West Jesmond Primary School

Explorify and its impacts

About West Jesmond

West Jesmond Primary School is an urban school in England with 625 pupils aged between 4 and 11, 9.7% of whom are eligible for free school meals. The school has a long history in the area and has occupied a site in West Jesmond for 111 years. Since 2009 the school has been based in a modern, purpose-built energy efficient building. The school ethos promotes an active and healthy lifestyle for its pupils and staff. It is rated 'Outstanding' by Ofsted as of 2015.

The impact of the pandemic on science teaching

West Jesmond affords significant importance to science and is continually encouraging staff to promote hands-on science, scientific thinking and enquiry. The Science Leader is currently disseminating a Science Capital Teaching Approach to all staff; this is designed to support teachers in helping students to find meaning and relevance in science – especially in relation to their own lives – and in turn engage more with science. The Science Leader is a member of the Primary Science Teaching Trust (PSTT), and the science capital learning being disseminated is part of a PSTT project in partnership with University College London and The Institute of Education. This is the 'Primary Science Capital Project' – an applied action research study which works in partnership with teachers to develop a science capital informed pedagogical approach for use in primary schools. West Jesmond is one of the schools participating in this research.[1]

The Science leader is keen to make science exciting for the pupils and strives to promote practical ways to deliver science in new and interesting ways. All teachers had opportunities to access science CPD this year with a particular focus on outdoor learning for the new term.

> *"I think [Explorify] has been really to keep the teaching and learning aspect of science exciting and hands on and with working scientifically at the forefront. In terms of our curriculum statement and intent and implementation, working scientifically is absolutely at the heart of what we do here." (Science Leader)*

Science has remained a priority during the pandemic to maintain interest and engagement, and ensure pupils do not spending extended amounts of time on English and Maths. The Science Leader has played a key role in this by helping and supporting staff to plan science lessons that were suitable for remote learning.

As a result of this approach, teachers have taught the science curriculum throughout the lockdowns and utilised their existing online platform, Seesaw, to upload lessons and learning prompts. Live lessons did not feature for any subject during the lockdowns as the school size and large number of keyworker children impeded delivery.

Typically, pupils receive five units of science a year, with science teaching occurring once a week for at least an hour. After an initial period of adjustment, science continued to be taught for about the same amount of time. The lessons in the classroom and at home were aligned so children all had the same provision.

> *"We just try and make sure lessons that we give for home learning are very much matched to lessons that we'd be teaching at school because when we have the closure, we still had lots of children in, and there was an expectation that I'd be teaching the same thing that children would then be receiving at home. So, the science lessons would very much look the same." (Classroom Teacher)*

[1] For more information on this research, follow this link: https://www.ucl.ac.uk/ioe/departments-and-centres/departments/education-practice-and-society/stem-participation-social-justice-research/primary-science-capital-project

On returning to the classroom, it remains difficult to accommodate practical science investigations; pupils cannot work in large groups or share equipment due to the restrictions and are seated in rows. The school has overcome this by demonstrating experiments, with pupils recording the results and forming conclusions.

> "*We've been doing a lot more of the working scientifically with getting them to look at results and graphs and stuff rather than actually creating it themselves. We've done investigations as a whole class where possible, but I think there's a lot of things that they've missed out on because of lack of resources or ability to work in groups." (Classroom Teacher)*

Other practical elements, including outdoor learning and visitors to the school, which would typically feature as part of the science curriculum are not possible and continue to impact on the science learning. Visits to local allotments, the dentist and a geologist were cancelled. Teachers feel these elements help to bring science alive for children and welcome the opportunity to embrace these activities when permitted.

How West Jesmond uses Explorify[2]

The Science Leader encourages the use of Explorify and this begun several years ago. Initially introduced via staff meetings to develop scientific vocabulary for pupils, it is now fully embedded in the school curriculum. Explorify is typically used as a starter for science lessons and aligns with the school's *Thinking, Teaching, Doing* teaching model from PSTT which sees each class get 5-minutes at the start of each lesson just for talking. For West Jesmond, Explorify is primarily used as a way of engaging children in learning.

In addition to activities like *Zoom In Zoom Out*, the videos are particularly useful for teachers because they help to visually demonstrate concepts and ideas to children. Several teachers also use it to help with the formative assessment of pupils' progress and prior learning. Explorify generates discussion and debate, and by listening to these exchanges teachers can establish what pupils know and where gaps remain in their learning. Teachers monitor the use of scientific language in their descriptions and ask questions about what is happening. They also evaluate who can support an argument and build on their knowledge.

> *"I use it as a bit of prior learning, prior knowledge for the children, just so I can see who's using scientific language…. who's got the vocabulary that can help support an argument for what something might be like. Obviously with younger children, they're very much talking about materials, and trying to describe things, and then teasing a bit more language whenever I would talk about it as well." (Classroom Teacher)*

Teachers used Explorify slightly less often during the lockdowns because of the challenges they faced. Some teachers did use it as a general morning task or linked it with learning from other resources, such as BBC live lessons. Explorify was sent as a link to support children's home learning and they were encouraged to discuss the scientific topics at home with a parent or family member so they were continuing their learning further.

What works well about Explorify?

The Science leader believes Explorify can change the way a teacher approaches a lesson because of the child-friendly resources and images available. Information on all the curriculum topics can be found easily and quickly; if they want to show an image of a beach or mountains they are at their fingertips. Explorify is a safe resource for use in schools and prevents teachers having to search through YouTube videos.

> *"The quality of it is really good and you know you're not searching through YouTube videos for adverts and all that sort of thing. You know it's safe for primary school, the content you know is going to have that safety element, that it has been looked at and is age-appropriate." (Science Leader)*

Teachers find the search function by topic and age group especially easy to use and consider that the record keeping and reset function work well together to help teachers avoid duplicating work. Explorify provides a toolkit for lessons and in so doing provides a level playing field to be able to talk about science. Pupils become excited and enthusiastic about science which encourages engagement and learning.

[2] For more information about Explorify please visit: https://explorify.uk/

> *"You'll sometimes get the ones that definitely think they know, and then it's really good at the end when you find out that they didn't know for definite, and that they were completely wrong, and they enjoy that bit as well, when they think it's obvious but actually it's not. So, I think, you know, it creates enthusiasm for the science before we've started anything else. So yes, they enjoy it and get excited about it" (Classroom Teacher)*

Teachers are using Explorify in lessons outside of science including maths, where the *Odd One Out* activity is used to support the teaching of shapes.

Impact of Explorify

Impact on teachers and the school

Explorify is having a positive impact on lesson planning, with teachers adapting lessons and using the clear explanations in the resource to develop their background knowledge before they introduce an activity. This approach is giving teachers more confidence in explaining concepts to pupils, particularly when they are not clear on the subject background, and they feel better equipped to respond accurately to any questions that pupils may have in a manner that uses the correct language and approach. Teachers find the background information on a topic helpful as it offers a good explanation and often a video clip to help illustrate a point.

> *"[Explorify] has made me slightly more confident as a science teacher and I like the way that it gives me the background science behind it. Sometimes I'm not entirely sure what the actual background science is, so that bit really helps as well, and to give you the confidence to be able to make sure you're saying the right thing to the children as well." (Classroom Teacher)*

The confidence teachers develop leads to more creativity in lesson planning. Teachers are using the *Zoom In Zoom Out* and *Odd One Out* activities as stimulus to create their own versions and/or are adapting them to suit different lessons.

Teachers enjoy teaching science more as a result of the fun and engaging curriculum. One teacher described how they are using Explorify to help develop a new outdoor curriculum at West Jesmond, using the information and activities on plants and animals as a starting point.

Since the introduction of Explorify, teachers have increasingly used activities at the beginning and end of lessons to recap learning. Consolidating knowledge and skills is incredibly important for retention and the ease and speed with which teachers can arrange a starter and plenary makes them much more likely to be effective. This method of teaching also helps staff to teach more iteratively, and base their teaching on gaps they have identified through Explorify activities.

Explorify helps teachers to allow pupils to have a greater responsibility for their own learning, and the simplicity of experiments within Explorify activities have inspired some children to imagine and create their own scientific experiments. This has been particularly important during the pandemic, as parents have taken on some of the responsibility of leading learning.

> *"We get quite a lot of comments from the parents when they use that during the home learning, and there might be some aspects of the lesson that the kids have really really enjoyed, and the parents have responded to be like, 'Oh, such and such has really enjoyed this lesson, or this part of it', and then they've kind of gone on their own little diversion, and it's sort of like learning more about it. Then they did something in their own practical way" (Classroom Teacher)*

Impact on pupils

Teachers are seeing an impact on pupils in several ways. Pupils love the 'mystery' Explorify activities provide and become immediately hooked on solving the problems. Explorify encourages pupils to steer discussions and seek to solve puzzles without reliance on the teacher. They are becoming more independent learners with evidence of this extending to home. They have the confidence to pursue concepts of interest to them.

> *"We ask the kids what they want to learn about, and then we try our best to build that into the lessons. I think that might have given them the confidence to go off and go down their own little avenues, and then that's been really nice to see on the home learning, which is a really powerful tool to be able to do." (Classroom Teacher)*

Explorify improves pupils' talking and oracy skills by using scientific vocabulary more effectively. They can describe what they see in discussions and the teacher can expand further and model new words, continually improving on their language skills. When teachers review a subject, the images on Explorify help children to remember these key words to reinforce their learning. This impact can be seen across all age groups.

> *“What is nice about it as a discussion tool, is that it is accessible for all, and the level of discussion can be tailored depending on the child that you're talking to, and they will all get something from it”. (Classroom Teacher)*

Listening skills are improving as a consequence. Pupils must listen to others and respond with their ideas. Children who have English as a second language show improved language skills because of the amount of talking they are required to do as part of science and the visual prompts (such as pictures) which help them to develop new language.

> *“Ones who potentially might be EAL as well, English as an additional language, because there's pictures that they get to see, and then they hear me use the language of what it might be, and then hopefully then they can see what I'm talking about, rather than just listening to what I'm saying, which they might not necessarily understand, but they can see pictures in lots of different sorts of ways, and different situations that I think is a very powerful tool for those children who might find the language a bit difficult.” (Classroom Teacher)*

Explorify impacts in particular on children who do not speak out in class and generally less confident in their abilities. Teachers find these pupils are often more scientifically minded but just need encouragement to engage in discussion which Explorify provides. Other children benefit from this approach by providing them with the opportunity to share their scientific knowledge with the rest of the class.