Welcome to another Project 500 Newsletter! Especially welcome are those who are joining the Project and receiving the newsletter for the first time. You will find in it news of how different schools have participated in Project 500 and information which we hope will be helpful and of interest to you.

There can be many reasons why schools decide to get involved in Project 500. Among these, we view the promotion of reading for pleasure as particularly important. Indeed, the chief aim of the project is simply to encourage children and young people to enjoy reading science books.

From the reading perspective there is sometimes concern that a book is at the right level for the young reader. Similarly from the science point of view there can be a desire for reading to be related closely to the school science scheme. While these are legitimate considerations which can be accommodated well within the format of Project 500, at its heart the project is about children and young people freely choosing science books that appeal to them.

It might be thought that having to complete a challenge is comparable to labouring to meet a goal, something all too familiar in our target-driven culture. However the 'Reading Challenge' in Project 500 is intended to be a fun element and the context throughout should emphasise enjoyment and pleasure. Carol Dweck is a leading researcher in motivation who has shown the importance of a ‘growth mindset’ in learners' development and achievement. Children and young people who read science information books and engage in related activities which lead them to think ‘I’m enjoying this’, ‘This challenge is fun’, ‘This is interesting’, ‘I didn’t know that fact and I must find out more’, are gently acquiring motivational drivers that may in the longer run build a growth mindset.

Project 500 is a potentially powerful means to associate pleasure with both reading (through finding out and making meaning) and science (discovery, wonder, the desire for knowledge). Hopefully this may have a positive knock-on effect for reading and for science in the classroom.

Joy Alexander and Ruth Jarman
St Patrick's Primary School, Ballygalget

When we were deciding the best approach for utilising Project 500 in our school, we wanted it to be enjoyable, attainable and realistic. We also wanted to ensure that it could be continued year after year and successfully develop the reading of non-fiction science.

We have a 'Buddy Reading Scheme' in the second term with P7 children reading twice weekly to Reception, P1 and P2 classes. For Project 500, we decided that we would focus on the P7 children reading non-fiction science texts. These were borrowed from the Education Library Service and put into book boxes for all the classes, matched to their reading comprehension ability.

The P1/2 children loved hearing all the interesting facts these books offered so quite often we took opportunities to share these as a collective group, with the P7 'buddy' helping the children to express the information orally and write a simple sentence. We displayed these on a board in the assembly hall in speech bubble style with facts shared from all the classes involved. This was our main focus as a big part of project 500 was to read for enjoyment.

This is something that we will continue to do in the school year 2015/16. The experience of reading non-fiction science texts in this way helps our Key Stage 2 pupils to extend their knowledge and to develop their oral skills as well as assisting them with the focused non-fiction report writing they do in term two. A success all around!!

Niamh Birt and Emma Keith

Macosquin Primary School

The idea of Reading Mentors first entered my head during a 'wet lunchtime' in May. P7 pupils always go to junior classrooms to help as part of the Pupil Participation programme and, on this particular day, one of the girls picked up a science book and started reading aloud to the P2 pupils. Within a matter of seconds, all eyes were on Ellie as she started to read about and explain the seasons of the year. I sat amazed and enthralled at the back of the room as she continued to read for the next fifteen minutes—but she didn't just read! She engaged the children in the text by using effective questioning and encouraging further discussion.

By the end of that rainy day, my P7 pupils were keen to revisit junior school classes on a regular basis to read to younger children. Some of the mentors used books from the 'Project 500 box' while others used topic books from their assigned class. It was lovely to see the junior and senior pupils interacting in a way that doesn't always occur between teacher and pupil. All too soon, the end of term arrived and the P7 pupils left, but the Reading Mentors will continue next year with a new group of senior pupils who are already keen to participate.

Lorna Stevenson
St Pius X College ‘Big Day Out’

On the 18th June, as invited guests of the Principal of St. Mary’s College, Derry, Mrs Marie Lyndsay, thirty-four intrepid Year 8 students, accompanied by the Principal Ms Jackie Bartley, Miss Pat Hanson Head of Science, Mr Ciaran Quinn Literacy Co-ordinator, Emma Mc Glone science technician, and Mrs Alice Mc Cann librarian, from St. Pius X College, Magherafelt, made the long awaited journey over the Glenshane Pass.

This day was a wonderful opportunity for the students to showcase what had inspired them individually and collectively when actively engaging with a range of science books. The children had been challenged to select a science topic which really interested them, to research it and then to prepare to present the theme to the young people in the school they were to visit. While free to choose whatever approach they wished, they were reminded that they had to catch the attention of their audience and communicate the science information and ideas accurately and accessibly. The requirement to present to an audience other than their teacher is, potentially, a powerful way of promoting students’ learning.

Alongside traditional book reviews, the children prepared models, board games, paper engineering booklets, podcasts, PowerPoint presentations, fact sheets, word searches and bookmarks. The St. Pius X students could not wait to proudly display their projects in front of a selection of teachers from St. Mary’s and their year 8 peers.

The unenviable task of judging the student’s work in an array of categories was painstakingly carried out by the St. Mary’s Head of English and Literacy Co-ordinator and the winners were presented with a range of fabulous science prizes.

Regardless of whether they won a prize or not, however, St. Pius X College and St. Mary’s College, and their students were all winners as they fully embraced the underlying ethos of ‘Project 500’. The foundations for these students and their successors to make time to become actively engaged in reading scientific literature for pleasure and pertinence have been well and truly laid.

Pat Hanson
Visit the PSTT Web Site: www.pstt.org.uk

We would like to draw your attention to the PSTT web site and especially to its resources section, including those for continuing professional development.

One of the themes 'Promoting children’s engagement in primary science using puppets, books and stories' has ideas which you might find relevant to your work in Project 500 (Schools). John McCullagh from Stranmillis University College Belfast describes its background:

'This unit was based on the Books And Stories In Children’s Science (BASICS) Project which involved science education student teachers from Stranmillis University College co-teaching with teachers from schools across Northern Ireland. The co-teachers used both fiction and non-fiction as starting points for pupil-centred science enquiry on themes related to the book. The books were found to set a rich context for learning by enhancing engagement and enjoyment and allowed for the simultaneous development of science enquiry and literacy skills.'

Bookmarking the first PSTT International Primary Science Conference

From 9 - 11 June next year, the Primary Science Teaching Trust (PSTT) will celebrate excellence in the teaching and learning of primary science across the world through its inaugural International Primary Science Conference which, we are delighted to say, is to be held in Belfast.

Project 500 (Schools) will be represented at this conference. We are inviting your pupils to design a bookmark to help us inform the delegates about the project. Indeed, this could form part of their Reading Challenge with an appropriate number of stickers as a reward.

We ran a similar challenge last year and we received some delightful designs so we are looking forward to seeing what your pupils can create to tell others about Project 500.

The bookmark should be one-sided and rectangular with dimensions, 20 cm by 6 cm and (unfortunately) with no unusual shapes, cut outs or embellishments.

If you then send us the design that you (or your pupils!) think best fits the bill we will arrange to have it printed. In addition to producing bookmarks for the conference we will send your school about 100 copies.

Your selected bookmark design should either be sent to the address below or a high quality image of the bookmark emailed to me at r.jarman@qub.ac.uk.

If you post it, please also email me so that I know to look out for it.

Dr Ruth Jarman
Project 500 (Schools)
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Project 500 is funded by the Primary Science Teaching Trust and based at the School of Education, QUB.
Good quality science books lie at the heart of Project 500 (Schools). As teachers, sometimes (though given the current financial climate not as often as we would wish!) we have the opportunity to choose a few for our class or school library. Given the vast number of science books available for children and young people, how best can we make this selection?

A useful source of ideas, and one that we have mentioned before in our newsletter, is the Royal Society Young People’s Book Prize. Among its aims, this award seeks to promote the writing of ‘excellent, accessible science books for under-14s’. Its website archives all past winning and shortlisted titles (see https://royalsociety.org/grants-schemes-awards/book-prizes/young-peoples-book-prize).

In addition, the School Library Association runs the Information Book Award (IBA) which aims to reinforce the importance of non-fiction and to highlight the standard of publications available. While this is a general award covering a wide range of subjects, nonetheless science books have featured often in its shortlists and also among the winners. Indeed, this year a science book Tiny: The Invisible World of Microbes by Nicola Davies & Emily Sutton - Walker won the Under-7 age category prize and Molecules by Theodore Gray was nominated in the 12 - 16 category. The association’s website provides a list of the previous shortlists at www.sla.org.uk/information-book-award.

The Association for Science Education (ASE) publishes the teachers’ journals Primary Science and the School Science Review, both of which offer book reviews, including, on occasion, reviews of information books for children and young people. The National Science Teachers Association (the US equivalent of the ASE) goes one step further. Each year it publishes a list of good quality science-rich books which it considers ‘Outstanding Science Trade Books for Students K-12’. While these may not be easily accessed in the UK or Ireland, it is interesting to look at the evaluation criteria used by the panel.

Though these focus predominantly on science, it is also recognised that the book should also engage children’s interest and involvement and be aesthetically appealing. Thus there is a case for considering some other important criteria, for example, the book should have:

- an attractive format, cover and page layout
- appealing illustrations, relevant to the text and to a child’s perspective
- an engaging style of writing
- a human dimension, showing science, for example, as a process of inquiry, linking with everyday life etc
- the potential to involve children actively
- the potential to make children question and think.

One final point merits consideration. The American Association for the Advancement of Science has published an article on selecting science books for children in which they describe some features of ‘Dangerous Science Books’.

Number One on their Hit List is the Boring Science Book!

‘A boring science book can be dangerous, for such a book conveys to children the sense that science is uninteresting, tedious, or difficult. Books can be boring because they are poorly written or illustrated or worse, because the author cannot convincingly convey the excitement of science’. 
Crafty Science Communication

In some Project 500 schools, teachers have invited their pupils to communicate the science knowledge and ideas that they have gained from their reading through a medium of their choice. A number of children and young people chose to do so through art and craft. Here is a gallery of some of their work.

Board games are a great way to communicate ideas and to engage others in science and some wonderfully creative examples have been designed by young people participating in Project 500.

Colourful fact file book marks provide an easily-prepared yet vibrant and eye catching display.

Paper engineering (flaps, pull-outs and pop-ups) appeared often in children’s work, with one young person even preparing a complete book. Our summer newsletter featured her account of what she did.

A diorama is a scene, in three dimensions, where figures or objects are placed in a naturalistic setting in front of a painted background. Using old boxes and other materials, some children represented the science ideas or processes they had been reading about in this form. The image on the right shows, in preparation, a diorama ‘I’m a celebrity, get me out of here’ on the theme of record-breaking animals.

A number of young people, as a Project 500 activity, have prepared models to communicate science. Among these, the most novel is surely the shark shown below. When the hapless scuba-diver is pulled out of the sharks mouth, he is followed by a paper tape on which are written fascinating facts and important ideas about these intriguing fish.