CPD to support the development of Teaching and Learning
Ofsted recognised effective CPD as being vitally important for the Teaching and Learning of Science (Successful Science 2011) and this exemplar shows how Burford School have addressed this.

It includes examples of their training for teachers and the resulting activities and positive effects in the classroom.
What the school says

We wanted to raise the profile and quality of science within our school so we decided to help staff by providing a series of Science INSET opportunities.

Our termly staff meetings have helped us focus on teaching and learning in science and provide opportunities to share new ideas.

We have also learnt a lot from our experiences of presenting at the Buckinghamshire network science meetings and have made contacts with local science co-ordinators. Hopefully, we will able to build on these relationships and help each other with resources, clubs, planning etc.
CPD for our staff

We believe that teachers need support and inspiration to keep them up to date with their science teaching, so we have provided a variety of CPD opportunities - here are some recent examples :-

• Science starters
• Interactive science displays
• Cross curricular approaches
Science Starter INSET

Staff using question stems. The words were available as a resource to take away and use.

Positive-Minus-Interesting is now widely used across the school. As well as other curriculum areas such as Literacy, Geography and History.

Short investigational type lesson starters was also introduced. How many cotton wool balls do you think you can fit into a shot glass full of water without spilling any of the water?

Staff were also shown how to use new Easiscope Microscopes which can be easily linked to the class computer and Interactive White Board. This can provide stimulating lesson starters.
Interactive Science Displays

Staff were asked to discuss the statements regarding displays and to put them under various headings. This enabled staff to think about the reasons for displays and generated discussion.
Reception staff feel that photos on display are important as children cannot yet read. They like to see pictures of themselves and with adult support are able to say what they had been doing and what they had found out. Some children also looked at the linked books beneath the display.

Year 1 have lots of books and display objects to touch and explore.

Year 2 - Questions were often put up ahead of time and then used as a starter for discussion in class lessons. Generated lots of great discussion and ideas.

Year 3 - Giving science a dedicated space in the class has given children more opportunity to handle and touch things outside of science lessons.

Year 4 - Post it notes available for the children to add their comments during the week. This would then provide a discussion point for the lesson.

Year 5 – the teacher made this into a competition and children put their answers in an envelope. Some children had to be prompted to use this though!

Year 6 – an example of a question used in a plenary and some of the most interesting ideas and statements are put up on the learning wall as recognition of their progress.
Cross curricular approaches

One of the main targets at Burford School this year was to encourage the linking of science with other subjects such as Literacy, Maths, D&T and ICT.

This was covered in inset training where links to web sites were provided.

The following is an example the range of work covered by different year groups.
Examples of our links.

Science links strongly with the listening and attention and speaking strands of the **EYFS**.

A local STEM ambassador who is a civil engineer helped the **Y3 with a DT/Science** challenge building bridges and towers using Knex.

**History Link – Y6**
Groups of pupils each chose a scientific invention from a different decade and had to pitch it to a panel of ‘scientific’ parents in ‘Dragon’s Den’ style.

**Year 1/History Link**
Year 1 visited Legoland and then took part in a friction workshop linking science to their history topic on ‘toys’.

**Year 2**
Year 2 are taking part in a **P4C/Science** lesson agreeing and disagreeing about whether children should ever eat sweets

**Year 4 Maths ICT links**
- children used data loggers to measure temperature in different conditions, e.g., water held by a hand etc.
- and children had to predict what would happen to the graph and then tell the story of the line graph.
- Graph was then printed and labelled.
- Impact – greater understanding of line graphs.

**Year 5**
As part of the topic on life cycles – eggs were incubated and hatched. There was a link to Maths as data was collected on their weights and graphed.

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The impact for our school was ..... 

The profile of science continues to be raised within school and home.

The new science display boards have had a particular impact

- in each classroom demonstrate the importance of the subject to the children and parents. They are now referred to in lessons and detailed on plans and have evolved into becoming ‘working walls’ for many teachers rather than completed displays.

- in the front entrance of the school showing how science is valued as a subject. This is updated regularly and includes ‘Science in the News’ and an ‘Amazing Science Fact of the Week’.
Science Subject Leaders Comments

This year has been a huge challenge for us, but we have learnt a lot from running inset courses for our own staff and Network meetings for other schools.

We have found it so beneficial to share good practice.

My top tip would be this particularly good website by the Royal Society of Chemistry

(This link will work in slideshow mode)
What we will do next

We wish to continue to have termly staff meetings focusing on teaching and learning in science where we can pass on new ideas.

A new ‘forest school’ area has been created within the woodlands of the school and one teacher is about to complete her Forest School Training and will be carrying out sessions with Foundation Stage and Year 1 to begin in Sept 2013. We would like staff to begin to use the outdoors as a classroom for Science lessons when appropriate to the learning.

The introduction of the new primary curriculum means we will continue to provide CPD to staff and to promote a clear vision for the teaching and learning of science.