STORIES OF SUCCESS:
PROFESSIONAL CULTURE

Science ACROSS THE CITY

"Building Science Subject Expertise"

In conversation with Emma Edwards from Christ Church CE Primary Academy

Please tell me about science at your school at the start of the SATC project.

In my old school I was leader for RE but when I joined Christ Church I took on the leadership of science. I've not got a background in science and I was a bit like a rabbit in the headlights not knowing where to go. I soon found out the science lessons were mostly based around worksheets and were not practical. Science enquiry was not being assessed, so there was much to do.

How has SATC supported you?

Science across the City introduced me to a wonderful network of local science subject leaders enabling me to find out what others do and share ideas. Some of the Science Influencers have been into school to help me make changes. For example, they have worked with me to develop colleagues' science subject knowledge. SATC has also provided a wealth of CPD opportunities. I have met and been trained by people like Sarah Earle, the researcher behind the Teacher Assessment in Primary Science, and people from the Royal Society of Chemistry. When I come back to school I have so many ideas I can implement and resources to share with my colleagues.

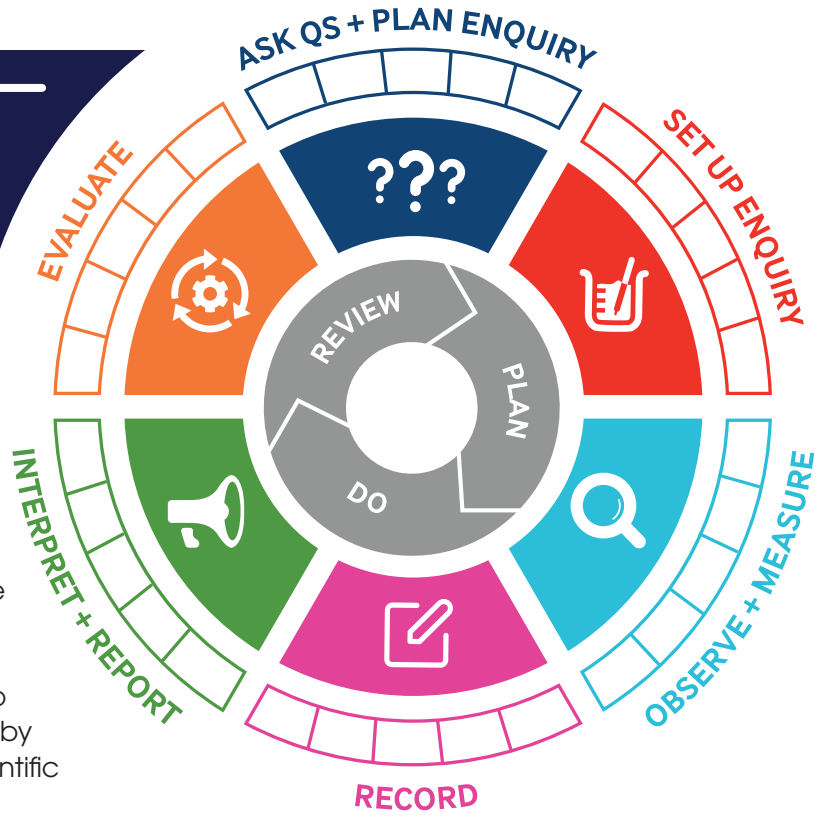
You have really strengthened science enquiry in school. How did you do that?

Melissa Loughran, the SATC TAPS Champion, came into school to facilitate training on science enquiry giving staff practical ideas they could use with their classes. This really boosted their confidence to teach the five enquiry types included in the National Curriculum. I also organised workshops for parents and carers where I gave brief presentations on the five enquiry types and skills. They had an opportunity to engage with a carousel of activities. The feedback from both parents and the Head Teacher was so positive. Parents are now more confident and enthusiastic to engage with science at home which is a real boost for some of our pupils.

Children, starting from their existing ideas, can develop more scientific and powerful ideas about the world through collecting, interpreting and using data.

Harlen, W. & Qualter, A. (2018) The Teaching of Science in Primary Schools. Routledge.

TAPS Working Scientifically Cycle



Also, I created a whole school science display to reinforce the working scientifically cycle and the five enquiry types. As part of science week I set the children a competition to come up with their own scientific questions and investigate them. I was stunned by the way they became more curious about the world around them and began to ask fantastic questions such as 'Why do leaves have patterns?' They are now so excited by science and look for opportunities to discuss scientific questions and ideas.

We now have a school culture where pupils are confident to plan their own investigations, are more engaged and thinking scientifically. They can explain their results and justify their answers. From experience with my class the children are more enthusiastic about their learning when they have more control and they are increasingly likely to remember what they have learnt. It is so empowering for our children to see their own independent achievements.

For colleagues, learning science pedagogy skills like asking effective questions has really impacted on the rest of the curriculum as well. The pupils are also building confidence to be more inquisitive in history for example. They are coming up with their own questions rather than just sitting back. This is all because of the changes I have been able to make with support from SATC.

Please tell me how science assessment skills have developed in your school.

Thanks to being invited to the training with Sarah Earle, I have introduced colleagues to the TAPS approach, and we focus on one part of the enquiry cycle when assessing enquiry skills. This gives the pupils a clear focus and the work produced is now of a much higher quality. It also gives the teachers guidance on what to look for.

In addition, I introduced KWL grids. They give children the opportunity to share what they know and the teachers are picking up on the questions and misconceptions the pupils have that they are then able to address during lessons. For example, one child asked, 'Are there shadows on other planets?' The teacher then adapted her planning so pupils could answer this question.

How would you summarise the impact of being part of SATC?

We have gained a lot, and staff, pupils and parents now realise the importance of science. Staff feel so much more confident and the coverage of the science curriculum has developed beyond all recognition. The pupils are so excited by science, keen to use their developing scientific vocabulary and ask questions about the world around them. They have become scientists!