

Science Dept SQR Sept 2017

SQA Results

Exam results pre appeals

National 4

Biology 1 unit
Chemistry 2 full course
Physics 2 full course

National 5 63% pass (A-C) (79%A-D)

Biology 0 (A) 4 (B) 0 (C) 3 (D) 2 no award +1 unit award
Chemistry 2 (A) 4(B) 4(C) 2 (D) 4 no award
Physics 7(A) 3 (B) 3 (C) 2 (D) 1 no award

Biology results disappointing. The assignment was used for classes on Friday when no specialist teacher is available. Not one pupil passed the assignment which had a drastic effect on the grades. Also only allowing 2 resits for unit tests caused big issues with parents of 2 pupils who failed a unit twice and therefore could not be presented for the actual exam. Results should all be 1 grade better for all pupils. 1 further pupil could have been presented for Nat 4 but failed to hand in required materials for assignment. Results compared to SOSCA expectations - 5 below, 4 above SOSCA predictions.

Chemistry results satisfactory. The 4 no awards were due to pupils being borderline N4/5 candidates who were given a chance at the final exam. Assignments were overall poor for these pupils. All 4 pupils have been put in for National 4 fallback award. D's were again borderline throughout the year due to understanding or effort. C candidates were all due to issues in exam, be it slow processing skills, lack of preparation or panic. All 4 pupils were capable of more. A and B pupils as expected. Results compared to SOSCA expectations - 5 on 4 above 4 below

Physics results were in the main very strong. Most students achieved at or above expectations with a significant number of A grade passes. One of the D pupils and one of the C pupils achieved well below potential, though the C pupil has recently been recognized as having an ASN. The low number of no awards may indicate that too few borderline pupils were put forward for the final examination. Some students achieved N5 units and might have been capable of an attempt at the exam. Results compared to SOSCA expectations - 5 above 5 on 3 below.

Nat 5

	Number (and%) Entries	% Entry National	%A (%A National)	%B (%B National)	%C (%C National)	%D (%D National)	% NO Award	Course comparator
bio	9 (20)	31	0(25)	44 (48)	44(70)	78(81)	22(19)	-1.08 ns
chem	16 (37)	26	12(32)	37(54)	62(75)	75(83)	25(16)	-0.55ns
phys	17 (40)	21	41(29)	59(50)	76(71)	94(81)	6(18.8)	0.35ns
Course comparator value (highland)								
	Biology		Chemistry		Physics			
	Nat5	Higher	Nat5	Higher	Nat5	Higher		
2017	-1.09 (-0.19)	0.51 (0.07)	-0.55(-0.35)	0.51(-0.06)	0.35 (-0.25)	0.32(0.15)		
2016	-0.07 (0.12)	0.39 (0.23)	0.09(-0.1)	1.03(0.06)	-0.4 (-0.20)	-0.33(-0.01)		
2015	0.87* (0.05)	1.58* (-0.02)	0.99(-0.16)	0.98(0.03)	0.54 (0.11)	0.42(0.03)		

ns = not significant at 95% level * = significant at 95% level

Higher

	Number (and%) Entries	% Entry National	%A (%A National)	%B (%B National)	%C (%C National)	%D (%D National)	% NO Award	Course comparato
bio	4 (9)	10	50(23)	100(45)	(70)	(80)	(19)	0.51ns
chem	11 (23)	16	9(27)	27(52)	55(74)	64(83)	36(17)	-0.51ns
phys	9 (19)	13	0(25)	44(52)	78(74)	100(83)	0(17)	0.32ns

Higher pass71% (A-C) (83%A-D)

Biology 2(A) 2(B) (C) (D)
 Chemistry 1(A) 2(B) 3(C) 1(D) 4 no award
 Physics (A) 4(B) 3(C) 2(D)

Biology- Very good results considering 2 pupils were crash higher (no bio since S2) both achieving an A

Chemistry - Results disappointing. 4 No Awards - 2 caused by lack of effort or preparation (both candidates were capable of more). The other 2 no awards were caused by pupils struggling to explain key concepts in the exam. All 4 assignments were disappointing. 1 D caused by poor assignment and maybe lack of preparation for exam. This candidate was capable of more. C's, B's and A were satisfactory.

Physics - mixed results. All students achieved an award, but no A grade passes suggests that the focus on the class may have been on minimum competency without enough extension for the more able. Some of the more able students showed anxiety throughout the course which may have limited attainment.

Advanced Higher pass50% (A-C) (50%A-D)

Biology (A) (B) (C) (D) 1 pupil presented for units only
 Chemistry (A) 2(B) (C) (D) 1 no award
 Physics 1(A) (B) (C) (D) 2 no award

Biology - no timetabled time for ADH but pupil wanted to keep up biology in S6.

Chemistry - no award caused by pupil taking on too much in the final year and being under too much pressure. This candidate had a poor project mark caused by last minute rushing to write up. Other two candidates capable of As but either panicked in exam or failed to prepare fully.

Physics - Very mixed. Both no-awards were capable of completing the course but consistent independent work was not maintained. Both completed projects very late which did not score well. Motivation and monitoring of student work are priorities for the future.

Advanced Higher

	Number (and%) Entries	% Entry National	%A (%A National)	%B (%B National)	%C (%C National)	%D (%D National)	% NO Award	Course compara r
chem	3 (8)	6	0(25)	67(54)	67(81)	67(89)	33(11)	-0.76
phys	3 (8)	5	33 (27)	0 (26)	0 (23)	0 (9)	67 (15)	-0.23

Enrichment activities.

Higher & Advanced Higher Chemistry: 'Spectroscopy in a suitcase' - Edinburgh University & Guest lecturer on chirality from Heriot-Watt university.

Nat 5, Higher supported study (chemistry and physics) weekly from October to May.
Nat 5 Biology: outdoor education for unit 3.

BGE progression

81% of S3 cohort were working within Level 4 (44% were secure at Level 4).
19% of S3 cohort were working within Level 3.

Of the 7 Closing the Gap pupils who chose to take Optional Science in S3, 2 were working within Level 3, 3 were working within Level 4 and 2 were considered secure at Level 4.

Adaptations to the course due to issue of new benchmark guidelines have been audited and are being implemented this session.

S3 options appear to be a problem across the board, in particular to Science. There is not enough time given in S3 to adequately prepare pupils for National 5 course.

The National 4 course in Science was designed for pupils who were leaving at the end of S4.

They were not designed to dovetail with the National 5 courses. National 5 Environmental Science course, however, allows progression between levels which is more suitable for the less able pupils to achieve a National 5 qualification.

In particular for National 5 Physics, pupils' algebra skills have been very poor at the beginning of National 5 and so time has been given to improving this resulting in less time for covering course material. This has been a consistent problem since the introduction of BGE in S3 as less time in S3 science means less time for maths in science.

Enrichment activities:

Geobus in S2

Forensic Science in S1

Living lochs project in S1

Cross curricular with English Haiku - 1 National Winner, 1 Runner Up and a 2 other recognitions.

Crest Awards in S3

Lab in a Lorry

Improvement

Implementation of SQA changes to all National 5 courses which involves a great deal of course material changes.

Use of benchmarks to ensure BGE courses are in line with National guidelines.

Review of AH Chemistry and Biology courses, in particular the practical aspects of the courses.