

Rolls-Royce Science Prize Finalists 2017-18

Boston West Academy

May Diary

Our project is about 'Establishing Firm Scientific Foundations in Foundation Stage'. An explicit focus on Science will not only improve children's engagement with the subject and promote an enthusiasm for it, but will be the tool to impact on Communication and Language too. Children and parents will work together to see how Science is relevant in their everyday lives, promoting an enthusiasm for the subject both at home and at school, ultimately setting them off on a scientific journey that lasts beyond their first years at school.

Amanda Pickwell

It is very strange to think that this is the last official diary entry as there is so much we want to develop further since the project started! The data we have collated has shown us that the project has been successful in terms of progress and attainment in children's learning but also in terms of theirs and their families attitudes towards Science. Our Foundation Stage children are now talking about 'Science', they can explain about something they have done in Science either at home or at school and we have many more parents engaging with the subject by uploading observations of learning their child has done at home or they have offered to come into school and help. If you had asked last year's cohort of children, they would not be able to talk about Science at all, even though they were clearly engaging in some related learning at school. The explicit vocabulary had never been used before. It has been really exciting to see the progress both 'The World' and 'Speaking' have made, more than any other subject area since September. This is testament to the hard work of the Foundation Stage staff and the emphasis they have put into using Communication and Language in every aspect of Science learning. Back in March, we introduced a new element to our project with a STEM shed. The thinking behind it was that we had introduced specific science areas into the classrooms with vocabulary displayed and these proved to have a positive impact, although many of our outdoor areas lend themselves to science learning, we wanted to make this explicit again so a STEM shed seemed like the natural thing to establish. The shed has been on order since March and sadly has still not arrived (despite frequent phone calls from our office staff!). It is due to arrive in the next few weeks. We were disappointed not to have been able to set this up sooner but the time it has taken for it to come has allowed us time to reflect. Our children spend most of their time each day outdoors and so we looked carefully at where the shed would go and the provision it would give us. We are now going to completely redesign one area of our outdoor environment so that it will all link to STEM. We are having a wooden corner book shelter put in now which will allow children to read fiction and non-fiction books based on science themes whilst outdoors. A new minibeast hotel is being built, the STEM shed, and mud kitchen will both enhance science learning. There will also be permanent posters around the area with vocabulary relating to minibeast identification and noticing changes in the natural world. Although this will sadly now not be completed in the timescale of the project, it will allow us to build on the project into next year, keep the momentum of Science linked to Communication and Language going, and encourage a new cohort of parents and children to be inspired by a love of science. Please look on our school facebook or twitter page for photographs of when the outdoor development is completed!

Becky Storey

May has provided further opportunities for myself and other parents, to become involved in Foundation Stage Science activities. Eight parents joined the Foundation Stage children on a trip to Belton House, where we participated in a minibeast hunt and pond dipping. The children used demonstrated techniques to hunt for minibeasts, on low-lying tree branches and bushes. The knowledge they had already gained, from work carried out in school, was evident. Similarly, the conversations that we had, as the children found various creatures during the pond dipping activity (including tadpoles), demonstrated their superb knowledge about the lifecycle of frogs.

As a group of parents joining our children on this trip, it enabled us all to: see our children participate in Scientific activities 'in the field'; hear about their previous experiences, as they related them to their findings; support and further their knowledge, through our conversations with them, and consider how we might further engage with our children at home.

Since the children's work on minibeasts began, my own son's awareness of them, in the world around him, has been heightened. He frequently points out minibeasts and their homes, and is more aware of the 'good jobs' that many of them do, and how we need to 'let them get on with their work', and not destroy their habitats.

Many parents and their children also attended an Eco-morning at school, where again, there were so many opportunities for children and parents to engage together, in activities and conversations about the natural environment. As we weeded, planted and watered, so many questions were asked and so much was learnt, in just a couple of hours. During the morning, overheard snippets of conversations between parents and their children further reinforced the value of the involvement of parents, in scientific activities.

Worms were discovered;

P "Shall we move him over there?"

C "Do you think he'd like it over there or back in the soil where we've just found him?"

P "We'll put him back in his home."

Seeds were planted;

O "Why do we need to cover them up?"

P "They need darkness to help them to germinate?"

O "What does that mean?"

P "So that they can begin to grow."

O "They start to grow under the soil, then poke out. And they need some water."

Since the introduction of the summer term topics in Foundation Stage, 'O' has been very motivated to grow vegetables and fruits at home – we currently have carrots, strawberries, tomatoes and a potato plant growing (hybrid potato and tomato plant)! 'O' is very excited about the idea of harvesting our crops, when they are ready!



Jade Brockington

Over the past few weeks, our children have thoroughly enjoyed learning about lots of different minibeasts. We have been to observe the bees at our school bee hive, the children were so excited about seeing the bees and learning about bee safety we got some fabulous bee safety poster creations. They were amazed to see the changes to the class caterpillars, creating animations of the lifecycle, role playing the different stages, creating fantastic butterfly diaries writing about the changes that were happening and finally getting to set them free!!

We had an outdoor afternoon linking our learning to the wider school grounds, where we invited parents in to help groups of children sow seeds, help create natural pictures of minibeasts using the resources we have in the grounds, assist in the fire circle making charcoal and they even took groups pond dipping. Parents have been really keen to get involved in our Science project. I've noticed that far more Science based observations are being uploaded to Tapestry by parents and children are able to talk about the Science learning they have done at home as well as at school!

We are looking forward to finally being able to use our STEM area outside and parents have already offered to come in and help to use and model the area with the children. This is just one element that will help our project grow and develop over the coming year, whilst building on the excellent outdoor facilities already accessible to children at Boston West.

Emma Schofield

On Sunday April 29th we had our Spring Eco Sunday where all the children across school can come and help care for their school grounds along with members of their families. It was a little later this term due to the inclement weather earlier in the year, however it was well attended by our children and families, who as well as helping to tidy the grounds after the wet Winter helped to set seeds and plant up our allotments around the school. Our termly Grounds Days are a lovely way to engage either with our parents and grandparents, some who are new Foundation parents or new to school or are a little reluctant, due to their own school experiences, to come into school to other events along with the ones who enjoy regularly joining us. Within a few minutes of arriving they realise coming into school and lending a practical hand and working with the staff outside in the wider grounds at Boston West they can chat and enjoy seeing their children working with their teachers in a different situation beyond the classroom (and the Foundation base).

We took the opportunity to use the Sunday morning to upskill some of our parents, and staff too, about gardening. We also showed the younger children how to care for the seeds as they were beginning their growing journey and talk through the Science behind the growing process- what did they think the plant might need? Why?

This event has inspired some of our children to try some planting at home, and within the planned teaching for Foundation this Summer Term the children are responsible for nurturing the little seedlings and caring for them as they grow in the school allotments. We hope to have a bumper crop of new things to try and eat, to understand where they have come from but also encourage the young gardeners of the future!

Expenses Update

Total Awarded: £6000

Date	Purchases	Cost
Money spent to date		£3,631.09
Books for the outdoor science reading area	Life Cycles Collection-6 books £7.99, Seasons of the Year Collectio- 4 books £5.99, It's all about- 10 books £15.99, Wildlife Watchers- 10 books £9.99	15% discount £33.97
Classroom resources	Space scene kit x2 £66.98, Inflatable solar system £28.41, light panel and table £174.90, Lunar mat x2 £37.98, Space tube x2 £27.98, Light panel resources £118.35,	£454.60
Stem area outdoor resources	Willow planter £37.65, Four lane ramp £39.99, outdoor cars for textured ramp £62.95, Brushes £15.99, Concave and convex mirrors x2 £10.26, Nature Study Table £143, Sunflower weaving frame £123, Numbers 0-20 £120, Ladybird activity cards £27.83, Backyard bugs £9.97, Mini beast mirrors £99.95, minibeasts identification sign £42.95, Bird box with wireless camera £159.95, Windy day grab and go kit £74.95, woven nesting trays £93.90, Measuring minibeasts £14.99, Toadstool small world cottage £99.95, Woodland friends £29.95, wooden tree flakes £12.99, silver mirror pebbles £69.95	£1290.17
Total Expenses to date		£5,409.83
Remaining Money		£590.17

We have left some money in the budget to enable the purchase of paving slabs etc. for the STEM shed to be built on when it arrives. Once this money has been accounted for, the remaining money will be used to purchase items for the Science packs. We want to build upon the science afternoons we held this year and hold them again next year for school and pre-school parents with families then taking home a pack of resources to use at home.