PILOT Review feedback (R22 Autumn)

School: 158203210 Buckden CE Primary Academy

Science Leader at school: Susan Tarpey
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PSQM Hub Leader: Jo Montgomery

Quality Mark submitted: **PSQM Gilt**

Reviewer: Neil Phillipson

Strand	Aim and PSQM Criteria	Observations
SCIENCE LEADERSHIP AIM: Science subject leadership has been strengthened and developed. Science is valued and improved through embedded and sustained processes for subject leadership.		
SLa	There is a clear vision for science that is well established and consistently implemented through principles for teaching and learning which are regularly reviewed by the whole school community.	The science Subject Leader (SL) has worked with colleagues to produce a thoughtful set of principles and a concise vision which have been added to the school's beautiful 'Scientific Sam' poster. The evidence in the portfolio is well-focused on the impact of the principles, providing numerous examples of the ways in which they are enacted in classroom practice. The principles appear to have supported teachers' planning resulting in more consistent practice, and it is good to see that the pupils are familiar with the principles and actively refer to them. Next steps might include the SL reviewing the principles and vision with colleagues annually as this will keep them relevant and will keep open a conversation about effective science pedagogy.
SLb	There is strategic support for subject leadership which is well established and reciprocal and includes: • sustained professional learning for subject leader, including engagement with the primary science education community • the subject leader(s) contributing to whole school strategic planning • allocation of time and resources linked to strategic priorities.	The SL has worked closely with the headteacher throughout the PSQM process, and the value of this strategic support is evident from the portfolio, Science Development Log (SDL) and the final reflective questions. The SDL shows regular meetings between the SL and senior leaders (the impact of this is well-demonstrated on Slide 3) and increasing the number of meetings with governors has had a demonstrable impact ('time to reflect with a third partner' and the link to Cambridge University Farm, for example). The presence of science targets on the School Development Plan is a further indication of the school's commitment to the subject. The SDL also shows that the SL has accessed a good range of professional learning, both through PSQM (it's good to see that VLE resources have been useful) and through other providers (further evidence of the impact of this appears on Slide 9). Closer links with The ASE and PSTT might represent a useful step for the SL into the wider primary science community.

SLc	There is a rigorous monitoring and improvement cycle using evidence and views from all stakeholders and sources to shape development in science.	The SDL shows that a good number of monitoring events have taken place during the year; useful reflections on impact and some purposeful next steps are provided. The portfolio contains useful examples of the impact of monitoring, including pupil voice, and shows that colleagues have been supported when necessary (through team teaching and planning, for example). Monitoring has been supported by senior leaders and by the School Improvement Advisor, and has included focused monitoring of knowledge organisers and knowledge points to support strategic development. Parents' views will be sought next term.
TEACHING AIM: Science teaching has been strengthened and developed. Subject leadership responds to development needs in science teaching.		
Ta	There is provision and signposting of a sustained programme of internal or external professional development and support with which staff engage.	The SDL shows that a good range of professional learning opportunities has been provided for teachers at Buckden CE, including INSET sessions, staff meetings, support for ECTs and personalised support for class teachers. Teachers are working together to refine their use of knowledge organisers (KOs) and knowledge points (KPs) and they have been introduced to quality resources such as those from Explorify and PLAN Assessment – extensive training on TAPS resources is planned. Collaborations with The Faraday Institute and Jane Banham have had a demonstrable impact. Professional development appears strategic and to be well-connected to monitoring and advice from the School Improvement Advisor.
Tb	Teachers use and evaluate a developing and extending range of evidence-based strategies to challenge and support the learning needs of all children.	In addition to refinements of the use of KOs and KPs, the school have continued to develop their use of a range of teaching and learning approaches such as the use of drama techniques, the use of Science Through Stories, teaching science through art and the use of resources from Explorify (in one case making use of an outdoor setting). The portfolio provides some useful evidence of impact, often through teacher-voice, and ECTs have been well-supported to implement the approaches. Approaches taken from Early Years practice have been used to support the recording of less confident pupils, while resources have been purchased to ensure suitable challenge for more able pupils.
Tc	Resources are systematically audited and acquired (purchased or borrowed/sourced from outside agencies) so that children can regularly and safely use a wide range of appropriate practical and digital resources, information texts and the outdoor environment.	The school's use of the outdoor environment looks great – an allotment area, a pond and a number of resources won from Learning through Landscapes are all used to good effect. There is an active gardening club. Slide 13 includes some lovely reflection on the value of learning outdoors. Other resources appear plentiful and are well-organised and accessible. A supply of quality texts is available (perhaps the impact of these could have been further illustrated) and the school makes use of CLEAPSS resources. PSTT's Let's Go! Science Trails and Playground Science are popular resources to support outdoor learning which the SL may find useful.
LEARNING AIM: Science learning has been strengthened and developed. Subject leadership develops and evaluates teachers' practice.		
La	Children develop independence in the full range of enquiry types, using scientific enquiry skills appropriately to answer scientific questions about the world around them.	The SL shows good awareness of the extent to which different enquiry types are taught / used, and has provided support to teachers to encourage more use of secondary research and pattern seeking; examples of these enquiry types are provided. Opportunities for using all enquiry types are identified in long-term planning; it would have been useful to see more evidence of the teaching of all types of enquiry (the evidence on the display boards is not readable). Ogden Trust resources like this one are popular with teachers. Pupils' awareness of different enquiry types is supported by the use of pictorial icons. The TAPS Working Scientifically Wheel is used to monitor the teaching of skills and the focused assessment plans will be explored as part of next term's TAPS training; further exemplification of the teaching of skills to support independence would be welcome.

Lb	There is a school-wide commitment to continually improving assessment practice and processes for formative, summative and statutory assessment, through regular evaluation which ensures that they reflect the shared understanding of the purposes of assessment in science and current best practice.	Further training on formative assessment has been delivered so that a wide range of approaches is used allowing all pupils to demonstrate their understanding. Further analysis of the impact of these and the extent to which teachers use the feedback they generate to inform teaching would be useful, and it would be great to see the SL encouraged to continue to evaluate this. Teachers have taken part in moderation exercises (supported by PLAN Assessment resources) with further exercises planned for next term, and testing is now used to complement teacher assessment so that judgements of attainment are becoming more reliable. Suitable challenge is provided for pupils assessed to be confident in their learning. TAPS resources will support the assessment of Working Scientifically skills.
Lc	The whole-school community supports and promotes initiatives that encourage all children to think that science is relevant and important to their lives, now and in the future	A number of examples of activities likely to raise pupils' Science Capital (SC) are provided on Slide 17; opportunities to develop SC are highlighted in schemes of work. SC features strongly in the SDL; the SL has engaged with the relevant Spotlight Session and with The Primary SC Teaching Approach, and some training has been delivered to teachers. It is not clear whether lesson observations and feedback focused on SC took place as planned, but it is good to see that the school are making productive links with members of the local community. PSTT's A Scientist Just Like Me is a resource that many PSQM schools find useful and may help with the further development of SC next year.
WIDER OPPORTUNITES AIM: Science has been enriched. Children's experiences of science are enriched.		
WOa	Whole-school planning links science to other areas of learning, including English and mathematics, and to whole-school initiatives.	Slide 19 provides some lovely evidence of the impact of the approach to teaching science through art. Links to RE and to the school's SDG-themed topics are also highlighted (work to link scientific skills to other subject areas will continue next year). Examples of purposeful links between maths and science are provided; links between science and reading, writing and speaking (English) are not addressed explicitly here, though there are examples of all three elsewhere in the portfolio. ASE's Science Meets English might support further development in this area.
WOb	There is regular and purposeful involvement in a range of initiatives supported by other organisations and topical science activities, both in school and with their families	The SDL and portfolio provide numerous examples of enrichment events including visits by parents and external providers. The school is working hard to engage families in science and is using Twig Science Reporter to engage pupils with topical science. Pupils are clearly enjoying an enriched experience of science at Buckden CE. The Great Science Share is an increasingly popular event / resource, and the STEM Directory may provide the SL with further ideas for enrichment.

Final Questions – comment	Thank you for taking the time to share these final reflections – they provide a nice summary of the impact of your work this year.

Overall comment	Thank you for your application, Susan and Alison – I have very much enjoyed reading it. Science seems to have been a priority at Buckden for some time now, and this shows in the quality of your provision. The headteacher's close involvement with the subject is indicative of a high standard of strategic support for the SL. Existing good practice such as the use of KOs and KPs is being refined through focused monitoring and support and new practice (rigorous moderation and a wider variety of approaches to assessment, for example) are being introduced. Your thoughtful principles are informing development work, and you are clearly supportive of your colleagues, including your new ECTs. Great use is made of the outdoor environment, and the pupils (and increasingly their families) are clearly enjoying an enriched experience of science. Congratulations to you and all at the school on a well-deserved PSQM Gilt! I wish you every success in the future.
	Reviewer's signature N Phillipson

Congratulations to you all on achieving the Primary Science Quality Mark Gilt. Science is clearly going from strength to strength.