



Department of Education, Sport and Culture

Rheynn Ynsee, Spoyrt as Cultoor

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Moderation of Science Record 2017-18

Date – 14 March 2018

School – Onchan

Moderators – redacted

School Context:

The school is currently working with the new Science curriculum developed in Summer 2017, which dovetails with the assessment framework and ensures that AT1 is a focal point of Science teaching.

This new curriculum was produced as a direct response to a need and to allow for extending Science beyond year group expectations. All staff had an input into the curriculum and a Science moderation is planned for next term to monitor the implementation progress.

The Science Coordinator was aware before the moderation that the transition from older curriculum and the assessment may identify some gaps in provision and she also identified that the AfL approach (teacher assessment and extension) may need developing.

Staff are now using the e-tracker for assessment purposes.

CPD - All staff have been involved in the curriculum development and the planned whole school moderation that will highlight teaching and learning gaps and therefore inform CPD for each staff member.

The trends for Science data is that attainment for KS2 is consistently above IOM average and in KS1, attainment is improving on a gradual curve.

The school is a feeder school for St Ninian's High School and they participate in all Science transition opportunities, including Science days.

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

In-house moderation: A whole school in-house moderation exercise is planned (Summer '18) and included within the Growth Mindset and challenge improvement programme (2 years).

Science coordinator: [redacted] is a moderator and Science coordinator, and in these roles, she participates in organising and running the IOM Science coordinator meetings and has an excellent understanding of the curriculum and assessment descriptors. Science is obviously an area of passion for her and she leads and shares best practice initiatives to support staff with their science teaching and assessment.

Verbal feedback given: Yes

Moderation Focus

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 responsive. All pupils interviewed enjoyed science.

The teachers had prepared evidence of assessment for each pupil, some work was marked and levelled and there were often notes attached showing level descriptors.

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

The children selected by the school as part of this moderation exercise were all males and consisted of two Y6 and two Y2 pupils.

[redacted] (Y2) was unavailable due to being on holiday, so we were able to talk to two other students, who were taught by the [redacted] teacher and who showed great knowledge and enthusiasm for Science too.

Individual Students:

Student 1 yr 2 [redacted]
Level: 2a

Evidence provided: maths book, graphs, investigation templates, teacher observations, cross curricular skills, home learning examples, photographs (no annotations on these)

The Moderator agreed with this level because: 2a

The evidence provided showed that [redacted] was working within level 2, and was able to show a 2a level of understanding. Photos that were submitted as evidence were not annotated so we were unable to use them for moderation purposes.

The range of coverage and the hands on learning opportunities was extensive and were well thought through. The bookwork showed lots of collaborative working and there was evidence of enjoyment of the topics in [redacted] work.

Teacher use of feedback was inconsistent and where opportunities were available to extend the thinking, the child did not go back to consider those comments and respond. There is some confusion as to what type of investigation is used (TE is trying to identify variables in a pattern seeking investigation) and there was a limited range of investigation types used through the curriculum.

The teacher's anecdotal notes were predominately retrospective, based on the descriptors rather than **redacted** observed scientific behaviours or his participation in discussions.

Student 2 yr 2 **redacted**
Level: 2a

Evidence provided: maths book, graphs, investigation templates, teacher observations, cross curricular skills, home learning examples, pupil interview

The Moderator agreed with this level: 2a

As above and in addition...

redacted was a very keen scientist. He could remember details from activities carried out throughout the year in great detail and obviously valued any opportunity to carry out science investigations.

There was evidence in his bookwork of questions that extended knowledge and understanding of materials (SC3) into L3, but there was no evidence that this was noted on the e-tracker. After the interview with **redacted**, there are elements of 3c in SC1, for instance in his because predictions and questions when asked about his vehicle investigation.

His explanation of the data collection process shows secure knowledge and understanding and he now needs opportunities to analyse data and solve simple problems. In addition, **redacted** should be encouraged to extend his higher order thinking skills into generating his own investigation questions and to link areas of science learning.

Student 3 yr 6 **redacted**
Level: 4a

Evidence provided: Investigations, tables, graphs, maths work, photographs (no annotations), investigation templates, pupil interview

The Moderator disagreed with this level because:

redacted is judged to be working at a low 4b

Constructive feedback is needed to move **redacted** forward and to get him to extend his own questioning. There were times that misconceptions were not challenged and they would have made great teaching moments. There was no evidence that **redacted** was given opportunities to interrogate data which would have given him a deeper understanding and the ability to transfer and make links between prior knowledge, such as identifying pattern within the balloon/yeast experiment data.

The investigations in his book and spoken about in the interview, showed a reliance on fair testing and observations. When asked about proving his observations by measuring, he was not able to think of any examples of this.

Opportunities for developing independent investigation skills appeared limited as there was a heavy use of premade science templates.

Student 4 yr 6 red
Level: 4a act

Evidence provided: Investigations, photographs (no annotations), graphs, investigation templates, pupil interview

The Moderator agreed with this level because:

In his written work, reda was not making links to prior learning after carrying out observations, however in the interview, he was able to show this with prompting (sock experiment).

He was very articulate and using scientific vocabulary comfortably. WC was very quick to make connections to real life science opportunities and showed a passion for the subject.

The book work was limited in quantity because of WC's frequent absences from school, but the interview showed that he was working within 4a.

In the interview, it was evident that red act had not had many opportunities to draw conclusions from data and use math conventions within Science.

Strengths:

- Wide variety of subject matter covered with activities designed to enthuse the students.
- Teachers are obviously very familiar with the strands assessment document, but at times these do not reflect the level of the work shows
- Interviews showed that the pupils obviously love science and appreciate the wide range of practical hands on challenges
- 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
- Clear links to understanding how Scientists develop thinking and when we spoke to the children, KS1 & KS2 could identify how Science helps in real life
- Evidence of changing teaching methods in the children's books from September to March, shows that the whole school focus on developing the science curriculum is beginning to have a positive effect on raising the profile of SC1.

Areas for development:

- Opportunities to have whole class discussions to work through misconceptions and to extend evaluation and deduction skills (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 - ie balloon experiment
- 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...)
- Initially there was more knowledge based activities being accessed, but that changed towards a SC1 focus (as mentioned in strengths)

- KS2 children need 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 – 15 March 2018

Signed – (HT)

Date -