



# Department of Education, Sport and Culture

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## **Moderation of Science Record 2018-19**

Date – 20<sup>th</sup> March 2019

School – Scoill Phurt le Moirrey

Moderators – redacted

### **School Context**

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The Science Coordinator has been in post since last year and has been Deputy Head for the past 3 years. The school uses the Science e-tracker as an assessment tool and has noted that Science consistently preforms well, above other subjects, in whole school data. The Science coordinator also mentioned the school focus on the knowledge strands rather than skills development (SC1) and that knowledge strands were not easy to assess with the tracker.

Science has not been on the SIP this year due to the school's focus on Maths Mastery and curriculum development. Scoill Phurt le Moirrey started using Cornerstones to plan topics in the 2017-2018 year and have developed a strong cross-curricular approach to science learning.

### **Activities During Visit**

Moderators met with the Science coordinator, reviewed planning and assessment material, moderated science evidence provided and interviewed pupils.

### **Evidence of in house moderation**

Yes, the school has cross-moderated with Victoria Road Primary last month.

### **Science Training attended including Science Cos**

The coordinator has attended the last two sessions of science coordinator meetings.

**Verbal feedback given** – To the Head teacher and Science Coordinator

### **Moderation Focus**

Two pupils assessed at 2a and two pupils assessed at 4a. Focus was on overall attainment.

### **Overall Comments:**

The school was very welcoming and a quiet room was provided for the moderators. The Head teacher was readily available and pupils interviewed were polite, enthusiastic and very responsive. All pupils interviewed thoroughly enjoyed science.

The teachers had prepared evidence of assessment for each pupil, all work was marked and planning was available to review.

Everything was well organised by the Head teacher, Science Coordinator and staff and the moderation session ran very smoothly, which the moderators appreciated.

### **Individual Students:**

#### **Student 1 - yr 2**

Level: 2a

Evidence provided: A variety of evidence including book work, worksheets, tables, charts, diagrams, classification activities, photographs, cross curriculum thematic work.

#### **The Moderator agreed with this level because:**

The student was enthusiastic about science and had a good grasp of level 2 descriptors. They understood some elements of level 3 such as making relevant observations, but there was not clear evidence to show they could suggest ways to gather and record data in an investigation or suggest how they could do investigations differently next time.

It was clear that the student makes links to how science is used in real life.

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During the pupil interview, they spoke confidently about classifying in a variety of situations and could apply their knowledge to create simple generalisations. There was a huge range of activities completed in the topic book, showing a good coverage of knowledge areas.

### **Student 2 - yr 2**

Level: 2a

Evidence provided: A variety of evidence including book work, worksheets, tables, charts, diagrams, classification activities, photographs, cross curriculum thematic work.

#### **The Moderator agreed with this level because:**

The student was a very keen scientist. They could remember details from activities carried out throughout the year in great detail and obviously valued any opportunity to discuss science. The student is a firm 2a with some elements of level 3.

The evidence provided showed that the student was using a range of ways to sort and gather information and the pupil interview revealed that they have a clear understanding of the importance of science in the world around them. The vocabulary used clearly showed a good understanding of each topic. They did indicate that they have not yet had the opportunity for independent investigations however they were able to suggest improvements to investigations during our discussion.

### **Student 3 – yr 6**

Level: 4a

Evidence provided: A variety of evidence including book work, assessment tracking (highlighted in the front of their books), tables, charts, investigation planning/reports, diagrams, odd one out challenges, photographs, data sheets.

#### **The Moderator agreed with this level because:**

The evidence provided showed that the student has lots of investigation opportunities in science. They made a range of predictions, selected suitable equipment and understood that fair tests need to control variables. More evidence was needed to show that they use mathematical conventions when communicating ideas and that they are able to extend whole class investigations independently. There were excellent links to the real world of science, including studies on scientists and their impact on modern life.

The student was obviously excited by science learning and valued the feedback the teachers gave. They knew what their next learning steps were and it was evident that formative feedback was reflected upon.

### **Student 4 – yr 6**

Level: 4a

Evidence provided: A variety of evidence including book work, assessment tracking (highlighted in the front of their books), tables, charts, investigation planning/reports, diagrams, odd one out challenges, photographs, data sheets.

#### **The Moderator disagreed with this level because:**

The student is working at a secure 4b. The evidence showed that they had opportunities to make a series of accurate observations and during our conversation they were able to describe simple processes and phenomena with appropriate vocabulary with some prompting. Some misconceptions and unfinished statements were challenged in the marking and they were able to reflect and improve on their ideas.

Evidence provided showed that they could apply what they were learning to real life examples and can discuss positive and negative consequences of scientific developments. They also showed that they could use scientific evidence to draw conclusions but were not using the convention of 'er' words to describe changing a variable. This was also confirmed as an area for development during our conversations. The moderators found that there was not enough evidence to show that they could make level appropriate generalisations.

#### **Strengths:**

1. It is clear that science is taught regularly and there is a clear structure in place for science teaching across the school. There was a range of evidence provided, and pupils enjoy science especially the practical aspects.
2. The assessment provided showed that teachers were collecting a range of evidence and that students understand the LOs for each lesson. Feedback was based on learning. The Science Co-ordinator is aware that staff find the e-tracker quite time-consuming, so this maybe an area to investigate further.
3. Although the school has not prioritised Science on the SIP, the development of Curriculum has been and the introduction of Cornerstones has meant that the school is developing Science alongside the other areas of learning. When looking at the units, the

moderators noted the strong Science throughout with a range of creative activities.

4. The thematic approach provides strong integration between science, numeracy and literacy and has given the children a strong grasp of vocabulary when discussing their investigations.
5. The evidence provided in books showed there were many creative strategies evident (including learning outside the classroom opportunities, creative activities and visits to local places of interest – e.g. gingerbread men, bacteria investigations, bread making) to enhance the overall science provision.
6. The science books are used as a 'living document', with students given opportunities to reflect on teacher feedback and to ask questions of their teachers to clarify their thinking.
7. Transition incorporates science activities and the school values the relationship with the local high school. The school has also started moderating alongside another primary school, Victoria Road, which is invaluable for developing a strong moderation programme.
8. Data handling was taught through both mathematics and science opportunities.

### **Areas for development:**

1. In order to support the evaluative thinking in SC1, consider ways to encourage level 4 learners to use science evidence to refute or support ideas through regular class discussions (this could be linked to the way the school currently uses data handling as an evidence source and would also encourage relative statements – 'er' and generalisations). One student did not understand the concept that dough would change size if hit and further discussions showed a misunderstanding of how yeast works. This would be addressed in these kinds of discussions.
2. Develop the use of a range of investigation types, including pattern seeking and model making investigations. There was evidence of lots of excellent observation and classifying activities so this would ensure that skills are being extended rather than repeated. Also, including some 'outliers' that do not fit into a sorting exercise will extend thinking further.
3. Include more opportunities to carry out independent investigations, either by providing partly completed investigations which students then complete or by providing challenge areas for children to develop their own questions.

4. Encourage use of measuring to gather information. An example of this was when KS2 pupils used simple observations to compare samples in an investigation on bacterial growth rather than comparing measurements. Extending this to include negative numbers and data loggers (or sensors such as amp meters or decibel apps on iPads) will ensure they are working towards level 5.

Signed (Moderators) – [redacted](#) Date – 20<sup>th</sup> March 2019

Signed – (HT) Date -

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