mapping guide to help you move from the current Level 3 Cambridge Technicals qualifications to the new Cambridge Advanced Nationals qualifications. The guide clearly shows which content is the same as you are used to, and where new content has been introduced.

This mapping guide

In the tables that follow, you can see:

- new unit details including Topic Area (TA) numbers and titles
- how the new units map to the existing specification units that you may be familiar with
- which content is completely new to these qualifications
- which content from the existing specifications no longer features in the new qualification
- brief comments about the changes we've made.

Please note, some content that was in the Cambridge Technical in Applied Science is now in the Cambridge Advanced National in Human Biology. Please see that mapping guide for further information.

CAMBRIDGE
ADVANCED
NATIONALS

In each unit, you'll see we now have teaching content in Topic Areas instead of learning outcomes. Read more in the [specification](#).

Mapping detail

Cambridge Advanced National (AAQ)
Applied Science

Cambridge Technicals
Applied Science
Level 3: 05847-05849,
05879, 05874

F180: Fundamentals of science		Unit number	LO number	Comment
Topic Area number	Topic Area title			
B1	Cell structure and microscopy	1	3	<p>Most of the content on cell structure is the same. The difference between gram-positive and gram-negative bacteria has been added along with how the differential response to antibiotics can be used to identify bacteria.</p> <p>Cell specialisation in animal and plant cells, and structure and function of tissues in plants have been added.</p>
		2	4	Key features of light and electron microscopes is the same content, along with recording observations from a light microscope.
		8	1	The movement of substances into and out of the cell has been included as part of the function of the cell membrane from Unit 8 LO1.
		8	2	How to use a light microscope and cell counting techniques have been included as part of the microscopy section.
B2	Bioenergetics	1	3.2	This is mostly new content. However, the site of cellular respiration and photosynthesis is included from current Unit 1 LO 3.2 but with much more detail about components of mitochondria and chloroplast. Biochemistry of respiration and photosynthesis is new content.

F180: Fundamentals of science		Unit number	LO number	Comment
Topic Area number	Topic Area title			
B3	Structure and function of biological molecules	1	4.4	Structure and function of carbohydrates, proteins, and lipids is mostly the same. Amino acid structure and levels of protein organisation have been added.
		1	2.3	Enzyme structure and function is now included as part of the biological molecules rather than included with catalysts in the rate of reaction section. The content on enzymes is mostly the same but additional factors that affect enzyme activity (enzyme concentration, substrate concentration and pressure) have been included.
B4	Biodiversity and ecosystems	-	-	New content
C1	Atomic structure and the Periodic Table	1	1	Most content on atomic structure is the same. However, typical size of atoms and calculations of nucleus radii have been removed, as have attractive and repulsive forces within the nucleus. Mass spectra has been added. Most content on the Periodic Table is the same but trends in atomic radius have been removed.
C2	Quantitative chemistry	-	-	New content

F180: Fundamentals of science		Unit number	LO number	Comment
Topic Area number	Topic Area title			
C3	Structure and bonding	1	1.3	<p>Most content for ionic bonding is the same. The effects that ionic radius and ionic charge have on the strength of ionic bonding has been added, and balancing ionic half equations has been removed.</p> <p>Most content for covalent bonding is the same except how to interpret Pauling electronegativity values and intermolecular forces, have been added.</p> <p>Metallic bonding has been added as an extra section. As have formulae of ions and compounds.</p> <p>Core concepts of organic chemistry are mostly similar with alkynes and esters being removed and haloalkanes added. Isomers have been reduced to structural only and combustion equations of alkanes and alcohols have been added.</p> <p>Physical properties of materials have been reduced to melting point and electrical conductivity. More focus on bonding and forces between particles.</p>
			4	
			6	

F180: Fundamentals of science		Unit number	LO number	Comment
Topic Area number	Topic Area title			
C4	Rates of reaction and enthalpy changes	1	2.3	Factors affecting rate of reaction has more focus on the Boltzmann distribution and activation energy. Factors of physical state, solvents, light intensity and electromagnetic radiation have been removed, and concentration has been added. Catalysts are still included but enzymes, as biological examples, have been moved to section B3. A practical to investigate rate of reaction has been added and there is an additional section on enthalpy changes.
P1	Electricity	1	6.1	Potential dividers added along with a practical on potential divider circuits.
P2	Motion	-	-	New content
P3	Medical physics	2	4.2	This is mostly new content apart from a small section of Unit 2 LO 4.2 covering the basic principles of X-ray radiography and ultrasound scanning.

**Cambridge Advanced National (AAQ)
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F181: Science in society		Unit number	LO number	Comment
Topic Area number	Topic Area title			
1	What scientists do	-	-	New content
2	Handling scientific data	3	2	This is mostly new content apart from a section in Unit 3 LO2 covering graphical techniques.
3	Scientific developments	-	-	New content
4	Communicating science	3	7	This is mostly new content apart from two small sections in: Unit 3 LO7 on communicating scientific data and the process of peer review.
		23	1.2	Unit 23 LO1.2 on understanding the variety and sources of secondary research used to communicate science.

F182: Investigating science		Unit number	LO number	Comment
Topic Area number	Topic Area title			
1	Planning a scientific investigation	23	1	Content on Topic Area 1.1 is similar to Unit 23 LO1.
		23	2	Unit 23 LO2 is relevant as students will have to conduct their own research in order to plan their investigation.
		23	3	The new unit requires students to plan a scientific investigation – this is similar to Unit 23 LO3. However, the new unit requires students to conduct preliminary experiments as part of their planning.
		2	1	The new unit requires methodologies, and hazard and risks, to be researched for the scientific investigation planned – some content from Unit 2 LO1 around good laboratory practice and risk assessment contains similar content.
		6	2	The new unit requires the identification of hazards and associated risks in order to produce a risk assessment for the scientific investigation planned. Unit 6 LO2 requires students to use health and safety procedures to minimise the risk presented by hazards in a laboratory. COSHH and RIDDOR regulations are not required in the new unit. The rest of Unit 6 is not relevant as it relates to disease causing organisms and design of a laboratory.

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F182: Investigating science		Unit number	LO number	Comment
Topic Area number	Topic Area title			
2	Performing a scientific investigation	3	6	The new unit requires students to perform their scientific investigation – this may involve using some of the techniques in Unit 3 LO3 (for example, microscopy, titration, chromatography, colorimetry) depending on what investigation is chosen.
		3	7	The new unit requires students to know key features of different types of data in order that they can select appropriate methods of recording data – this is similar content to Unit 3 LO7.

F182: Investigating science		Unit number	LO number	Comment
Topic Area number	Topic Area title			
3	Analysing and communicating results	3	1	The content of the new unit requires students to process and analyse data using a range of mathematical skills – listed in Mathematical skills for Applied Science (Appendix D). Many of the complex mathematical techniques in Unit 3 LO1.3 have been removed.
		3	2	Content on using graphical techniques to analyse data is much the same as Unit 2 LO2.
		3	4	Errors and anomalous data is much the same but the difference between outliers and anomalous data has been added.
		3	5	Drawing justified conclusions from the data is much the same as Unit 3 LO5 but relating the investigation and data to environmental, commercial and industrial processes has been added.
		3	7	Communicating results in the new unit is about writing a scientific report and defending conclusions which is different to Unit 3 LO7 which is more about methods of recording data and reporting to different audiences (which is now included in F181 LO4).
23	4	Using appropriate mathematical and graphical techniques, and drawing justified conclusions is also similar in content to Unit 23 LO4.		
4	Evaluating a scientific investigation	23	3.4	Some of the content of Unit 23 LO3.4 is included in the new unit which includes supporting the selection of equipment and techniques used in the investigation. The difference in the new unit is that this is evaluated after undertaking the practical aspects of the investigation. In addition to equipment and methods, evaluations in the new unit include outcomes and sources of information and secondary data.

F183: Analytical techniques in chemistry		Unit number	LO number	Comment
Topic Area number	Topic Area title			
1	Techniques to categorise and separate chemical substances	1	2 and 6	Some of the information about different types of chemical substance and physical properties of substances has been taken from Unit 1 LO2 and LO6 and placed alongside the practical techniques to separate chemicals (internally assessed rather than examination).
		2	2	Chromatography techniques (paper and TLC) are the same as Unit 2 LO2, but additional types of chromatography have been added, along with the other techniques to separate substances. Calculating R_f is one method used to identify a substance but other methods have been added to test the purity of a substance.
2	Quantitative and qualitative analytical techniques to quantify and identify substances	2	3	Quantitative analysis has similar content to Unit 2 LO3, including volumetric analysis, indicator selection, and alternative equipment to provide accurate results in quantitative analysis (pH meter, auto-titrators). Serial dilution and colorimetry have been added.
		2	5	Qualitative analysis includes identification of cations and anions as in Unit 2 LO5. Mg^{2+} , H^+ and NH_4^+ have been added to the list of cations and OH^- has been added to the list of anions. Alternative techniques still includes atomic emission spectroscopy, but has had colorimetry added, and ion chromatography and inductively coupled plasma-atomic emissions spectroscopy removed. Identification of organic compounds has been added.
3	The principles of spectroscopic techniques and interpreting spectra for chemical substances	-	-	New content

F184: Environmental studies		Unit number	LO number	Comment
Topic Area number	Topic Area title			
1	Ecosystems and biodiversity	14	1	Overall in this unit, aspects of current Units 13, 14, 16 and 20 have been combined into one new unit with some new content.
		20	1 and 2	This is mostly new content but there is a small amount of overlap with the section on principal characteristics of environments in Unit 14 LO1.3.
				There is a small amount of overlap on ecosystems and biodiversity with Unit 20 LOs 1 and 2 but this has been significantly restructured. Information on case studies is new.
2	Impact of human activity and natural events	13	1	There is some overlap between the new unit and Unit 13 LO1 but this is restructured according to the type of human activity or natural event rather than the consequences. Disease has been added to natural events.
		14	2	Types of air, water and soil pollution are similar to Unit 14 LO2, but noise pollution has been added.
3	Waste management	16	1	Although the content has been restructured, most of the content is the same as Unit 16 LO1 in terms of domestic and industrial waste disposal. Exporting waste has been added. Sewage processing has been added (previously in Unit 16 LO3 but much less detail required in the new unit).

F184: Environmental studies		Unit number	LO number	Comment
Topic Area number	Topic Area title			
4	Environmental management and conservation	13	2	There is some overlap with Unit 13 LO2 in terms of the purpose of environmental surveying, but in the new unit the types of environmental survey that students are required to know about are specified.
		14	3	Legislation and regulation in environmental management (4.2 in the new unit) includes some of the content from Unit 14 LO3. More has been added about other roles of governments in managing environments.
		14	4 and 5	The role of businesses has been included which includes some similar content, such as environmental impact assessments, from Unit 14 LO4, and the purpose of environmental management studies in Unit 14 LO5.
5	Fieldwork	13	3 and 4	Most of the content here is new – specifically location analysis, suitability of the environment and sampling techniques. There is some overlap between the new unit LO5.4 with Unit 13 LO3 in terms of risk assessment in the field and laboratory. There is some overlap between the new unit LO5.5 with Unit 13 LO3 in terms of data collection techniques.

F185: Forensic biology		Unit number	LO number	Comment
Topic Area number	Topic Area title			
1	Forensic biology disciplines and evidence	2	4	This is mostly new content. There is a small amount of overlap with Unit 2 LO4 in examining biological samples.
2	Cells, tissues and organs in forensic biology	2	4	This is mostly new content. There is a small amount of overlap with Unit 2 LO4 in observing biological evidence using visual observation and light microscopy.
		2	6	There is also a small amount of overlap from Unit 2 LO6 in terms of microbiology and using aseptic technique and streak plate technique.
3	Investigation and evidence collection	-	-	New content
4	Analytical techniques and evidence interpretation	-	-	New content

F186: Medical physics		Unit number	LO number	Comment
Topic Area number	Topic Area title			
1	Application of non-ionising diagnosis techniques	2	4.2	This is mostly new content apart from a small section of Unit 2 LO 4.2 covering the basic principles of ultrasound scanning.
2	Application of ionising diagnosis techniques	2	4.2	This is mostly new content apart from a small section of Unit 2 LO 4.2 covering the basic principles of X-ray radiography.
3	Application of ionising therapy techniques	-	-	New content
4	Application of non-ionising therapy techniques	-	-	New content
5	Planning for diagnosis and therapy	6	2	This is mostly new content apart from: <ul style="list-style-type: none"> a small section of Unit 6 LO2 on health and safety procedures to minimise risk and production of risk assessment a section on how to obtain and evaluate feedback in Unit 23 LO 4.4.
		23	4.4	

New content not in the Cambridge Technical specification

Cambridge Advanced National unit number	Cambridge Advanced National unit	Cambridge Advanced National Topic Area number	Cambridge Advanced National Topic Area
F180	Fundamentals of science	B2	<p>Bioenergetics</p> <p>This is mostly new content. However, the site of cellular respiration and photosynthesis is included from current Unit 1 LO 3.2 but much more detail required about components of mitochondria and chloroplast. Biochemistry of respiration and photosynthesis is new content.</p>
		B4	Biodiversity and ecosystems
		C2	Quantitative chemistry
		P2	Motion
		P3	<p>Medical physics</p> <p>This is mostly new content apart from a small section of Unit 2 LO 4.2 covering the basic principles of X-ray radiography and ultrasound scanning.</p>
F181	Science in society	1	What scientists do
		2	<p>Handling scientific data</p> <p>This is mostly new content apart from a section in Unit 3 LO2 covering graphical techniques.</p>
		3	Scientific developments
		4	<p>Communicating science</p> <p>This is mostly new content apart from two small sections in:</p> <p>Unit 3 LO7 on communicating scientific data and the process of peer review.</p> <p>Unit 23 LO1.2 on understanding the variety and sources of secondary research used to communicate science.</p>

Cambridge Advanced National unit number	Cambridge Advanced National unit	Cambridge Advanced National Topic Area number	Cambridge Advanced National Topic Area
F183	Analytical techniques in chemistry	3	The principles of spectroscopic techniques and interpreting spectra for chemical substances
F185	Forensic biology	1	Forensic biology disciplines and evidence This is mostly new content. There is a small amount of overlap with Unit 2 LO4 in examining biological samples.
		2	Cells, tissues and organs in forensic biology This is mostly new content. There is a small amount of overlap with Unit 2 LO4 in observing biological evidence using visual observation and light microscopy. There is also a small amount of overlap from Unit 2 LO6 in terms of microbiology and using aseptic technique and streak plate technique.
		3	Investigation and evidence collection
		4	Analytical techniques and evidence interpretation
F186	Medical physics	1	Application of non-ionising diagnosis techniques This is mostly new content apart from a small section of Unit 2 LO 4.2 covering the basic principles of ultrasound scanning.
		2	Application of ionising diagnosis techniques This is mostly new content apart from a small section of Unit 2 LO 4.2 covering the basic principles of X-ray radiography.
		3	Application of ionising therapy techniques
		4	Application of non-ionising therapy techniques
		5	Planning for diagnosis and therapy This is mostly new content apart from: <ul style="list-style-type: none"> a small section of Unit 6 LO2 on health and safety procedures to minimise risk and production of risk assessment a section on how to obtain and evaluate feedback in Unit 23 LO 4.4.

Cambridge Technical content not in the Cambridge Advanced National

Cambridge Technical unit number	Cambridge Technical unit title	Cambridge Technical LO number	Cambridge Technical LO title
Unit 1	Science fundamentals	5	Understand the importance of inorganic chemistry in living systems
Unit 3	Scientific analysis and reporting	3	Be able to use keys for analysis
Unit 4	Human physiology	<i>Unit not covered within this qualification.</i>	
Unit 5	Genetics	<i>Unit not covered within this qualification.</i>	
Unit 6	Control of hazards in the laboratory	<i>Unit not covered within this qualification</i> apart from carrying out a risk assessment (part of LO2).	
Unit 7	Human nutrition	<i>Unit not covered within this qualification.</i>	
Unit 8	Cell biology	3	Understand the cell cycle and the importance of mitosis
		4	Understand the process and significance of differentiation
		5	Understand the potential of stem cells in medical therapies
Unit 10	Testing consumer products	<i>Unit not covered within this qualification, except for:</i> <ul style="list-style-type: none"> • LO3 (quantitative titration) which is in Unit F183 Topic Area 2.1 • LO4 (chromatography) which is in Unit F183 Topic Area 1.2. 	
Unit 11	Drug development	<i>Unit not covered within this qualification, except for:</i> <ul style="list-style-type: none"> • LO2 (colorimetric methods) which is in Unit F183 Topic Area 2.1 • LO2 (IR spectroscopy) which is Unit F183 Topic Area 3.1. 	
Unit 15	Sustainability and renewable energy	<i>Unit not covered within this qualification, except for:</i> <ul style="list-style-type: none"> • LO2 (power and efficiency) which is in Unit F180 Topic Area 2.1. 	
Unit 16	Waste management	2	Understand how to manage air emissions
		3	Understand how waste water is managed
		4	Be able to test air and water emissions
Unit 17	Food technology	<i>Unit not covered within this qualification.</i>	

Cambridge Technical unit number	Cambridge Technical unit title	Cambridge Technical LO number	Cambridge Technical LO title
Unit 18	Microbiology		<p><i>Unit not covered within this qualification, except for:</i></p> <ul style="list-style-type: none"> • LO1 (gram staining) which is in Unit F180 Topic Area 1.1 • LO1.3 (aseptic technique) which is in Unit F185 Topic Area 2.3.
Unit 19	Crop production and soil science		<p><i>Unit not covered within this qualification, except for:</i></p> <ul style="list-style-type: none"> • LO2 (environmental factors) which is in Unit F184 Topic Area 1.1 • LO2 (human impact on soil) which is in Unit F184 Topic Area 2.1 • LO4 (techniques for testing soil) which is in F183 Topic Areas 1.2, 2.1 and 3.1.
Unit 20	Conservation of biodiversity		<p><i>Unit not covered within this qualification, except for:</i></p> <ul style="list-style-type: none"> • LO1 (conservation) which is in Unit F184 Topic Area 1.3 • LO2 (biodiversity) which is in Unit F184 Topic Area 1.3.
Unit 21	Product testing techniques		<p><i>Unit not covered within this qualification, except for:</i></p> <ul style="list-style-type: none"> • LO3 (quantitative titration) which is in Unit F183 Topic Area 2.1 • LO4 (chromatography) which is in Unit F183 Topic Area 1.2.
Unit 22	Global scientific information		<p><i>Unit not covered within this qualification, except for:</i></p> <ul style="list-style-type: none"> • LO1 (global collaboration) which is in Unit F181 Topic Area 1.3 • LO1 (data storage) which is in Unit F181 Topic Area 2.3 • LO2 (misinformation) which is in Unit F181 Topic Area 4.4.

Appendix

Cambridge Technical qualification units and learning outcome (LO) titles

Unit number	Unit title	LO number	LO title
Unit 1	Science fundamentals	1	Understand the chemical structures of elements and compounds
		2	Understand reactions in chemical and biological systems
		3	Understand cell organisation and structures
		4	Understand the principles of carbon chemistry
		5	Understand the importance of inorganic chemistry in living systems
		6	Understand the structures, properties and uses of materials
Unit 2	Laboratory techniques	1	Understand the importance of health and safety and quality systems to industry
		2	Be able to separate, identify and quantify the amount of substances present in a mixture
		3	Be able to determine the concentration of an acid or base using titration
		4	Be able to examine and record features of biological samples
		5	Be able to identify cations and anions in samples
		6	Be able to use aseptic technique
Unit 3	Scientific analysis and reporting	1	Be able to use mathematical techniques to analyse data
		2	Be able to use graphical techniques to analyse data
		3	Be able to use keys for analysis
		4	Be able to analyse and evaluate the quality of data
		5	Be able to draw justified conclusions from data
		6	Be able to use modified, extended or combined laboratory techniques in analytical procedures
		7	Be able to record, report on and review scientific analyses

Unit number	Unit title	LO number	LO title
Unit 4	Human physiology	1	Understand the structure and functions of the digestive system
		2	Understand the role and function of the musculoskeletal system
		3	Be able to assess how the cardiovascular system functions in the body
		4	Be able to assess how the respiratory system functions in the body
		5	Understand how homeostasis maintains balance within the body
		6	Understand the role and function of the immune system
Unit 5	Genetics	1	Understand the importance of meiosis
		2	Be able to apply techniques used in genetics crosses
		3	Understand the techniques of DNA mapping and genomics
		4	Understand the impact of an innovation in an application of genomics
Unit 6	Control of hazards in the laboratory	1	Understand the types of hazard that may be encountered in a laboratory
		2	Be able to use health and safety procedures to minimise the risk presented by hazards in a laboratory
		3	Be able to design a safe functioning laboratory to manage the risk presented by hazards
Unit 7	Human nutrition	1	Understand human nutritional requirements in the maintenance of health
		2	Be able to calculate nutritional requirements to maintain energy for different levels of activity
		3	Understand conditions relating to dietary needs
		4	Be able to label food with nutritional information
Unit 8	Cell biology	1	Understand the functions of the plasma membrane and endomembrane systems
		2	Be able to use cytological techniques
		3	Understand the cell cycle and the importance of mitosis
		4	Understand the process and significance of differentiation
		5	Understand the potential of stem cells in medical therapies

Unit number	Unit title	LO number	LO title
Unit 10	Testing consumer products	1	Understand the influence of regulatory bodies on development of consumer products
		2	Understand how product testing determines the development of consumer products
		3	Be able to use quantitative titration techniques on consumer products
		4	Be able to use extraction and separation techniques on consumer products
		5	Be able to test the effectiveness of consumer product tests
Unit 11	Drug development	1	Understand drug discovery and development principles
		2	Understand the range of techniques used in drug production
		3	Be able to carry out a basic extraction, synthesis, isolation and purification of a simple drug or pharmaceutical
		4	Understand the importance of product formulation and dosage form
		5	Understand the importance of planning clinical trials when introducing new drugs
Unit 13	Environmental surveying	1	Understand environmental impacts of human activity and natural processes
		2	Understand environmental surveying
		3	Be able to use field and laboratory techniques to conduct environmental investigations
		4	Be able to analyse and present environmental survey findings
Unit 14	Environmental management	1	Understand principal characteristics of environments
		2	Be able to identify pollution in the environment
		3	Understand how legislation, regulation and agreements impact on managing natural and built environments
		4	Understand environmental management assessments
		5	Be able to carry out and report outcomes of an environmental management study

Unit number	Unit title	LO number	LO title
Unit 15	Sustainability and renewable energy	1	Understand the impacts of energy consumption
		2	Be able to measure energy transfer and calculate energy efficiencies of energy sources
		3	Understand renewable energy technologies
		4	Be able to recommend sustainable solutions to meet energy demands
Unit 16	Waste management	1	Understand how to manage waste
		2	Understand how to manage air emissions
		3	Understand how waste water is managed
		4	Be able to test air and water emissions
Unit 17	Food technology	1	Understand the main features of food manufacturing operations
		2	Understand the importance of food safety in food manufacture
		3	Understand the importance of quality control in food manufacture
		4	Be able to test product samples
Unit 18	Microbiology	1	Be able to classify and identify microorganisms
		2	Understand the use of microorganisms in agriculture
		3	Be able to use microbiology in food production
		4	Understand the action of antimicrobials on microorganisms
Unit 19	Crop production and soil science	1	Understand how common crops are grown for commercial production in the UK
		2	Understand factors affecting the growth of crops
		3	Be able to monitor the growth of a crop plant species
		4	Be able to carry out soil testing
Unit 20	Conservation of biodiversity	1	Understand the importance of conserving and monitoring natural resources
		2	Understand the value of global biodiversity
		3	Understand the factors that threaten global biodiversity
		4	Be able to investigate the efficacy of practical measures to conserve biodiversity

Unit number	Unit title	LO number	LO title
Unit 21	Product testing techniques	1	Understand the influence of regulatory bodies on development of consumer products
		2	Understand how product testing determines the development of consumer products
		3	Be able to use quantitative titration techniques on consumer products
		4	Be able to use extraction and separation techniques on consumer products
Unit 22	Global scientific information	1	Understand by whom, where and why scientific information is held globally and how it is stored for transmission
		2	Understand the classification and quality management of scientific information
		3	Be able to apply the key features, impact and consequences of legal, regulatory frameworks and information governing the storage and use of global scientific information
		4	Understand the principles of information security and risks
Unit 23	Scientific research techniques	1	Be able to develop a research plan
		2	Be able to conduct secondary research in a given scenario to a given brief
		3	Be able to design a scientific investigation for a given scenario
		4	Be able to draw conclusions and make recommendations from research, analysis and feedback

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