



# Science

Review of 2017-18  
& Next steps

# Review of 2017-18

- ▶ **Staffing**
- ▶ Leadership change
- ▶ Staff changes/ absences

- ▶ **Curricular**
- ▶ BGE
- ▶ Senior phase
- ▶ Exam results



# BGE - where were we last year?

- ▶ S1 & S2
  - ▶ 6 topics per year - uneven length
  - ▶ 3 traditional assessments, 3 formative assessments
- ▶ S3
  - ▶ Rota system - approx. 13 weeks per subject.
  - ▶ Coverage of Level 3 and Level 4

# Senior phase - where were we last year?

- ▶ Bilevel N4-5
- ▶ Bilevel N5-Higher
  
- ▶ Biology
- ▶ Chemistry
- ▶ Physics

Level: National 5 Biology (S4-S6)						
%						
	2016	2017	Trend	2018	Trend	
A-D Passes (Balerno)	87	76	-11	83	7	
A-D Passes (Edinburgh)	81	80	-1	90	10	
A-D Passes (National)	82	81	-1	89	8	

Level: National 5 Chemistry (S4-S6)						
%						
	2016	2017	Trend	2018	Trend	
A-D Passes (Balerno)	87	92	5	91	-1	
A-D Passes (Edinburgh)	83	88	5	91	3	
A-D Passes (National)	83	84	1	90	6	

Level: National 5 Physics (S4-S6)						
%						
	2016	2017	Trend	2018	Trend	
A-D Passes (Balerno)	79	85	6	83	-2	
A-D Passes (Edinburgh)	86	83	-3	90	7	
A-D Passes (National)	82	82	0	88	6	

**Level: Higher Biology (S5-S6)**

%	2016	2017	Trend	2018	Trend
A-C Passes (Balerno)	76	53	↓ -23	71	↑ 18
A-C Passes (Edinburgh)	69	70	↑ 1	74	↑ 4
A-C Passes (National)	67	71	↑ 4	71	→ 0

**Level: Higher Chemistry (S5-S6)**

%	2016	2017	Trend	2018	Trend
A-C Passes	65	88	↑ 23	88	→ 0
A-C Passes (Edinburgh)	72	78	↑ 6	80	↑ 2
A-C Passes (National)	76	75	↓ -1	75	→ 0

**Level: Higher Physics (S5-S6)**

%	2016	2017	Trend	2018	Trend
A-C Passes	80	78	↓ -2	59	↓ -19
A-C Passes (Edinburgh)	78	79	↑ 1	78	↓ -1
A-C Passes (National)	73	74	↑ 1	74	→ 0

<b>Level: Advanced Higher Biology</b>						
%						
	2016	Trend	2017	Trend	2018	Trend
A-C Passes (Balerno)	88	↑ 3	71	↓ -17	90	↑ 19
A-C Passes (Edinburgh)	88	↑ 7	76	↓ -12	82	↑ 6
A-C Passes (National)	78	↑ 3	71	↓ -7	72	↑ 1
No. of entries:	16	↑ 3	7	↓ -9	10	↑ 3

<b>Level: Advanced Higher Chemistry</b>						
%						
	2016	Trend	2017	Trend	2018	Trend
A-C Passes	94	↑ 18	100	↑ 6	92	↓ -8
A-C Passes (Edinburgh)	84	↑ 13	85	↑ 1	82	↓ -3
A-C Passes (National)	81	↑ 2	81	→ 0	80	↓ -1
No. of entries:	18	↑ 1	6	↓ -12	13	↑ 7

<b>Level: Advanced Higher Physics</b>						
%						
	2016	Trend	2017	Trend	2018	Trend
A-C Passes	90	↓ -10	100	↑ 10	50	↓ -50
A-C Passes (Edinburgh)	88	↓ -5	81	↓ -7	79	↓ -2
A-C Passes (National)	78	↑ 1	76	↓ -2	77	↑ 1
No. of entries:	10	↑ 2	8	↓ -2	8	→ 0



## Senior Phase - Strengths

- ▶ Advanced Highers – Excellent performances in Biology and Chemistry.
- ▶ Biology – Improvements on 2017 results. 45% A @ AHigher
- ▶ Chemistry – Consistent across the board. 45% A @ Higher
- ▶ Physics – 100% passes at N3 and N4.
  
- ▶ Exam performance in line with/better than prelim estimate (8 out of 9)
- ▶ High uptake (relative to City). 5<sup>th</sup> highest in N5, Higher, 3<sup>rd</sup> highest in AH



# Faculty improvement plan 2018-19

**Priority 1 - Improvement in attainment, particularly in literacy and numeracy.**

**Priority 2 - Closing the attainment gap between the most and least disadvantaged children.**

**Priority 3 - Improvement in children and young people's health and wellbeing.**

**Priority 4 - Improvement in employability skills and sustained, positive school leaver destinations for all young people.**

**Priority 5 - Teambuilding.**

# What are we doing now?

## Faculty improvement

- ▶ Improved opportunities for teambuilding DMs / concourse duty.
- SGP as set agenda item on FM/DMs
  
- ▶ Combined department staff training on NQ changes – Higher webinar.
  
- Development of faculty mission statement.
- ....to create scientifically literate, creative problem solvers. By providing high quality experiences, we foster a spirit of inquiry, nurture our students' curiosity, and bring real-world science into the classroom. We prepare our students to become educated citizens capable of analysing and understanding global issues, able to make a positive contribution in our society.
  
- Designated lead teachers in S1/S2 topics.
- Leadership opportunities for all staff.

TEAMWORK  
MOTIVATION  
INSPIRATION  
LEADERSHIP  
VISION  
+ INNOVATION  

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SUCCESS





# What are we doing now? BGE - Key points

- ▶ S1&S2 -
- ▶ Improved equally weighted Science topics offering comprehensive coverage of Level 3 Es&Os.
- ▶ Robust assessments.
- ▶ Pupils encouraged to reflect on their progress and set targets/next steps for the next topic using profile sheets.
- ▶ S3 -
- ▶ Critical thinking skills course, regular learning conversations.
- ▶ Enhanced subject specific courses, reviewing key parts of level 3 and covering Level 4 - N5
- ▶ Opportunity to experience each Science before course choice.





## What are we doing now? Senior phase - Key points

- ▶ Staff training on NQ changes – Higher webinar.
- ▶ Physics - SQA Qualification manager visit.
- ▶ Early warning system for attainment concerns.
- ▶ All staff signed up to SQA alerts.
  
- ▶ Survey monkey feedback.
- ▶ Biology – consultation with City schools on approaches and sharing of resources.
- ▶ Chemistry – Staff training, sharing resources with City schools.
- ▶ Physics – Consultation with SQA on project/assignment work, staff training, consultation with city schools on approaches and sharing of resources.

# Senior Phase

## June

Staff from each subject are SQA markers – key info shared from marking process.

N5 - pupils set themselves initial, aspirational target based on BGE progress.

## August

Higher and AH pupils set target based on N5/Higher results

## October

SQA updates – key messages from exam diet shared at DMs/FMs.

## Assessments

Exam level progress tests used per key area/group of key areas to track progress.

Post prelim – revise targets

Assignments/projects – December-January



# Opportunities

- ▶ Within Science pupils are able to participate and gain recognition in a wide range of opportunities
- ▶ STEAM club – Tuesday lunchtimes
- ▶ Zoology club – Thursday Lunchtimes
- ▶ Study support clubs – S2-S6
- ▶ STEAM careers hub
- ▶ DNA profiling workshop
- ▶ CERN trip (2019-20)
- ▶ Zoo trips
- ▶ Science stars

I'D TELL YOU A  
CHEMISTRY JOKE....

# Chemistry café

every: Mon after school - N5 in G38  
Mon lunchtime - Higher in GFB  
Thu lunchtime - AH in G28



....BUT I DON'T THINK I WOULD GET A REACTION

# Support for our young people

- ▶ High expectations for all of our young people
- ▶ **Supported Home study page per year/ NQ**
- ▶ Homework in Senior Phase exam level questions/
- ▶ Open-door policy rest of the week
- ▶ Lunchtime clubs
  
- ▶ We welcome contact from parents and carers.



Mr Hay Home Assignment Chemical Changes & Structure Nature's Chemistry More

## Higher Chemistry

Student notice board

Prelim Revision Homework Schedule	Due date
Chemistry in Society – Getting the most from reactants (Part 2) Q1-9	Thursday 25 <sup>th</sup> Oct
Nature's Chemistry – Oxidation of Food Q1-7	Thursday 1 <sup>st</sup> Nov
Chemical Changes & Structure -Structure & Bonding Q1-15	Thursday 8 <sup>th</sup> Nov
Chemical Changes & Structure – Periodicity Q1-8	Thursday 15 <sup>th</sup> Nov
Chemical Changes & Structure - Controlling the rate Q1-14	Thursday 22 <sup>nd</sup> Nov
Nature's Chemistry – Esters, fats and oils Q1-10	Thursday 29 <sup>th</sup> Nov
Nature's Chemistry -Fragrances and skin care Q1-8 - Proteins Q1-5	Thursday 6 <sup>th</sup> December
Nature's Chemistry -Soaps, detergents and emulsions Q1-6	Thursday 13 <sup>th</sup> December



# Progression form BGE

- ▶ S4 - National 4 Science.
  - ▶ S5 - National 5 Bio/Chem/Phys or NPA Level 5
  - ▶ S6 - Higher Bio/Chem/Phys or NPA level 6.
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- ▶ S4 - National 5 Environmental Science
  - ▶ S5 - Higher Environmental Science
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- ▶ S4 - National 5 Bio/Chem/Phys
  - ▶ S5 - Higher Bio/Chem/Phys
  - ▶ S6 - Adv Higher Bio/Chem/Phys



# New options being considered

- ▶ National 4 Science
- ▶ National 4/5 Environmental Science
- ▶ Higher Human Biology
  
- ▶ NPA Level 5 Practical Science
- ▶ National 5 Practical Electronics
- ▶ Skills for Work: Laboratory Science (National 5) -> Level 6 Scientific Technologies

# Alternatives to Higher

- ▶ 2 year higher (unit awards in year 1)
- ▶ NPA at level 5/6

Thank you!