



Figure 1 Virtual reality headsets in use in the classroom

Katie Nicholds outlines how virtual reality headsets support learning in her school

Taking science lessons into the future

At Race Leys Junior School in Warwickshire, creative and unique experiences are at the forefront of our minds. As a team, we are always seeking new and innovative ideas to enrich our curriculum. Over the last year, through the COVID-19 pandemic, we have become more adventurous with our thinking and our lesson delivery.

As part of the Griffin Schools Trust, one of our school's proud traditions is taking children on trips to widen their horizons, explore their surroundings and deepen their thinking. With the pandemic restricting field trip opportunities, we came together to overcome the challenges by exploring alternative approaches. One such approach taken was the purchase of a class set of virtual reality (VR) headsets.

Virtual reality in education

The VR headsets, along with a wide range of curriculum-linked content,

mean that we can take the children to places they would not usually be able to go – sometimes, literally out of this world! Children and staff were introduced to the headsets in an introductory lesson where we travelled virtually to London, Warwick Castle, and even beneath the sea. The engagement of all the children was instant, and the answers to questions about what they had seen were detailed and in-depth.

The VR headsets link perfectly to science and allow the subject to be delivered in a creative way. Year 6 (ages 10–11) had the opportunity to see how helpful the VR headsets are in science by viewing and manipulating a 3D, beating human heart. This allowed them to see exactly what it would be like in real life, much better than a picture or drawing could ever do.

There are many other opportunities for VR to show 3D images and environments across the curriculum, especially in science, and to enthuse

the children in their learning. Pupil voice feedback was overwhelmingly positive, and all children now look forward to using the headsets on a regular basis.

Beyond science

Year 5 (ages 9–10) had a fantastic opportunity to consolidate their learning about the cosmos by using the VR headsets to 'fly into space'. Here, they could see the distance between the planets and what the Earth looks like from the Moon. From this, year 5 then linked their scientific learning to art by drawing space scenes. Again, pupil voice was overwhelming. The children have thoroughly enjoyed their VR experiences and are eager to use them regularly.

The VR headsets not only lend themselves to science lessons; they can also be used across the wider curriculum. They have allowed our children to travel back in time to Ancient Greece, watch the eruption of Mount Vesuvius, and experience the

Blitz from the ground. Not only did these lessons produce fantastic work, but they also allowed our children to develop empathy by articulating their emotions and discussing how they would feel if they were there.

As a school, we do not want to stop there; we are always looking for ways to enhance our delivery of lessons. We have recently purchased new audio headsets, which will allow our children to have an audio experience where they will again experience new surroundings and follow instructions linking to lessons such as drama and spoken language.

This innovative approach allows our children to see the importance technology has and how it shapes the way we learn. Technology is essential in allowing children to develop and enrich their understanding across the four main STEM areas: science, technology, engineering and mathematics.

Going further

Not only do the VR headsets enable us to enhance our children's learning at our own school, but we also promote STEM by holding events such as 'Griffin University', which offers children enrichment activities such as:

- **Investigative science.** This allows pupils to learn a scientific concept, develop an idea of how to test it, create a prototype, and finally analyse the results. This is effective as the children can develop an understanding of how the process has helped them to develop their thinking.

- **Forensic science.** This is a brilliant scientific activity we have been able to offer our children as there is a clear link to a real-life context, an essential part of scientific learning. As in investigative science, children learn key concepts before testing them out themselves.

As well as Griffin University, children have been exposed to scientific opportunities from external providers. Children have had the opportunity to work with these individuals exploring scientific concepts using specialist equipment. Virtual workshops have also been provided to our children where scientists have video-called into lessons and taught science investigations, with many sessions leading to the children creating something.

The real-life context

Alongside weekly science lessons, we also try to embed a real-life context philosophy into our scientific understanding. We participate in significant science events such as World Space Week and International Women in Science Day, and encourage our children to keep up to date in scientific affairs. Our children also celebrate a week of science with the Griffin Science Symposium, which is an annual event in all Griffin Schools Trust schools.

One example of this is the Mars landing, where children learnt about the mission and discussed their feelings towards it. This sparked great conversation and strengthened children's understanding of the

importance of science across the school.

Our school also encourages outdoor learning and the development of a creative mind. To support this, we have developed our wildlife area to support and strengthen children's understanding of flora and fauna. Allowing children to explore outside enables them to take charge of their own learning and, again, embed that real-life context into their education.

Using science ambassadors

Soon, the school will be launching the 'Science Lunchtime Boxes', which will allow children to participate in creative activities during their social time, focusing on physics. This is a fantastic opportunity for children to see science in a new way and develop independence and resilience.

To support this initiative, we will begin the enrolment of our own young 'science ambassadors' to promote a love of science. Our science ambassadors will heighten the importance of the subject and allow children to take ownership of their learning and build confidence in their knowledge. Furthermore, children will be given the opportunity to set and organise experiments, record data, and then discuss in a whole-school context.

Our verdict

Overall, the reception we have had from children, staff, and parents to our use of VR has been overwhelming. We have sparked increased interest in science, and other subjects, and will continue to use this technology.

VR has allowed us to take our children to places we never imagined possible, especially during a global pandemic, and, in doing so, to create an environment to carry out high-quality learning and discussions. We would recommend any school to consider purchasing a set of VR headsets as their impact on our children's learning has been truly exceptional.

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Figure 2 Children work beyond science after using the VR