

Kirkby Woodhouse Science Deep Dive

10-11-21

Summary of Main Findings

Part 1: Discussion with Senior Leaders / Subject Leaders

- Leaders are able to very confidently articulate their approach to the sequential teaching of science across the school, following their well-thought-out 'Be Excellent' curriculum model: PROVIDE, ENHANCE, ENRICH, BE.
- Planning is thorough to ensure the incremental building up of knowledge and the skills required to work scientifically.
- Cross-curricular links are developed where it is considered beneficial to build understanding, but the school is taking care to avoid tenuous links and some science content is taught separately from the rest of the curriculum.
- The subject leader is able to provide, from pupils' work, good evidence of the planned sequence of learning being followed.
- In common with most primary schools, Kirkby Woodhouse does not track pupil progress in science in the same way that this happens for English and maths. Currently, evidence for progress and attainment is found in end of unit 'quizzes', as well as through a range of monitoring activities. Again like most primary schools, Kirkby Woodhouse is not yet in a position to present end of year science attainment data in terms of how many pupils in each year group are below the expected level, at expected or above expected. In terms of next steps, accurate assessment in science has been identified as a key improvement priority and end of year summative assessments are being introduced in the summer term 2022.
- Leaders believe that, whilst assessment is not yet as clearly defined as they would like it to be and finances for resources are tight, the school has several key strengths in terms of science provision: high levels of teacher expertise (particularly strong in some year groups), an embedded approach to sharing that expertise through collaborative working and a consistency of expectation across the school.
- Whilst quantitative data is not yet available to help answer questions around the achievement of disadvantaged and SEN pupils, these children do have a voice with regard to science provision, since they are deliberately included in pupil discussion groups and book scrutinies.
- To quality assure delivery of science and to support colleagues, the subject leader conducts learning walks, leads staff meetings and provides tailored support for teachers as appropriate.

Part 2: Lesson Visits: Key Themes

From my 4 lesson visits to EYFS, Year 2, Year 4 and Year 6, there were many common, positive themes:

- enthusiastic teaching demonstrating secure subject knowledge;
- at least good behaviour;
- at least good – sometimes outstanding – engagement and enjoyment, promoted by a strong emphasis on memorable, practical learning;
- very interesting activities very well presented and managed;
- excellent use of partner talk and collaborative working;
- high level of challenge;
- clear links to prior learning;
- successful emphasis on the development of scientific vocabulary; and
- very strong and warm teacher/pupil relationships.

Part 3: Book Scrutiny: Coverage and Achievement

- There is sufficient work in books to indicate that teachers have been delivering according to their curriculum plans.
- Regarding achievement, the work submitted provides some evidence of the incremental building up of understanding.
- In Year 1, prioritising reading has inevitably impacted on time available for other subjects, including science.

Part 4: Discussion with Key Stage 2 Pupils

- Pupils express an enthusiasm for science, especially for practical activities:
 - “You learn new things and it’s really fun because you get to test things.”
 - “There’s a vast amount of things you can learn.”
 - “There is so much variety in science.”
 - “You get to do practical stuff. The writing bit is the boring bit.”
- With science not tracked in the same way as English and maths, it is perhaps not surprising that pupils are not as clear in their responses when asked, “Are you getting better in science ... and how do you know?” However, some interesting comments were made:
 - “I just know more.”
 - “When I go home, I get people to ask me questions about science: I get some correct and some incorrect, but I’m getting more correct now.”
 - “I’m putting my hand up more and getting the answers right.”
 - “I didn’t know about the digestive system at all and now I do!”

- When asked what makes a really good science lesson, responses echoed earlier comments regarding practical learning and acquiring new knowledge:
 - “When it’s really interesting with lots of fun facts.”
 - “When you learn new things and people explain things well.”
 - “When you get to use objects.”
 - “When you get to make and test things that you’re finding out about.”
 - “When you do experiments and draw diagrams.”
 - “It’s not so good when you’re watching a video and the person on the video keeps droning on about an experiment – you just want to get on and do it!”
 - “The worse lessons are when it’s just writing.”

Part 5: Discussions with Teachers

- Teachers – on this occasion, all members of the SLT – were able to explain a child’s journey in science at Kirkby Woodhouse through a very experience-based curriculum with plenty of re-visiting and an emphasis on science ‘beyond the classroom’.
- Teachers are confident that the science curriculum is being delivered consistently across the school: “We all know what we’re doing.”
- Teachers credit the subject leader for his detailed and thorough approach to planning the science curriculum.

Conclusion: Whilst a single subject deep dive is never going to provide enough evidence for a secure Quality of Education judgement, the key question we ask on each deep dive is the same: “Does the evidence of this deep dive support or challenge the school’s self-evaluation for Quality of Education?”

This very positive science deep dive at Kirkby Woodhouse supports the school’s self-evaluation of good. Science teaching and learning may, in fact, be outstanding, although more evidence would be required – including regarding pupil progress and attainment – before committing to that judgement.

Recommendations:

- **Summative end of year assessments.** The science leader’s intention to develop a more rigorous and precise approach to assessment in science is something which I would fully endorse.
- **Sharing expertise.** Aware of the financial constraints of releasing teachers from their classrooms, I would recommend that the school seeks out more opportunities for the very strong practice observed today to be shared beyond the teacher’s classroom. A cost-free way of doing this would be for confident

practitioners to teach demo science lessons to classes of volunteer pupils after school – an approach that proved of enormous benefit to the improvement journey at my previous school. Happy to discuss this further.