



Group Award Specification for:

National Progression Award (NPA) in Science and Health at SCQF level 4

Group Award Code: GR2R 44

National Progression Award (NPA) in Science and Technology at SCQF level 4

Group Award Code: GR2T 44

National Progression Award (NPA) in Applied Sciences at SCQF level 5

Group Award Code: GR2P 45

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1 Introduction

This document was previously known as the arrangements document. The purpose of this document is to:

- ◆ assist centres to implement, deliver and manage the qualification
- ◆ provide a guide for new staff involved in offering the qualification
- ◆ inform course managers, teaching staff, assessors, learners, employers and higher education institutions (HEIs) of the aims and purpose of the qualification
- ◆ provide details of the range of learners the qualification is suitable for and progression opportunities

The rationale for the suite of National Progression Awards (NPA) in Science and Health at SCQF level 4, Science and Technology at SCQF level 4 and Applied Sciences at SCQF level 5 is based on:

- ◆ an identified gap for the school sector in the provision available at National 4 and 5
- ◆ a requirement from the further education (FE) sector for additional group awards at the lower end of the SCQF spectrum but offering greater flexibility of entry and exit points than that provided by a 12 credit group award.

The titles of the group awards reflect the competences of the qualifications. While all three group awards contain units in chemistry, physics and biology or health science plus a practical based unit, the component units have been chosen to ensure an accurate match to the group award titles.

These group awards will be suitable for a range of learners including:

- ◆ individuals in the middle/senior secondary school phase
- ◆ school leavers, including 'Christmas leavers'
- ◆ learners wishing to progress to a higher level group award
- ◆ adults returning to FE
- ◆ unemployed adults who want to enhance their job prospects
- ◆ existing college learners who want to change their area of study to science

Research has shown that there are a significant number of learners in the school sector for whom the National 4 qualifications in science are not seen as providing a suitable route. This was reported as presenting a barrier to some learners engaging with science. The suite of NPAs addresses this gap by giving purpose built short courses that allow learners the opportunity to develop knowledge and skills across various areas of science. The group awards present contextualisation to link with other areas of study and career progression which may be of interest to learners. This is particularly the case with the Science and Health and Science and Technology group awards at SCQF level 4 which are intended to appeal to learners who may not have been attracted by 'traditional' science qualifications. The suite of NPAs provide an ideal foundation to the subject and, with the involvement of practical skills, give learners the opportunity to gain a realistic experience of a range of areas of science and allow an informed choice for future study.

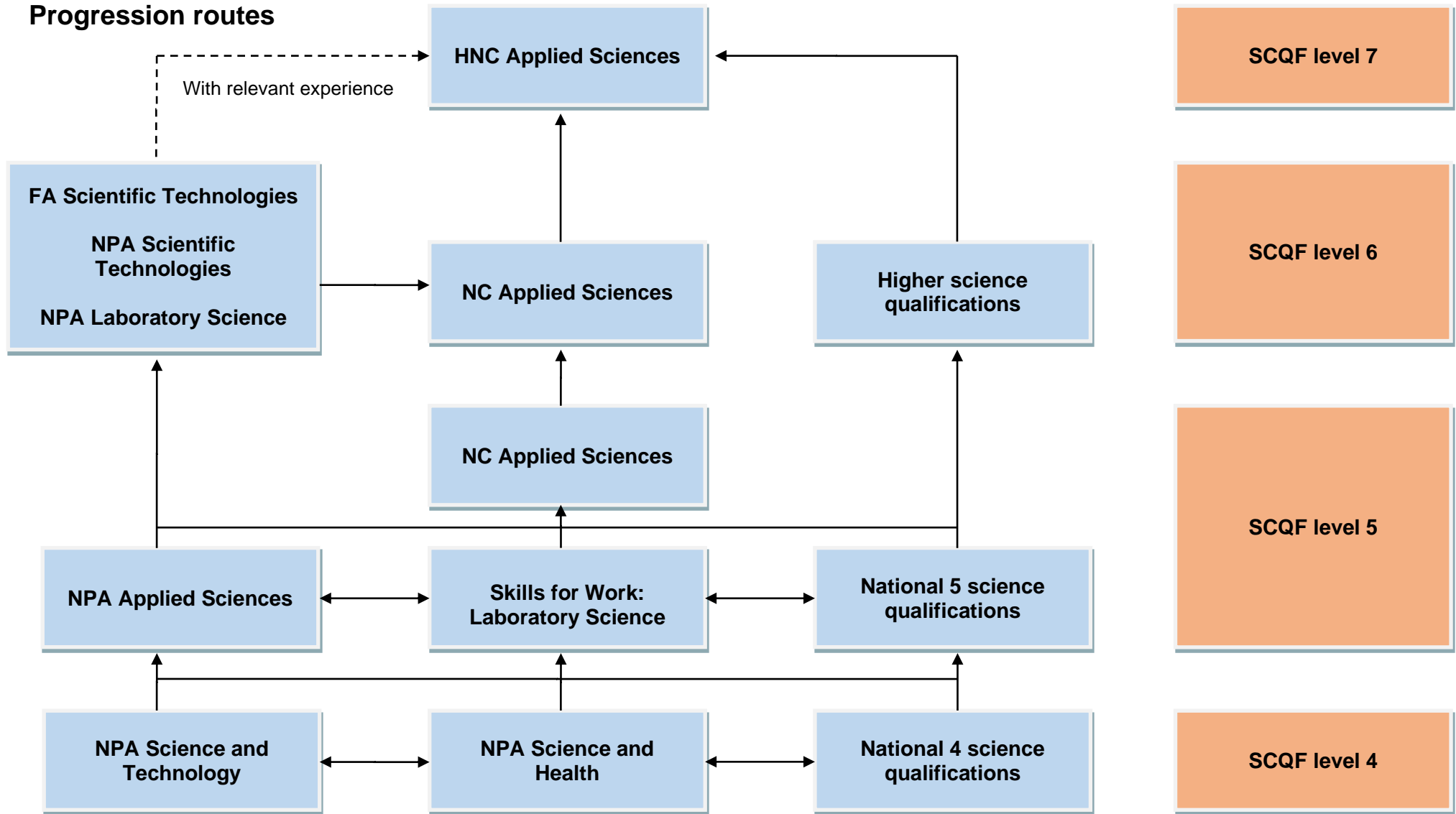
In the case of the FE sector, research has shown that there is a growth in demand for science provision at the lower end of the SCQF framework. Feedback from the sector has shown that a programme following similar design principles to the National Certificates (NCs) in Applied Sciences at SCQF level 5 and 6 would not be a suitable model at SCQF level 4. Rather the ability to offer a programme incorporating a cluster of the NPA group awards would provide learners with a valued range of entry and exit points and a good diversity of experience.

The National Certificate (NC) in Applied Sciences at SCQF level 5 has often been found to be too challenging for learners who did not attain science qualifications at school. The suite of NPAs addresses this gap by giving purpose built short courses that allows learners the opportunity to develop knowledge and skills across various areas of science. The NPAs provide a way of engaging with science using a contextualised and modern slant to the subject, covering areas of interest to the public. The suite of NPAs provide an ideal foundation to the subject and, due to the involvement of practical skills, give learners the opportunity to gain a basic but realistic experience of a range of areas of science and so allow informed choice for future study.

These group awards are designed to meet a specific purpose of providing the first step to further qualifications in science. However, it is anticipated that the group awards can also open up opportunities for employment at trainee or apprentice level with science, technology, engineering and mathematics (STEM) employers. The group awards also represent significant opportunities for learners to develop generic and Core Skills that are highly valued by employers. They will also provide a route for progression to vocational based group awards at SCQF level 5 (eg Skills for Work: Laboratory Science) and at SCQF level 6 (eg the Foundation Apprenticeship in Scientific Technologies) thereby facilitating future employment opportunities.

A fuller explanation of possible progression pathways is illustrated by the diagram below:

Progression routes



2 Qualifications structure

NPA in Science and Health at SCQF level 4

This group award is made up of 4 SQA unit credits. It comprises 24 SCQF credit points at SCQF level 4. All 4 SQA unit credits are mandatory and they must be achieved by learners.

The five mandatory units are set out in the table below.

Code	Unit title	SQA credit	SCQF credit points	SCQF Level
H25A 74	Physics: Waves and Radiation	1	6	4
H21J 74	Nature's Chemistry	1	6	4
H268 74	Science: Human Health	1	6	4
J42F 44	Science Practical Skills	0.5	3	4
F59A 74	Health Sector: Life Sciences Industry	0.5	3	4

NPA in Science and Technology at SCQF level 4

This group award is made up of 4 SQA unit credits. It comprises 24 SCQF credit points at SCQF level 4. All 4 SQA unit credits are mandatory and they must be achieved by learners.

The four mandatory units are set out in the table below.

Code	Unit title	SQA credit	SCQF credit points	SCQF Level
J460 44	Biotechnological Industries	1	6	4
H256 74	Physics: Electricity and Energy	1	6	4
H21L 74	Chemistry in Society	1	6	4
J3RF 44	Science Practical and Investigation Skills	1	6	4

NPA in Applied Sciences at SCQF level 5

This group award is made up of 4 SQA unit credits. It comprises 24 SCQF credit points at SCQF level 5. All 4 SQA unit credits are mandatory and they must be achieved by learners.

There is optionality in the framework as outlined in the table below.

Code	Unit title	SQA credit	SCQF credit points	SCQF Level
J4A9 75*	Cell Biology	1	6	5
	OR			
HT8P 45	Introductory Biology			
J239 75	Chemical Changes and Structure	1	6	5
	OR			
HT6P 45	Chemistry Fundamentals 1			
	OR			
HT6R 45	Chemistry Fundamentals 2			
J2CL 75	Physics: Waves and Radiation	1	6	5
	OR			
HT8R 45	Introductory Physics			
J45V 45	Forensic Science: Applications	1	6	5
	OR			
J2W3 75	Laboratory Science: Practical Skills			

*Refer to History of Changes for revision changes.

3 Aims of the qualifications

The overall aim of the NPA in Science and Health at SCQF level 4, NPA in Science and Technology at SCQF level 4 and the NPA in Applied Sciences at SCQF level 5 is to provide learners with the first step to further qualifications in science. Learners will develop knowledge and skills across various areas of science at SCQF levels 4 and 5.

3.1 General aims of the qualifications

The general aims of the group awards are to:

- ◆ Provide an entry level point for learners who wish to pursue a career in STEM related areas. These may be secondary school pupils for whom the existing national qualifications do not meet their needs or college applicants who lack formal STEM qualifications.
- ◆ Provide a route into vocational based STEM qualifications, Skills for Work courses or Foundation Apprenticeships.
- ◆ Provide a route into academic qualifications in STEM.
- ◆ Provide a group award structure that has sufficient flexibility to allow for various modes of delivery and target groups, with multiple options for entry and certificated exit points.
- ◆ Provide structured group awards that recognise existing skills and competences.
- ◆ Provide a range of development opportunities in core and essential skills, thus enhancing employability prospects.

3.2 Specific aims of the qualifications

NPA in Science and Health at SCQF level 4

The specific aims of the group award are to:

- ◆ Develop knowledge and understanding of health science, chemistry and physics.
- ◆ Develop knowledge and understanding of science and its applications in relation to human health.
- ◆ Prepare learners for progression to qualifications at SCQF level 5 in areas related to human health and science.
- ◆ Develop skills in good laboratory practice.
- ◆ Develop an understanding of science health and safety practices.

NPA in Science and Technology at SCQF level 4

The specific aims of the group award are to:

- ◆ Develop knowledge and understanding of biotechnology, chemistry and physics.
- ◆ Develop knowledge and understanding of science and its applications in relation to everyday life.
- ◆ Prepare learners for progression to qualifications at SCQF level 5 in science and associated STEM areas.
- ◆ Develop skills in good laboratory practice.
- ◆ Develop an understanding of science health and safety practices.

NPA in Applied Sciences at SCQF level 5

The specific aims of the group award are to:

- ◆ Develop knowledge and understanding of biology, chemistry and physics.
- ◆ Prepare learners for progression to extended qualifications at SCQF level 5 and above.
- ◆ Develop skills in good laboratory practice.
- ◆ Develop an understanding of science health and safety practices.

4 Recommended entry to the qualifications

Entry to this qualification is at the discretion of the centre. The following information on prior knowledge, skills, experience or qualifications that provide suitable preparation for this qualification has been provided by the Qualification Design Team as guidance only.

Learners would benefit from having attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

NPA in Science and Health/NPA in Science and Technology at SCQF level 4

For the NPA in Science and Health at SCQF level 4 and the NPA in Science and Technology at SCQF level 4 it would not be expected that learners would necessarily hold existing science qualifications or be experienced in science above early secondary education.

NPA in Applied Sciences at SCQF level 5

For the NPA in Applied Sciences at SCQF level 5 it would be beneficial for learners to hold science qualifications at SCQF level 4. These could, for example, be one or both of the SCQF level 4 NPAs above or a National 4 Qualification(s). However, it would be expected that learners who have not previously studied science but have a suitably robust academic profile in other subject areas would be able to successfully undertake the NPA in Applied Sciences at SCQF level 5 as an entry level qualification into science.

4.1 Core Skills entry profile

The Core Skills entry profile provides a summary of the associated assessment activities that exemplify why a particular level has been recommended for this qualification. The information would be used to identify if additional learning support needs to be put in place for learners whose Core Skills profile is below the recommended entry level or whether learners should be encouraged to do an alternative level or learning programme.

For the NPA in Science and Health at SCQF level 4 and the NPA in Science and Technology at SCQF level 4 the following Core Skills profile would be appropriate:

Core Skill	Recommended SCQF entry profile	Associated assessment activities
Communication	SCQF level 3	Report writing.
Numeracy	SCQF level 3	Recording measurements, processing information using numerical calculations, reading information from graphs and drawing graphs.
Information and Communication Technology (ICT)	SCQF level 3	Accessing information from the internet.
Problem Solving	SCQF level 3	Interpret data and draw conclusions.
Working with Others	SCQF level 3	Working in pairs or groups to carry out practical tasks/investigations.

For the NPA in Applied Sciences at SCQF level 5 the following Core Skills profile would be appropriate:

Core Skill	Recommended SCQF entry profile	Associated assessment activities
Communication	SCQF level 4	Report writing.
Numeracy	SCQF level 4	Recording measurements, processing information using numerical calculations, reading information from graphs and drawing graphs.
Information and Communication Technology (ICT)	SCQF level 4	Accessing information from the internet, using word processing and data handling packages.
Problem Solving	SCQF level 4	Interpret data and draw conclusions.
Working with Others	SCQF level 3	Working in pairs or groups to carry out practical tasks/investigations.

5 Additional benefits of the qualifications in meeting employer needs

This qualification was designed to meet a specific purpose and what follows are details on how that purpose has been met through mapping of the units to the aims of the qualifications. Through meeting the aims, additional value has been achieved by linking the unit standards with those defined in national occupational standards and/or trade/professional body requirements. In addition, significant opportunities exist for learners to develop the more generic skills, known as Core Skills through doing the qualifications.

5.1 Mapping of qualifications aims to units

NPA in Science and Health at SCQF level 4

Code	Unit title	Specific aims				
		1	2	3	4	5
H25A 74	Physics: Waves and Radiation	X		X	X	X
H21J 74	Nature's Chemistry	X	X	X	X	X
H268 74	Science: Human Health	X	X	X	X	X
J42F 44	Science Practical Skills	X		X	X	X
F59A 74	Health Sector: Life Sciences Industry	X		X	X	

NPA in Science and Technology at SCQF level 4

Code	Unit title	Specific aims				
		1	2	3	4	5
J460 44	Biotechnological Industries	X	X	X	X	X
H256 74	Physics: Electricity and Energy	X	X	X	X	X
H21L 74	Chemistry in Society	X	X	X	X	X
J3RF 44	Science Practical and Investigation Skills	X		X	X	X

NPA in Applied Sciences at SCQF level 5

Code	Unit title	Specific aims			
		1	2	3	4
J4A9 75	Cell Biology	X	X	X	X
HT8P 45	Introductory Biology	X	X		
J239 75	Chemical Changes and Structure	X	X	X	X
HT6P 45	Chemistry Fundamentals 1	X	X		
HT6R 45	Chemistry Fundamentals 2	X	X		
J2CL 75	Physics: Waves and Radiation	X	X	X	X
HT8R 45	Introductory Physics	X	X		
J45V 45	Forensic Science: Applications	X	X	X	X
J2W3 75	Laboratory Science: Practical Skills	X	X	X	X

5.2 Mapping of National Occupational Standards (NOS)

NPA in Science and Health at SCQF level 4

The NPA in Science and Health group award has been mapped against the SVQ in Laboratory and Associated Technical Activities (Industrial Science) at SCQF level 6 (GP45 23).

Code	National Occupational Standard	Physics: Waves and Radiation (H25A 74)	Nature's Chemistry (H21J 74)	Science: Human Health (H268 74)	Science Practical Skills (J42F 44)	Health Sector: Life Sciences Industry (F59A 74)
J1J0 04	Follow Health and Safety Procedures for Scientific or Technical Activities	X	X	X	X	X
J1HW 04	Maintain Effective and Efficient Working Relationships for Scientific or Technical Activities	X	X	X	X	X
J1J1 04	Use Information Recording Systems for Scientific or Technical Activities	X			X	X
J1GX 04	Carry out Simple Scientific or Technical Tests using Manual Equipment	X	X	X	X	X
J1GY 04	Carry out Simple Scientific or Technical Tests using Automated Equipment	X	X	X	X	X
J1H2 04	Prepare Scientific or Technical Samples for Testing Activities		X		X	
J1J2 04	Carry Out Sampling Operations for Scientific or Technical Tests				X	
J1JC 04	Carry Out Routine Maintenance, Cleaning and Checking of Scientific or Technical Equipment					
J1HY 04	Maintain Stocks of Resources, Equipment and Consumables in Life Sciences and Related Industries					
J1JN 04	Prepare Compounds and Solutions for Scientific or Technical Use		X		X	

NPA in Science and Technology at SCQF level 4

The NPA in Science and Technology group award has been mapped against the SVQ in Laboratory and Associated Technical Activities (Industrial Science) at SCQF level 6 (GP45 23).

Code	National Occupational Standard	Biotechnological Industries (J460 44)	Physics: Electricity and Energy (H256 74)	Chemistry in Society (H21L 74)	Science Practical and Investigation Skills (J3RF 44)
J1J0 04	Follow Health and Safety Procedures for Scientific or Technical Activities	X	X	X	X
J1HW 04	Maintain Effective and Efficient Working Relationships for Scientific or Technical Activities	X	X	X	X
J1J1 04	Use Information Recording Systems for Scientific or Technical Activities		X		X
J1GX 04	Carry out Simple Scientific or Technical Tests using Manual Equipment	X	X	X	X
J1GY 04	Carry out Simple Scientific or Technical Tests using Automated Equipment	X	X	X	X
J1H2 04	Prepare Scientific or Technical Samples for Testing Activities	X		X	X
J1J2 04	Carry Out Sampling Operations for Scientific or Technical Tests	X		X	X
J1JC 04	Carry Out Routine Maintenance, Cleaning and Checking of Scientific or Technical Equipment				
J1HY 04	Maintain Stocks of Resources, Equipment and Consumables in Life Sciences and Related Industries				
J1JN 04	Prepare Compounds and Solutions for Scientific or Technical Use			X	X

NPA in Applied Sciences at SCQF level 5

The NPA in Applied Sciences group award has been mapped against the SVQ in Laboratory and Associated Technical Activities (Industrial Science) at SCQF level 6 (GP45 23).

Code	National Occupational Standard	Cell Biology (J4A9 75)	Introductory Biology (HT8P 45)	Chemical Changes and Structure (J239 75)	Chemistry Fundamentals 1 (HT6P 45)	Chemistry Fundamentals 2 (HT6R 45)	Physics: Waves and Radiation (J2CL 75)	Introductory Physics (HT8R 45)	Forensic Science: Applications (J45V 45)	Laboratory Science: Practical Skills (J2W3 75)
J1J0 04	Follow Health and Safety Procedures for Scientific or Technical Activities	X		X			X		X	X
J1HW 04	Maintain Effective and Efficient Working Relationships for Scientific or Technical Activities	X		X			X		X	X
J1J1 04	Use Information Recording Systems for Scientific or Technical Activities	X		X			X		X	X
J1GX 04	Carry out Simple Scientific or Technical Tests using Manual Equipment	X		X			X		X	X
J1GY 04	Carry out Simple Scientific or Technical Tests using Automated Equipment	X		X			X		X	X
J1H2 04	Prepare Scientific or Technical Samples for Testing Activities			X						X
J1J2 04	Carry Out Sampling Operations for Scientific or Technical Tests									X
J1JC 04	Carry Out Routine Maintenance, Cleaning and Checking of Scientific or Technical Equipment									
J1HY 04	Maintain Stocks of Resources, Equipment and Consumables in Life Sciences and Related Industries									
J1JN 04	Prepare Compounds and Solutions for Scientific or Technical Use									X

5.3 Mapping of Core Skills development opportunities across the qualifications

NPA in Science and Health at SCQF level 4

Code	Unit title	Communication			Numeracy		ICT		Problem Solving			Working with Others	
		Written (Reading)	Written (Writing)	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
H25A 74	Physics: Waves and Radiation	S			S	S			S		S	S	
H21J 74	Nature's Chemistry	S			S	S			S		S	S	
H268 74	Science: Human Health	S			S	S			S		S	S	
J42F 44	Science Practical Skills		S		S	S		S					
F59A 74	Health Sector: Life Sciences Industry	S	S	S			S	S	S	S	S	S	

Key:

E = Embedded

S = Signposted

NPA in Science and Technology at SCQF level 4

Code	Unit title	Communication			Numeracy		ICT		Problem Solving			Working with Others	
		Written (Reading)	Written (Writing)	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
J460 44	Biotechnological Industries					S	S	S	S	S	S	S	
H256 74	Physics: Electricity and Energy	S			S	S			S		S	S	
H21L 74	Chemistry in Society	S			S	S			S		S	S	
J3RF 44	Science Practical and Investigation Skills		S		S	E	S	S	E			S	

Key:

E = Embedded
S = Signposted

NPA in Applied Sciences at SCQF level 5

Code	Unit title	Communication			Numeracy		ICT		Problem Solving			Working with Others	
		Written (Reading)	Written (Writing)	Oral	Using Number	Using Graphical Information	Accessing Information	Providing/Creating Information	Critical Thinking	Planning and Organising	Reviewing and Evaluating	Working Co-operatively with Others	Reviewing Co-operative Contribution
J4A9 75	Cell Biology				S	S			S		S		
HT8P 45	Introductory Biology					E	S	S	E			S	
J239 75	Chemical Changes and Structure				S	S			S		S		
HT6P 45	Chemistry Fundamentals 1					S	S	S				S	
HT6R 45	Chemistry Fundamentals 2				E		S	S	E			S	
J2CL 75	Physics: Waves and Radiation				S	S			S		S		
HT8R 45	Introductory Physics				S		S	S	E				
J45V 45	Forensic Science: Applications		S				S	S					
J2W3 75	Laboratory Science: Practical Skills	S	S	S	S	S	S	S	S		S	S	

Key:

E = Embedded

S = Signposted

5.4 Assessment strategy for the qualifications

NPA in Science and Health at SCQF level 4

Unit	Assessment			
	Outcome 1	Outcome 2	Outcome 3	Outcome 4
Physics: Waves and Radiation	Practical + report	Closed-book assessment		
Nature's Chemistry	Practical + report	Closed-book assessment		
Science: Human Health	Practical + report	Closed-book assessment		
Science Practical Skills	Practical + record of observations	Practical	Report	
Health Sector: Life Sciences Industry	Open-book folio	Practical		

NPA in Science and Technology at SCQF level 4

Unit	Assessment			
	Outcome 1	Outcome 2	Outcome 3	Outcome 4
Biotechnological Industries	Closed-book assessment	Practical + report	Literature research report	
Physics: Electricity and Energy	Practical + report	Closed-book assessment		
Chemistry in Society	Practical + report	Closed-book assessment		
Science Practical and Investigation Skills	Practical + record of observations	Practical	Report	Practical investigation and report

NPA in Applied Sciences at SCQF level 5

Unit	Assessment				
	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
Cell Biology	Practical + report	Closed-book assessment			
Introductory Biology	Holistic closed-book assessment covering all outcomes				
Chemical Changes and Structure	Practical + report	Closed-book assessment			
Chemistry Fundamentals 1	Holistic closed-book assessment covering all outcomes				
Chemistry Fundamentals 2	Holistic closed-book assessment covering all outcomes				
Physics: Waves and Radiation	Practical + report	Closed-book assessment			
Introductory Physics	Holistic closed-book assessment covering all outcomes				
Forensic Science: Applications	Open-book assessment + practical + report	Open-book assessment	Open-book assessment		
Laboratory Science: Practical Skills	Practical	Practical + closed-book assessment	Practical + open-book assessment	Practical + open-book assessment	

6 Guidance on approaches to delivery and assessment

6.1 Sequencing/integration of units

There are a number of ways in which the units in each of the NPAs could be sequenced. There is no set preferred sequencing of those units which are mainly theory based in content and assessment. For those units which are mainly practical based in content and assessment it is recommended that an appropriate quantity of theoretical content of the NPA is completed prior to undertaking assessed practicals. This will ensure that learners are able to comprehend the application of theoretical concepts in the practical setting. It is however envisaged that formative practical activities will play a large part from the outset of each NPA.

There are significant opportunities to integrate the assessment of practical activities across units in all three of the NPAs. This could be beneficial to some learners in terms of reducing the assessment load. However, it is important that this does not result in a reduced experience of practical activities and skills development for learners. All three NPAs are designed to deliver a wide-ranging practical experience for learners and where integration of assessed practical aspects are utilised this should be seen as providing additional opportunity for formative skills development and not for reducing the overall practical content of the group awards.

For the unit Science Practical and Investigation Skills in the NPA in Science and Technology at SCQF level 4 it is recommended that the laboratory investigation (outcome 4) is completed towards the end of the NPA when learners will have a good breadth of theoretical knowledge and practical skills.

The three NPAs could also be combined into a full-time one year programme. This model would most likely be for delivery in the college sector. If this approach were taken, then the following sequence could be deployed:

- ◆ NPA in Science and Health at SCQF level 4
- ◆ NPA in Science and Technology at SCQF level 4
- ◆ NPA in Applied Sciences at SCQF level 5

Whichever sequence centres choose for delivery, it is strongly recommended that the NPA in Applied Sciences at SCQF level 5 is delivered last.

6.2 Recognition of prior learning

SQA recognises that learners gain knowledge and skills acquired through formal, non-formal and informal learning contexts.

In some instances, a full group award may be achieved through the recognition of prior learning. However, it is unlikely that a learner would have the appropriate prior learning and experience to meet all the requirements of a full group award.

The recognition of prior learning may **not** be used as a method of assessing in the following types of units and assessments:

- ◆ HN Graded Units
- ◆ Course and/or external assessments
- ◆ Other integrative assessment units (which may or not be graded)
- ◆ Certain types of assessment instruments where the standard may be compromised by not using the same assessment method outlined in the unit
- ◆ Where there is an existing requirement for a licence to practice
- ◆ Where there are specific health and safety requirements
- ◆ Where there are regulatory, professional or other statutory requirements
- ◆ Where otherwise specified in an assessment strategy

More information and guidance on the *Recognition of Prior Learning* (RPL) may be found on our website www.sqa.org.uk.

The following sub-sections outline how existing SQA unit(s) may contribute to this group award. Additionally, they also outline how this group award may be recognised for professional and articulation purposes.

6.2.1 Articulation and/or progression

Possible progression pathways are illustrated by the diagram on page 3.

6.2.2 Professional recognition

The NPAs do not carry any professional recognition.

6.2.3 Transitional arrangements

It is recommended that learners who are in the process of completing the predecessor group award finish it rather than switching to the new group award. However, there may be occasions when it is not possible for learners to complete the existing group award, eg where they were unable to complete their studies due to ill health and where the centre has progressed to offer the new group award. In these cases, it is recommended that the following suggested credit transfer arrangements be considered.

6.2.4 Credit transfer

NPA in Science and Health at SCQF level 4

The following units which featured in the old framework have been retained in the new framework:

H21J 74 *Nature's Chemistry*
F59A 74 *Health Sector: Life Science Industries*

There is no credit transfer available from any of the other units in the old framework. However, credit transfer opportunities are available for the following unit which is included in the new framework:

New unit		Old unit		Direct credit transfer
J42F 44	Science Practical Skills	F3TC 10	Science Practical Skills	Yes

NPA in Science and Technology at SCQF level 4

The following unit which featured in the old framework has been retained in the new framework:

H21L 74 *Chemistry in Society*

Credit transfer opportunities are available for the following units:

New unit		Old unit		Direct credit transfer	Elements of credit transfer
J3RF 44	Science Practical and Investigation Skills	F3TC 10	Science Practical Skills	No	Outcomes 1, 2 and 3
J460 44	Biotechnological Industries	D024 10	Biotechnological Industries	Yes	

NPA in Applied Sciences at SCQF level 5

Credit transfer opportunities from the NPA in Practical Science at SCQF level 5 to the new framework are shown below:

New unit		Old unit		Direct credit transfer	Elements of credit transfer
HT6P 45	Chemistry Fundamentals 1	EB75 11	Introduction to Chemistry	No	Outcomes 1, 2 and 3
J27L 75	Physics: Waves and Radiation	D381 11 and D382 11	Waves and Optics and Radioactivity	No	Outcome 2*
J45V 45	Forensic Science: Applications	F823 11	Forensic Science: Applications	Yes	

*Learners must hold both of these units to be eligible for the credit transfer indicated.

6.3 Opportunities for e-assessment

E-assessment may be appropriate for some assessments in the units comprising this group award. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

6.4 Support materials

A list of existing ASPs is available to view on SQA's website.

6.5 Resource requirements

Due to the SCQF level of the group awards, it is anticipated that secondary schools and FE colleges should have sufficient facilities and resources to deliver the qualifications. For all three group awards access to suitable laboratory facilities for biology, chemistry and physics based practicals will be required.

7 General information for centres

Equality and inclusion

The unit specifications making up this group award have been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners will be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

Internal and external verification

All assessments used within this/these qualification(s) should be internally verified, using the appropriate policy within the centre and the guidelines set by SQA.

External verification will be carried out by SQA to ensure that internal assessment is within the national guidelines for these qualifications.

Further information on internal and external verification can be found in *SQA's Guide to Assessment* (www.sqa.org.uk/GuideToAssessment).

8 Glossary of terms

Embedded Core Skills: is where the assessment evidence for the unit also includes full evidence for complete Core Skill or Core Skill components. A learner successfully completing the unit will be automatically certificated for the Core Skill. (This depends on the unit having been successfully audited and validated for Core Skills certification.)

Finish date: The end of a group award's lapsing period is known as the finish date. After the finish date, the group award will no longer be live and the following applies:

- ◆ learners may not be entered for the group award
- ◆ the group award will continue to exist only as an archive record on the Awards Processing System (APS)

Lapsing date: When a group award is entered into its lapsing period, the following will apply:

- ◆ the group award will be deleted from the relevant catalogue
- ◆ the group award specification will remain until the qualification reaches its finish date at which point it will be removed from SQA's website and archived
- ◆ no new centres may be approved to offer the group award
- ◆ centres should only enter learners whom they expect to complete the group award during the defined lapsing period

SQA credit value: The credit value allocated to a unit gives an indication of the contribution the unit makes to an SQA group award. An SQA credit value of 1 given to an SQA unit represents approximately 40 hours of programmed learning, teaching and assessment.

SCQF: The Scottish Credit and Qualification Framework (SCQF) provides the national common framework for describing all relevant programmes of learning and qualifications in Scotland. SCQF terminology is used throughout this guide to refer to credits and levels. For further information on the SCQF visit the SCQF website at www.scqf.org.uk.

SCQF credit points: SCQF credit points provide a means of describing and comparing the amount of learning that is required to complete a qualification at a given level of the Framework. One National Unit credit is equivalent to 6 SCQF credit points. One National Unit credit at Advanced Higher and one Higher National Unit credit (irrespective of level) is equivalent to 8 SCQF credit points.

SCQF levels: The level a qualification is assigned within the framework is an indication of how hard it is to achieve. The SCQF covers 12 levels of learning. HNCs and HNDs are available at SCQF levels 7 and 8 respectively. Higher National Units will normally be at levels 6–9 and graded units will be at level 7 and 8. National Qualification group awards are available at SCQF levels 2–6 and will normally be made up of National Units which are available from SCQF levels 2–7.

Subject unit: Subject units contain vocational/subject content and are designed to test a specific set of knowledge and skills.

Signposted Core Skills: refers to opportunities to develop Core Skills arise in learning and teaching but are not automatically certificated.

History of changes

It is anticipated that changes will take place during the life of the qualification and this section will record these changes. This document is the latest version and incorporates the changes summarised below. Centres are advised to check SQA's APS Navigator to confirm they are using the up to date qualification structure.

NOTE: Where a unit is revised by another unit:

- ◆ No new centres may be approved to offer the unit which has been revised.
- ◆ Centres should only enter learners for the unit which has been revised where they are expected to complete the unit before its finish date.

Version Number	Description	Date
02	Revision of unit: J1YF 75 Cell Biology has been replaced by J4A9 75 Cell Biology. J1YF 75 will finish 31/07/2021	25/06/20

Acknowledgement

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of this qualification.

9 General information for learners

This section will help you decide whether this is the qualification for you by explaining what the qualification is about, what you should know or be able to do before you start, what you will need to do during the qualification and opportunities for further learning and employment.

NPA in Science and Health at SCQF level 4

The NPA in Science and Health at SCQF level 4 has been designed to provide a qualification which will equip you with a range of skills and knowledge in key areas of science. These skills will be beneficial for progression to further qualifications and would also be considered as transferable skills that will travel with you wherever your future lies.

The NPA in Science and Health at SCQF level 4 will provide you with knowledge and understanding of health science and technology, aspects of chemistry and physics of particular relevance to health science as well as practical laboratory skills in each area. You will use a variety of scientific techniques incorporating a range of equipment which will aid and enhance your learning experience and development. In addition, you will develop effective preparation skills and an awareness of health and safety required to carry out safe scientific work.

To achieve this group award you must pass all of the units shown below:

Code	Unit title
H25A 74	Physics: Waves and Radiation
H21J 74	Nature's Chemistry
H268 74	Science: Human Health
J42F 44	Science Practical Skills
F59A 74	Health Sector: Life Sciences Industries

The following is a summary of the content of each unit:

Physics: Waves and Radiation

This unit covers the key areas of wave characteristics, sound, electromagnetic spectrum and nuclear radiation. It includes details of medical applications of waves and radiation.

Nature's Chemistry

This unit covers the key areas of fuels, hydrocarbons, everyday consumer products and plants for products. It includes details of health science applications such as medicinal chemistry and dietary considerations.

Science: Human Health

This unit covers the key areas of what is health, threats to health, and health claims.

Science Practical Skills

This unit is designed to introduce you to scientific practical techniques. The unit will develop your practical skills in performing scientific experiments and develop your skills in processing and reporting the results obtained.

Health Sector: Life Sciences Industries

This unit will introduce you to the range of product types made by the life sciences industry and their application in the health sector. You will participate in a practical activity which will help to develop knowledge and skills in the correct use of a biomedical device.

Overall, the content of the group award has been designed to provide you with an opportunity for:

- ◆ progression within the Scottish Credit and Qualifications Framework
- ◆ achievement of a national group award that recognises existing skills and competences in science
- ◆ development opportunities in core and essential skills, specifically to:
 - Communication
 - ICT
 - Numeracy
 - Working with Others
 - Problem Solving
 - Employability skills
- ◆ preparation for progression to SCQF level 5 in science or a related discipline
- ◆ development of a range of key skills that are aligned to industry standards

Assessment

The NPA in Science and Health at SCQF level 4 will be assessed via a combination of practical and knowledge assessments under closed- and open-book assessment conditions.

Progression pathways

This NPA in Science and Health at SCQF level 4 is suitable if you are at school or college, have just left school or are an adult learner or returner and it may be delivered through a part-time or full-time programme. The NPA in Science and Health at SCQF level 4 is a recognised qualification and will give you a platform which may allow progression into further education. This could involve progression to SCQF level 5 qualifications in science or it may also facilitate progression to SCQF level 5 qualifications in other disciplines related to science, eg nursing, sports science and beauty therapy.

This group award will also help prepare you for employment by providing transferrable skills or it may also meet the needs of those already in lower level employment within the science industry by providing you with a suitable starting point if you are looking to gain formal qualifications relevant to your job.

A fuller explanation of possible progression pathways may be seen in the diagram appended to this document.

NPA in Science and Technology at SCQF level 4

The NPA in Science and Technology at SCQF level 4 has been designed to provide a qualification which will equip you with a range of skills and knowledge in key areas of science. These skills will be beneficial for progression to further qualifications and would also be considered as transferable skills that will travel with you wherever your future lies.

The NPA in Science and Technology at SCQF level 4 will provide you with knowledge and understanding of biotechnology, chemistry and physics as well as practical laboratory skills in each area. You will use a variety of scientific techniques incorporating a range of equipment which will aid and enhance your learning experience and development. In addition, you will develop effective preparation skills and an awareness of health and safety required to carry out safe scientific work.

To achieve this group award you must pass all of the units shown below:

Code	Unit title
J460 44	Biotechnological Industries
H256 74	Physics: Electricity and Energy
H21L 74	Chemistry in Society
J3RF 44	Science Practical and Investigation Skills

The following is a summary of the content of each unit:

Biotechnological Industries

This unit is designed to provide you with an introduction to current biotechnological industries. You will also develop an awareness of the environmental impact of industry-derived waste material and its safe disposal.

Physics: Electricity and Energy

This unit covers the key areas of generation of electricity, electrical power, electromagnetism, practical electrical and electronic circuits, gas laws and the kinetic model.

Chemistry in Society

This unit covers the key areas of metals and alloys, materials, fertilisers, nuclear chemistry and chemical analysis.

Science Practical and Investigation Skills

This unit is designed to introduce you to scientific practical techniques. The unit will develop your practical skills in performing scientific experiments and develop your skills in processing and reporting the results obtained. You will also develop skills in planning and conducting a scientific investigation.

Overall, the content of the group award has been designed to provide you with an opportunity for:

- ◆ progression within the Scottish Credit and Qualifications Framework
- ◆ achievement of a national group award that recognises existing skills and competences in science
- ◆ development opportunities in core and essential skills, specifically to:
 - Communication
 - ICT
 - Numeracy
 - Working with Others
 - Problem Solving
 - Employability skills
- ◆ preparation for progression to SCQF level 5 in science or a related discipline
- ◆ development of a range of key skills that are aligned to industry standards

Assessment

The NPA in Science and Technology at SCQF level 4 will be assessed via a combination of practical and knowledge assessments under closed- and open-book assessment conditions.

Progression pathways

The NPA in Science and Technology at SCQF level 4 is suitable if you are at school or college, have just left school or are an adult learner or returner and it may be delivered through a part-time or full-time programme. The NPA in Science and Technology at SCQF level 4 is a recognised qualification and will give you a platform which may allow progression into further education. This could involve progression to SCQF level 5 qualifications in science or it may also facilitate progression to SCQF level 5 qualifications in other disciplines related to science, eg engineering.

This group award will also help prepare you for employment by providing transferrable skills or it may also meet the needs of those already in lower level employment within the science industry by providing you with a suitable starting point if you are looking to gain formal qualifications relevant to your job.

A fuller explanation of possible progression pathways may be seen in the diagram appended to this document.

NPA in Applied Sciences at SCQF level 5

The NPA in Applied Sciences at SCQF level 5 has been designed to provide a qualification which will equip you with a range of skills and knowledge in key areas of science. These skills will be beneficial for progression to further qualifications and would also be considered as transferable skills that will travel with you wherever your future lies.

The NPA in Applied Sciences at SCQF level 5 will provide you with knowledge and understanding of biology, chemistry and physics as well as practical laboratory skills in each area. You will use a variety of scientific techniques incorporating a range of equipment which will aid and enhance your learning experience and development. In addition, you will develop effective preparation skills and an awareness of health and safety required to carry out safe scientific work.

To achieve this group award, you must pass four units. There is optionality in the framework as outlined in the table below.

Code	Unit title
J4A9 75 HT8P 45	Cell Biology or Introductory Biology
J239 75 HT6P 45 HT6R 45	Chemical Changes and Structure or Chemistry Fundamentals 1 or Chemistry Fundamentals 2
J2CL 75 HT8R 45	Physics: Waves and Radiation or Introductory Physics
J45V 45 J2W3 75	Forensic Science: Applications or Laboratory Science: Practical Skills

The following is a summary of the content of each unit:

Cell Biology

This unit covers the key areas of cell structure; transport across cell membranes; DNA and the production of proteins; proteins; genetic engineering and respiration. Learners will research issues, apply scientific skills and communicate information related to their findings, which will develop skills of scientific literacy.

Introductory Biology

This unit is designed to provide you with an introduction to key biological principles. Topics covered will be the structure and function of living cells, cellular biochemical processes: enzyme activity, respiration and photosynthesis, the digestive and cardiovascular systems and the evolution of life on earth.

Chemical Changes and Structure

This unit covers the key areas of rates of reaction, atomic structure and bonding related to properties of materials, formulae and reaction quantities and acids and bases.

Chemistry Fundamentals 1

This unit is designed to provide you with an introduction to the key theoretical aspects of chemistry. Topics covered will be chemical and physical changes, rates of reaction, structure of atoms and the periodic table, properties of elements, structure and bonding and nomenclature and structure of organic compounds.

Chemistry Fundamentals 2

This unit is designed to provide you with an introduction to the basic theoretical concepts of quantitative chemistry, Topics covered will be the mole, balanced chemical equations and reaction stoichiometry, the nature and use of metals, concepts of oxidation and reduction and various electrochemical processes and acidity and alkalinity with relation to neutralisation reactions.

Physics: Waves and Radiation

This unit covers the key areas of waves and nuclear radiation including wave parameters, the electromagnetic spectrum and light.

Introductory Physics

This unit is designed to provide you with an introduction to the key aspects of physics. Topics covered will be waves and lenses, medical applications of radiation, heat energy, kinetics and electricity.

Forensic Science: Applications

This unit will introduce you to fundamental techniques of forensic science allowing you to develop skills in biology, chemistry and physics in this context.

Laboratory Science: Practical Skills

This unit will provide you with the opportunity to develop the skills most commonly used in laboratories. You will learn how to work safely with potentially hazardous materials such as microorganisms, measure radioactivity, develop competence using laboratory equipment, perform a titration, chromatographic separation and distillation.

Overall, the content of the group award has been designed to provide you with an opportunity for:

- ◆ progression within the Scottish Credit and Qualifications Framework
- ◆ achievement of a national group award that recognises existing skills and competences in science
- ◆ development opportunities in core and essential skills, specifically to:
 - Communication
 - ICT
 - Numeracy
 - Working with others
 - Problem solving
 - Employability skills
- ◆ preparation for progression to extended programmes of study at SCQF level 5 or above
- ◆ development of a range of key skills that are aligned to industry standards

Assessment

The NPA in Applied Sciences at SCQF level 5 will be assessed via a combination of practical and knowledge assessments under closed- and open-book assessment conditions.

Progression pathways

This NPA in Applied Sciences at SCQF level 5 is suitable if you are at school or college, have just left school or are an adult learner or returner and it may be delivered through a part-time or full-time programme. The NPA in Applied Sciences at SCQF level 5 is a recognised qualification and will give you a platform which may allow progression into further education. This could involve progression to SCQF level 6 qualifications in science or it may also facilitate progression to SCQF level 6 qualifications in other disciplines related to science, eg engineering, nursing and sports science.

This group award will also help prepare you for employment by providing transferrable skills or it may also meet the needs of those already in lower level employment within the science industry by providing you with a suitable starting point if you are looking to gain formal qualifications relevant to your job.

A fuller explanation of possible progression pathways may be seen in the diagram appended to this document.

Progression routes

