

*The boys love the different projects. It has turned science into a favourite subject.*

Class teacher

## **Science in our school**

### **Tell us about your school**

St. Peter's NS is a small all-boys school in Bray, Co. Wicklow. We have eighty pupils in five mainstream classes ranging from second to sixth and we have one class for pupils with special educational needs. On our staff we have an administrative principal, a learning support teacher, a home school community liaison teacher and a teacher for pupils with special educational needs. The school has DEIS Band 1 status. We try to engage in projects and activities that motivate the boys to become independent learners, developing their knowledge and skills.

### **What whole-school approach does the school take to science?**

Science is a very popular subject in St. Peter's. The boys love investigating their world and the science curriculum supports and encourages this. We try to take part in as many whole-school projects as possible during the school year. Every year, Ms. Whyte sets up science boxes based on the staff's needs. These boxes contain materials to set up experiments and books to help further research. Every year, we take part in the Discover Primary Science awards and it encourages us as teachers to keep up to date with new experiments and developments. The boys love taking part in the different activities for the project, such as Greenwave and trips to science centres and shows. Three years ago we were the only school from the Republic of Ireland to take part in a major research project around the theme of flight. This year, 6<sup>th</sup> class took part in the primary section of the BT Young Scientist Exhibition and their project on sea safety won one of the top prizes on the day. The school has taken part in a number of K'NEX events over the past few years and last year, we came seventh in the national competition – K'NEX experience. This year, we took part in the Xperience Engineering project and our 6<sup>th</sup> class won the title of Senior Engineering Class of the Year. We aim to cover as much of the curriculum as possible through our projects and to give the boys a chance to experience as many aspects of science as we can.

### **How do you begin a new topic in class?**

On a class basis, our coverage of a topic is heavily influenced by what the boys want to know. We usually start a new topic with a KWHL\* chart or by asking the boys to

make a list of questions that they would like to learn about the topic. We try to ensure that our topics are integrated with other subjects to make learning more meaningful and relevant. Another simple but important thing we try to achieve when planning for science is that we focus on the topic rather than just the strands in isolation. For example, for our Young Scientist entry, we took the topic of 'Safety on the Sea'. Through this, we explored forces in boats, we made lighthouses using our knowledge of electricity and we investigated materials for our lifejackets.

*(\*KWHL = What we know already, what we now want to find out, how we will find this out, what we have learned)*

### **What resources are important?**

We find the science boxes invaluable because they're usually based on an area of the curriculum that we, as a staff, have identified as needing support or development. We also focus on the objects that the boys find around them everyday. We always try to emphasise that science is not just for a laboratory somewhere – it's all around us! And, of course, we always find ourselves returning to the curriculum documents for ideas and methodologies.

### **Which assessment methods are most important?**

We use a number of different assessment methods and it varies from classroom to classroom. One teacher favours portfolio assessment, another prefers using the KWHL chart while others use concept mapping or concept cartoons. It depends on the strand/topic in question and on the age-group of the class. Self-assessment is also a vital part of our teaching and learning. We use the results of our assessment for our future planning.

### **What are the benefits of taking part in projects?**

There are many benefits to taking part in the projects. We see huge improvement in the boys' self-esteem and confidence. They take pride in their work and often carry out more research outside of the classroom environment to enhance their projects. It encourages ambition and promotes achievement. For the senior classes in particular it has been excellent training for post-primary school, insofar as the boys learn how to set up projects and to engage in group work. Their motivation throughout the various projects is remarkable and we find that having such practical activities aids classroom management – everyone is interested and on-task. From a teacher's point of view, we find that the projects encourage creative teaching. It broadens our knowledge and skills and really challenges us to think 'outside the box.' Projects like

the Discover Primary Science awards present new activities and experiments every year and introduce us to a wealth of resources and events.

### **What do the teachers find challenging?**

While there are many benefits to participation in projects and an active science curriculum, it can be challenging for the teachers. It requires a lot of effort and organisation to keep projects, particularly long-term ones, on track. They can be very time-consuming and involve a lot of preparation and evaluation outside of class time. It can be intimidating for a teacher to take on a new topic in science if he/she isn't sure of the content. However, there's a lot of support in the school from colleagues and from external agencies, and as the boys have become more and more interested and confident in their own abilities, we find that it's more beneficial for them to hear, 'I'm not sure. How do you think we could find out?'

### **How do you organise projects?**

Class teachers often take on projects on an individual basis and then request help as needed from other teachers. On a whole-school level, we aim to keep everyone involved. For example, every year we take part in the Discover Primary Science awards. This involves us fulfilling certain criteria and logging our activities in a folder. Each year we rotate responsibility for the folder. The person who co-ordinates the project for the year liaises with the other teachers, allocates activities to each class, collects information and puts together the folder. As we rotate it each year, it's far less daunting to take on the responsibility.

### **Have the curriculum documents helped?**

The curriculum documents are vital to our planning and our teaching. They provide a framework when drawing up long-term plans and a checklist for short-term planning. We also find excellent ideas and methods of assessment in them. While our efforts on a whole school level encourage us to think up new ideas, the curriculum documents help to tie everything together.

### **What are the plans for the future?**

We intend to continue our involvement with projects such as Steps Engineering, Discover Primary Science and the primary section of the BT Young Scientist Exhibition. We're also always on the lookout for new projects that will present the opportunity to explore science in a different way!

*By setting up plenty of hands-on work, it turns abstract ideas into reality for the boys.  
There are plenty of great resources out there for every topic.*

Class teacher

A special thanks to Martina Sexton, St. Peter's BNS, Wicklow for sharing her school's story.