

Harton Primary School



Explorify and its impacts

About Harton Primary

Harton is a community primary school in South Shields, England, with approximately 700 pupils – 37.6% of these are eligible for free school meals. Harton accommodates pupils aged between 3 and 11 years old and in its most recent Ofsted inspection in 2018 was rated as 'Good'.

How science is led and taught at Harton

Science has a high profile at Harton and there are three Science Leaders at the school, each of whom are responsible for discrete elements of the overall role. The main Science Leader also co-ordinates the Science, Technology, Engineering and Maths (STEM) curriculum across the school to ensure synergy. Collectively the Science Leaders are responsible for providing staff with continuing professional development (CPD), monitoring the delivery of science lessons and advising teachers on best teaching practice. The school's aim with science is to establish independence, confidence and strong scientific enquiry skills amongst its pupils.

"We're trying to encourage the children's independence, like, scientific enquiry, because we know that when they get to the comprehension there's all the knowledge-based aspects of it, all those different objectives. But it's the children's confidence and competency with enquiry, the different types, the different skills that they need to apply. So that's something we are starting to make a big push on." (Science Leader)

Science is generally taught standalone but Science Leaders and teachers look for opportunities to make cross-curricular links wherever possible. Science Leaders want science teaching to be diverse and take a variety of forms, and pupils would normally benefit from various trips and talks from external visitors. Whilst COVID-19 has significantly restricted this the intention is to return to this when possible.

Impact of the pandemic on science teaching at Harton

During the first lockdown no live teaching was undertaken for any subject with staff instead setting tasks for children to carry out in their own time. However, by subsequent lockdowns, the school had familiarised itself with Google Classroom with lessons pre-recorded for pupils to access remotely. Google Meets were also used for all subjects in support to provide children with live instruction, including science.

In the absence of continued live teaching, teachers encouraged outdoor learning by setting tasks for pupils which involved exploring their local environment and reporting back on their experiences. Teachers found Google Meets especially useful for discussions around experiments and investigations, with one of the Science Leaders recognising how important this had been in maintaining practical skills.

"Year Six... because they were doing a topic that involved a lot of experiments, and they wanted the children to be really involved in it, they would do their Google Meets during the Science lessons. So they would give the live teaching, and discussing the results, presenting results... Because I was really worried about the amount of coverage that would be done, but actually it has been really, really impressive what the staff have been able to do and what the children have been able to do as well." (Science Leader)

Whilst science was still taught during the pandemic it was given a lower priority than literacy and numeracy, especially during the periods of lockdown. Teachers adapted their science teaching during this time and included multiple concepts in lessons where they might normally have introduced only one.

There were concerns about the efficacy of teaching certain scientific concepts during lockdown which resulted in the teaching of some subjects been postponed until pupils returned to the classroom. Sound provides an example of one concept that teachers considered would be difficult to understand without in-person teaching.



How Harton uses Explorify¹

Almost all teachers at Harton have used Explorify in their teaching for at least 18 months although some have been using it since the Science Leaders first introduced it to staff three years ago. The main Science Leader was, and continues to be, the main advocate for the use of Explorify across the school and they have autonomy within their role to make recommendations about resources to other staff. There is no explicit expectation that teachers use Explorify but since the pandemic they have sought to use it more frequently. They will seek to maintain this increased level of use moving into the next academic year.

Staff use many of the activities Explorify offers, especially the *Zoom In Zoom Out*, *Odd One Out* and the *Problem Solver* activities. Explorify is typically used as a start to a lesson and as a way of generating interest and curiosity in an upcoming subject. The activities also allow teachers to gauge how much knowledge pupils have retained from previous lessons to inform delivery of subsequent content.

“There's so many different cross-curricular opportunities as well, you're getting skills from across the curriculum as well, which is really nice.” (Science Leader)

Harton have drawn upon Explorify to support cross-curriculum delivery and to date have used it in Geography as well as science but recognise that it has the potential to go beyond these subjects to include literacy and numeracy. They plan to do this in the future. Moving forwards, the Science Leader also intends to use Explorify in assemblies to harness the pupil engagement they see in lessons on a larger scale.

Whilst Harton continued to use Explorify during the pandemic, teachers concede that it was used less in remote learning although it was found to be as effective in this medium. Since the start of 2021 the use of Explorify did return to pre-pandemic levels, and more teachers are now using the resource in their teaching.

What works well about Explorify?

Teachers value the cross-curriculum nature of Explorify and added value that comes from using it as part of other subjects. The sheer volume of activities available means that they are always able to find something new and relevant to any subject.

Harton staff have found that Explorify activities do not have to relate closely to the lesson in which they use it, and if they have a few spare minutes with their class – in both science and other lessons – they will use it to support delivery. Explorify has the capacity to engage pupils by capturing their interest.

Impact of Explorify

Impact on teachers and the school

Teachers across the school use Explorify in their planning, largely to develop new ideas about how they might approach the teaching of specific areas of science or to reinforce their knowledge in an area. For example, teachers go to the additional reading within a certain activity to further their understanding. They also take the structure of certain activities and develop their own lesson plans based on ideas they have seen on Explorify. This results in teachers feeling more prepared and equipped with the specific knowledge required – a factor significant in increasing their confidence in the delivery of science to pupils.

“It helps my understanding. Sometimes when I'm watching it, it helps me think about how I'm going to teach it as I'm going through Explorify. It helps just add to what's already planned. So sometimes I might not even include much different to a lesson plan that's already there, but if there's something that I've seen on Explorify that I like, I'll add it in. [...] It supports my teaching as well as the children, definitely.” (Classroom Teacher)

Explorify helps teachers to make their lessons more visual and boasts a wide array of high-quality videos and photos that teachers would otherwise find more difficult to find. Teachers have found the visual element of Explorify particularly useful during the pandemic when experiments and external trips have been impractical.

“I definitely think a video helps them because we haven't been able to go on as many school trips. I mean, not just science, all across. We haven't been able to go on as many school trips and things. Just to have a video it's more real life than just me telling them on a screen?” (Classroom Teacher)

Explorify helps some teachers to allow pupils to lead learning more – pupils are teaching themselves and each other rather than needing direct instruction from the teacher. One teacher who has recently changed year groups said that Explorify helped them to plan how they would approach teaching pupils at a different age.

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

Enjoyment of Explorify activities is not limited to the children at Harton, and staff describe how using it in their teaching and planning helps them enjoy teaching science more. The topics and the way they are presented is interesting, with teachers learning new ways to think about and present scientific concepts.

Impact on pupils

Explorify has a significant impact on pupils' communication and reasoning skills by encouraging them to engage with exciting and novel ideas. The activities are enjoyable and non-threatening, and teach pupils skills that are important across the curriculum. For example, the *Zoom In Zoom Out* activity allows children to make guesses about what they can see which may turn out to be incorrect but are based on accurate observations.

"With the Zoom In Zoom Out, is it the first thing you see? No, but getting them to realise it's alright to make mistakes as well, it's part of science, it's part of learning. You go through the process when you've got more information, you've got a bigger idea of what the whole picture is, it's like pieces of the puzzle all coming together." (Science Leader)

Whilst pupils' guesses may be incorrect, children are not afraid of getting it wrong. Alongside guidance from teachers, Explorify helps pupils to realise that it is important to make mistakes as this is part of the learning process. This has particularly valuable when it comes to establishing confidence amongst those who are typically less assured, and in some cases has particularly benefitted pupils with special educational needs.

"I do think the, say the Odd One Out, all the children could access that, and even your SEN pupils, they can look at it and they can justify it in their own ways, there's no right or wrong answer a lot of the time." (Science Leader)

Improved communication includes a broadening vocabulary and an increased capacity to speak about science using scientific language – through discussion amongst others, pupils learn new words to describe what they see in more depth and with greater accuracy. This has a knock-on effect on the oracy skills of pupils at Harton.

Whilst Explorify has positively impacted pupils of all abilities, staff believe that certain activities are particularly beneficial to particular children. For example, activities such as the *Big Question* and *Problem Solver* give children the opportunity explore topics in great depth and practice and develop their reasoning skills.

"Things like the Big Question, the Problem Solver [...] That's really good for pushing your more able pupils. It's that justification, 'Well why do you think that? Why does that happen?'. They're really having to apply that knowledge that they've got and go beyond that, linking it with other knowledge that they have and wider experiences as well." (Science Leader)

Staff assert that the nature of these activities pushes children of all levels and everything Explorify offers is inclusive and suitable for all pupils. One element of Explorify which teachers believe contributes towards its success across all pupils is that it is hugely enjoyable for them; pupil feedback in early 2021 found Explorify was widely enjoyed by children, reinforcing plans to increase use in the future.

"I think it's not just the science skills, it is those verbal skills, those listening skills. I think it does encourage a lot of different things and it is something that the children enjoy as well, which I think is one of the most important things, they are going to be more switched on and more engaged if they're enjoying it." (Science Leader)