Department of Education, Sport and Culture

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Date: 25 June 2018

Moderation of Science Record 2017-18

Date – 25 May 2018
School – Scoill yn Jubilee
Moderators – redacted

School Context:

The Science co-ordinator has been in role for a number of years over two time periods. A new curriculum document was introduced during the 2016/17 school year but the Science co-ordinator and Head teacher feel that there are overlaps in areas and too much content. Therefore, they intend to review their science curriculum as a part of the school's improvement plan over the next two years.

Using KS2 Science attainment data tracking, the school has identified that there has been a dip in progress and therefore Science was put on the SIP this year. The staff are using the e-tracker to assess against but have found providing levels for pupil progress has been difficult due to the cumulative nature of science and breadth of topics.

CPD - Staff have been involved in CPD for science in the last 2 years although the head teacher recognizes there is need for more.

The school is a feeder school for Ballakermeen High School and they participate in all Science transition opportunities.

Activities During Visit: Moderators met with the Headteacher/Science moderator, reviewed planning and assessment documents, moderated Science evidence and carried out pupil interviews of 4 students.

In-house moderation: yes, but not across the school. More is planned as part of the moderation cycle of the school.

Science coordinator: redacted

Verbal feedback given: Yes

Moderation Focus

Overall Comments:
The school was welcoming and there was a room provided for the moderators on both school sites. Both the HT and science coordinator were available for interviews. The pupils were from yrs. 2, 3, 5 and 6 and were polite and responsive. All pupils interviewed enjoyed science. Staff had prepared evidence of assessment for each pupil. All work was marked and relevant science assessment criteria clearly marked in books. Everything was very well organized and the moderator session went smoothly.

Individual Students:

Student 1 yr 2
Level: 2a
Evidence provided: maths book, science book, graphs, tables, labeled diagrams, drawings, investigation templates, assessment tracker, photographs.

The Moderator agreed with this level because:
Student 1 was enthusiastic about science and had a good grasp of most of level 2. She understands some elements of L3, which was clearly indicated in the teachers tracking, the student's written work and in her responses to questions. It is clear from the work in the books and from the pupil interview, that the teacher has a good grasp of the child's understanding and where the areas for development are. Quality written feedback in the science book often comprised of questions to extend thinking. There was also evidence of misconceptions being addressed in books. We would suggest an opportunity to review feedback and answer those questions.

Student 2 yr 3
Level: 2a
Evidence provided: maths book, science book, graphs, tables, charts, thinking maps, investigation templates, pupil interview, photos

The Moderator agreed with this level:
Student 2 is enjoyed about science and could explain a range of practical investigations he had carried out. There is clear evidence that they are beginning to achieve elements of a L3, for example making because predictions and relevant observations linked to their own scientific knowledge. He is secure with the elements of level 2 in that he could respond to scientific questions with help. A wide range of evidence cross-referenced with the assessment tracker showed lots of evidence of investigation planning, obtaining and presenting data and conclusions. There is a potential gap in evaluation of investigations; there was no clear written evidence and when questioned student 2 was unable to answer satisfactorily.

Student 3 yr 5
Level: 4b

Evidence provided: Investigations, tables, graphs, maths work, interpreting data exercises, photographs (no annotations), investigation templates and pupil interview.

The Moderator disagreed with this level because:
Student 3 enjoys science. He is able to respond to a range of questions, articulating well with an appropriate use of vocabulary. He was able to talk about staying safe during investigations and could answer probing questions and make some generalisations with help. However, due the lack of evidence (both range of work and written evidence submitted) we do not feel this child is secure 4b. The student, although willing was not able to provide enough oral evidence to suggest a level above 4c. There is also evidence of misconceptions that have not been addressed and photos that are being used as evidence would benefit from being annotated with comments linked to student's observations during activity.

Student 4 yr 6
Level: 4a
Evidence provided: investigation templates and a range of planning, tables, mind maps, labeled diagrams, charts, graphs, written conclusions, interpreting data exercises, cross-referenced tracker, teacher notes from formative assessment book, pupil interview.

The Moderator agreed with this level because:
Student 4 evidently enjoyed science and said this was because he liked both practical investigations as well as data handling. The work in the books demonstrated that he could create questions and make predictions. There were some different ways of presenting data, including bar charts and a line graph as well as a selection of interpreting data exercises. He could suggest improvements to his work, and also indicated that he could identify errors in data and could explain why he repeated tests and evidence in books showed that he could show how changing one variable could alter another. He could make generalizations. There were very few gaps in the L4 statements so the moderators feel L4a is the correct assessment with clear indications of working towards L5c. There was little written feedback to extend learning evident in the books but when questioned it was clear from the student that feedback is often done verbally and to a high standard with evidence of student reflection both verbally and written.

Strengths:

- It is clear that science is done regularly and there is a structure in place for science across the school.
- There was a range of evidence provided, and pupils enjoy science especially the practical aspects.
- Wide variety of subject matter covered with activities designed to enthuse the students.
- Teachers are obviously familiar with the strands assessment document and it is being used for assessment.
- From the evidence provided in books, it would appear that teacher knowledge in Science good and there is evidence of opportunities for children to extend their learning in most classes.

- Children were able to articulate their experiences well and were able to respond to further prompting (which then informed our assessment)
- Very strong observational skills and scientific vocabulary used by some students although not all.
- It is clear that the school is progressing skills in data handling as there was a good range of tables, bar charts and line graphs being used and skills interpreting and analyzing this.
- Clear links to understanding how Scientists develop thinking and when we spoke to the children, KS1 & KS2 most could identify how Science helps in real life.

Areas for development:

- Reflecting on working scientifically; focusing on the evaluative strands consistently across the school
- Building sound use of scientific vocabulary to strengthen both knowledge and SC1 skills.
- Opportunities to have whole class discussions to work through misconceptions and to extend evaluation and deduction skills (Reviewing recent investigations, Bright Ideas or Concept Cartoons etc)
- Provide feedback that is evidential and opportunities for children to reflect and correct misconceptions and/or extend ideas. This is also an opportunity to make links to other areas of science in real life.
- There is a reliance on fair testing, with only the odd exploration, so it would be good to see more of a range used (ie - use of models, pattern seeking…)
- KS2 children need more opportunities to extend their class learning by designing and carrying out their own investigations from questions they design.
- Data handling - In KS1, collecting data based on children's own questions and giving them opportunities to collect that data in their own way will move the children towards L3.
- Data handling - In KS2, interrogating data, using a range of data collection styles and using a range of graphs is necessary to attain L4. The children can also use mathematical conventions when communicating ideas within their conclusions, particularly calculating mode or finding differences between measurements. This will also lead to pupils understanding the need for evidence other than relying on observation.

Signed (Moderator) – redacted Date: May 2018

Signed – (HT) Date -