

Wigginton Primary School



Explorify and its impacts



About Wigginton Primary School

Wigginton is a community primary school in North Yorkshire, England. It is classed as an urban city and town school and sits just north of the City of York. Wigginton caters for 273 pupils aged between 5 and 11 years old, 5.5% of whom are eligible for free school meals. The most recent Ofsted report in 2018 gave the school a rating of "Good".

How science is led and taught at Wigginton Primary

The Science Leader at Wigginton has been in post for two years and, based on learning from a *Thinking, Doing, Talking Science*, Technology, Engineering and Maths (STEM) course, set out with a vision to revamp the science curriculum. Whilst science was prioritised before the introduction of the current Science Leader, senior leadership shared the view that science would benefit from an updated approach.

Science has a high profile within the school but the COVID-19 pandemic postponed the intended changes to science teaching. Time for teachers was limited as they sought to juggle competing priorities, and the Science Leader did not want to take time away from other subjects, especially literacy and numeracy.

Literacy and numeracy did take priority for a time – as did mental health – especially towards the beginning of the pandemic but science did continue to be taught. It provided a way of engaging pupils who were struggling remotely with the restricted nature of the curriculum and activities that could be set.

"We realised that a lot of the children would be turning off if it was quite a bland curriculum, so science was quite nice and I think teachers wanted to do it more because it was getting the children busy and up and about and outside, especially when we had the nice weather." (Science Leader)

Live online classes were uncommon at Wigginton, especially during the first lockdown, and children were set tasks to complete on their own or with their parents or guardians. Outside activities and experiments presented a way to engage pupils in learning that was different to the norm at that time and the school were keen to harness this opportunity wherever possible. However, there were challenges with experiments and teachers found some pupils were unable to source appropriate materials for some practical investigations.

These challenges continued when pupils returned to the class due to the requirement to remain in bubbles which meant that more resources were needed. On occasion, there were insufficient resources to share around the class; where possible, teachers sought to identify practical investigations that required little materials.

Science learning over the pandemic has been difficult for some pupils as parents were not always able to support their learning. Children of key workers remained in the classroom but those working from home may have had less instruction. All subjects including science were taught less during the lockdowns.

How Wigginton uses Explorify¹

The Science Leader at Wigginton was introduced to Explorify in early 2020 during the STEM course. After that they used Explorify in their own teaching before advocating its use within Wigginton later in the year. To support this, the Science Leader delivered training on how to best use Explorify. At least half of the teachers across the school use Explorify and, moving forwards, the Science Leader aims to ensure every teacher uses it in their teaching.

Explorify was not used widely in the school before the pandemic but has been used for both remote and in-class learning. During lockdowns, for example, staff shared tasks from Explorify with pupils and gave parents the background information provided alongside each activity. Parents then supported their child(ren) with

¹ For more information about Explorify please visit: <https://explorify.uk/>



discussing the tasks. When all pupils returned to the classroom, teachers experienced issues sourcing sufficient resources to carry out experiments according to government guidelines. Explorify was extremely valuable during this time as teachers could find activities on Explorify which needed no resources.

Whilst teachers use most of the activities available, they have observed excellent engagement with the *Odd One Out* and *Zoom In Zoom Out* activities in particular. Explorify is commonly used to complement science lessons or start a topic but also as a filler in spare pockets of time available.

Whilst Wigginton has not used Explorify to assess pupils formally, the Science Leader uses some activities to gauge pupils' ability to discuss scientific concepts; this is especially important for children who struggle to write but can demonstrate their knowledge and understanding verbally.

"I think writing is a big barrier to a lot of children in other subjects and my big push is, yes, we need some writing but it shouldn't be a barrier. I should know which of my children have scientific knowledge and through things like [Explorify] I actually do because I'll say, 'Oh, well actually, the writing wasn't great but he said this. He asks that. He thought of this.' You know, a lot of your assessment is what you know of the children and I think [Explorify] really gives you a really clear picture of what they think up and they bounce off of each other which is really nice." (Science Leader)

In addition to science lessons, teachers have occasionally used Explorify in other lessons – one Early Years teacher used Explorify as part of literacy to generate discussion amongst children about elements of the topic they were covering in the upcoming lesson.

"Sometimes I drop them [Explorify activities] into literacy lessons. For example, when we were doing 'Under the Sea' as a literacy topic and I used 'which is the odd one'. It was a picture of three fish. Which is the odd one out and why?" (Classroom Teacher)

The Early Years Foundation Stage does not teach science as a standalone subject and instead covers basic science under the 'Understanding the World' area of learning. Teachers in this stage have used many of the activities available in Explorify for this age group and would like to see more of these in the future.

The Science Leader has also used some of the ideas from Explorify in their maths lessons. For example, using the principle from the *Odd One Out* activities, they showed pupils three shapes and asked them to describe differences and similarities between them.

"I've used Odd One Out for maths. I think that's quite a good one and I've made my own. It will be nice if there was some made for me but I've made my own. Especially when you looking at shape... there are different possibilities in that as well so I think that's worked really well adapting it to maths." (Science Leader)

What works well about Explorify?

Explorify works particularly well with the school's plans moving forward to get children thinking, doing and talking, in line with the STEM approach to science in the course the Science Leader attended. Staff find that Explorify encourages children to talk by presenting activities which do not have a right or a wrong answer.

"There's not really a right answer because as long as it's plausible, I'm quite happy. So, if one says, 'That one because it hasn't got a blue fin', that's fine. If they notice that two are actually the same species and one is different, that's okay, but we're dealing with four and five year olds, so it's often to do with the colour." (Classroom Teacher)

It is the open-ended nature of questioning within Explorify which helps children to feel more able to engage in discussion. Activities like *Odd One Out* and *Zoom In Zoom Out* are seen as particularly useful for this.

Staff at Wigginton praise the quality of the videos and images on Explorify but also the amount of activities available. Teachers are always able to find an activity which links with their intended topic.

Impact of Explorify

Impact on teachers and the school

The school has moved towards encouraging greater communication in science, and Explorify helps teachers to plan and deliver lessons which encourage discussion in support of the curriculum objectives. Questioning is embedded within the resources and encourages the development of reasoning skills.

"I think it's just those reasoning parts of the curriculum that we often need more evidence for, especially for the greater depths children, it's the reasoning and the using and applying the skills,

*and I think that open ended questioning [within Explorify] does support teaching in those areas.”
(Classroom Teacher)*

Teachers report that Explorify helps them to plan and deliver more engaging lessons, and during the pandemic in particular it made it much easier to plan quickly. Teachers had to accommodate competing priorities and set work for both children in class and learning remotely. Explorify made things easier for teachers, who were able to set tasks for pupils at home who could be supervised by a parent or guardian.

*“During the pandemic, some of the set lessons that you find on Explorify are very good for home schooling because I think they're very straightforward and a lot of them have resources that you would find in your kitchen cupboards at home, and I think that's nice to send to parents”
(Classroom Teacher)*

One teacher who was not particularly confident teaching science found Explorify was very useful for reinforcing their own subject knowledge by providing background information alongside each activity.

“[One of our teachers] said, 'To be honest, I don't feel very confident in some of my scientific knowledge. I feel sometimes that the children know more than me' - which in year six happens. And she really likes that underneath it had the background science, it had the take it further and there was some support there.” (Science Leader)

Impact on pupils

Staff report increased engagement amongst pupils whilst using Explorify, with pupils more likely to contribute towards discussion in science. Increased confidence has also improved their ability to communicate about science and provide reasoning for their ideas as they have been able to think and talk in greater depth.

“I think [Explorify has] given them confidence. I think it's improved their reasoning skills. I think it's improved their resilience in terms of being wrong and having someone challenge and then say again more for the older children that it's made them better at debating and questioning their own thoughts and why do I think this way. [...] I think in terms of that growth mindset, it's a really great tool to use because it does it in a way that's not negative. It's not, 'Oh, you're wrong'. It's just that someone else could also be right.” (Science Leader)

This is a particularly important impact of Explorify; science is not about being right or wrong, it is about developing and challenging knowledge and anything which helps to promote this is vital.

Pupils are increasingly learning from each other, largely as a result of increased discussion. This is especially useful for lower attainers as they learn from those who have greater scientific knowledge. Those who find writing difficult also benefit, especially pupils with SEN, as Explorify helps them to demonstrate their science knowledge through talking.

“I think for those children especially [Explorify has] provided them with more autonomy of their learning and more confidence to actually use what they know rather than just sitting there thinking, well, I can't spell it, I can't read it. It's taken a big barrier away.” (Science Leader)

Explorify does present new scientific knowledge to pupils but one of the key impacts is the opportunity that it provides to pupils to apply prior knowledge. Explorify is a means for them to demonstrate that they have both retained knowledge, and that they can use it in appropriate situations.