The Painsley Cluster

Led by
St Filumena's Catholic Primary School

Faber Catholic Primary School

St Giles' Catholic Primary School

St Josephs Catholic Primary School

St Mary's Catholic Academy

St Thomas Catholic Primary School
Summary of Content

The Science Leader at St Filumena’s has led this initiative which is an example of how a cluster of six schools have worked together to identify 9 principles which make science outstanding.

It is full of ideas and examples of just how outstanding the results were!
The Painsley Cluster comprises a group of 6 Primary schools who federated before becoming an Academy in 2011. St Filumena’s is one of the schools in this cluster and achieved a Gold PSQM award in 2013. The Cluster’s agreed set of nine science principles were selected after each school involved parents, pupils and teachers to decide ’Science is Outstanding When...’ and how each school could improve teaching and learning. The Cluster’s Port Folio of slide evidence and documents, are shown via these science principles and the PSQM criteria. They + documents show the rationale, impact and next steps in development. To facilitate referencing this opening slide shows the type of schools in the Cluster in terms of size and classes in addition to colour coding permeating through the documents and evidence. However, the reflection references are in bold type with the initials of the school as a prefix.

SM = St Mary’s, ST = St Thomas’, SJ= St Joseph’s, SG = St Giles’, F = Faber, GW= Cluster Leader
Documents on the slides may be clicked on, enlarged and returned to size easily using the back button for ease of reading.
The Painsley Cluster's Science Principles collated after pupils, teachers and parents agreed that 'Science is Outstanding when ..............'

1. Teachers have good subject knowledge and develop pupil's science vocabulary
2. Pupils are aware of the purpose and objectives of their learning
3. Educational Visits and Visitors which enhance Science Teaching and learning for both pupils and teachers
4. Pupils are aware of what they need to do to move to the next level and reach their learning potential.
5. Children ask questions, including ones that they are able to investigate both in school and home
6. Practical lessons allowing 'Hands On' activities and teamwork
7. Pupils are challenged and excited about learning
8. The environment/community around school and beyond is used effectively
9. Good quality, resources easily accessed by pupils and teachers
The ‘family learning parent 12 week programme’ is a science based programme. Parents are invited to take part in an investigation about reversible and irreversible changes. Both children and parents said that it would help them to complete science activities at home. As a result more parent workshops have been arranged.

St Thomas’ Class 2

We were learning about the pH value of H2O to find out how this would impact on the environment
Faber Yr 4/5/6

More of the children’s work and photographs will be added on a regular basis continuing to celebrate science in our school.
St Joseph’s

Rep from Morrisons helping Reception children to learn about healthy and not so healthy foods. St Giles’

Pupils and Teachers were wowed, excited and engaged by “Don’t try this at home” experiments using liquid nitrogen.
St Mary’s Whole school Assembly
Principles 2, 4, 9

Quality resources & range of approaches to learn about electricity. St Giles’

Interactive nature of the displays allow children to comment on their science teaching and learning experiences and to ask questions. Faber

The Year 4 teacher had a discussion with her class about what makes Science Outstanding and collated their ideas on the interactive whiteboard. St Mary’s

Teachers and pupils throughout the school contributed to the science display and helped to design it. They have a clear vision for science. All are pleased and proud to see their work being exhibited. St Thomas’

A celebration of the children’s science investigations. St Joseph’s
Painsley Science Support delivered a lesson on Microbes. The children were amazed by the amount of germs they discovered and by the areas in school that had the most germs! Impact was that the teacher became more confident and the pupils had a greater understanding of hygiene.

Faber, Yrs 4/5/6 (1 class)

We're trying to find the number of germs on the door handle. We asked lots of questions.

Our class was inspired by Science Assemblies when we ran our own science and engineering project. We were role playing real-life scientists. (Gina, Year 4)

St Mary's

We have learnt about different animals from a visitor who brought them to school. We wouldn't know about badgers if these other teachers didn't come in. We've learnt a lot and hope he comes back.

St Thomas'
Principles 1, 2, 4, 6, 7

Our group works independently; we can also use and interpret line graphs. We have to decide for ourselves what kind of graph to use. We are aware of what to do to move to the next level (Class 6)
St Mary’s

Children use a mind map to identify what they already know about a topic and raise questions about what they’d like to find out. At the end of the topic the children re-visit their mind map and add any new learning in a different colour. And comment on their moves to their next level
St Joseph’s

Examples of pupil voice documents and notes of actions to follow. All findings and actions shared with staff at PDM - next round of observations and monitoring will focus on these actions being followed up.
St Giles’

Mr Cope (grandparent) - This is brilliant, I didn’t even know this museum was here. I’m going to come back without the kids!
Miss Roberts (teacher) - What a brilliant day! It was interactive and fun, with a broad range of exhibitions. Mrs Howard (parent) - There was no moaning or complaints, the Museum has kept them engaged all day!
Faber

This impacted on the children as they were so engaged in the activity they wanted to carry out the experiment at home. The children requested a science club which we are looking into starting with ‘Wow Science.’
St Thomas’
Principles 1, 2, 5, 6, 7, 8, 9

Learning in the outdoor environment; children are taking an active part in role-play to help them to understand how a circuit works & to use and understand science vocabulary. Note the children's obvious enjoyment & all actively involved. St Giles'

The children were in awe of this demonstration showing how to make 'expanding foam'. The children were amazed to learn all about where it used in everyday life (shoes, aeroplane seats, dartboard surrounds, inside car head rests etc. St Joseph's

Learners were encouraged to change variables and ask lots of questions, e.g. How does the size of a helium balloon help it to lift a weight? St Mary's

A range of teaching approaches adapted to engage the children and encourage opportunities for enjoyment, therefore impacting well on the children’s learning. Faber

Science in the Canterbury Garden is great fun! A lot of our science involves our school science garden. St Thomas’
Principles 1, 2, 5, 6, 7, 9

After school science clubs are brilliant because we learn lots of different things, like baking bread and designing/decorating our own cakes. We can ask lots of questions and try again at home.

St Joseph’s

Y1 children using BBC.co.uk/science clips website activities on class whiteboard. We have to work as a team.

St Thomas’

Mad Science’ held an assembly, after school club and a family workshop, This provided children and their families to engage in fun and exciting science activities, impacting their natural curiosity of the world around them and their desire to know more.

Faber

Y2 using electricity equipment from Painsley. Our school has a limited supply of wires and crocodile clips and so it’s really important to access them from other sources as often as possible. This improves T/L as better quality resources are obtained. I will purchase some each asap

St Mary’s

Y1 applying knowledge of materials in practical task. Questioning to find out children’s understanding. And independent learning.

St Giles’
That was amazing and brilliant. I didn’t know that science was so exciting! We learnt so much about air and balloons. Faber

We are scientists and engineers. (Gina, Y4) Mrs Dalgarno gave us a challenge: to build a strong bridge which would support vehicles. I loved spending the whole day on a Science project! (Jenson, Y4) St Mary’s

The children were in awe of the demonstration showing how they make ‘expanding foam’. The children were amazed to learn all about where it used in everyday life (shoes, aeroplane seats, dartboard surrounds, inside car head rests etc.) St Joseph’s

Science is real, we do experiments to see the effect of smoking on the lungs, and we discovered there are over 4000 chemicals in a cigarette and they cause lots of damage to our bodies St Thomas’ Y5

Pupils had the chance to handle the unusual animals - something they could not have experienced without these visits from ZOO-LAB! St Giles’
Principles 1, 2, 4, 5, 6, 7, 8, 9

We love our Science lessons. They are good fun and we always do practical investigations and learn lots. I love making the predictions and finding out if I was right. We all get a chance to be scientist of the week! It makes us feel like real scientists.

St Thomas’

Class 6 went outside to do investigations with water. We got rather wet but we found out lots, including how to collect rainwater effectively and how to make a turbine. I love it when science teaches me about real life!

St Mary’s

“It’s much more fun learning about stuff outside and we especially like getting muddy. We make independent decisions and work out problems about different things we study. St Joseph’s

Mrs Rushton (TA) - It was very good – they told pupils about the different fish, what they eat and some of the reasons that they look like they do.

Faber

Teachers, parents & friends help to clear an overgrown area that will be used by all pupils for science learning. Evidence of the importance of the science and the school grounds.

St Giles’
Principle 9 - Good quality, resources easily accessed by pupils and teachers

An audit of all science resources was done. All resources were relocated in a central resource area. Questionnaires were given to all staff to find out what resources they used and what they needed. New resources were what resources they used and what they needed. New resources were stored in accessed by children with adult support. Next steps are to make an update the inventory and resource list for each box and identify any additional equipment needed, and make the boxes more accessible for the children on their own and for staff too.

St Thomas' The boxes are currently stored in accessed by children with adult support. Next steps are to make a update the inventory and resource list for each box and identify any additional equipment needed, and make the boxes more accessible for the children on their own and for staff too.

St Joseph's

Our science resources are stored in a storeroom. Boxes are labelled clearly and we can access them easily.

St Mary's

Resources can be accessed by pupils and teachers very easily at any time. Boxes are labelled and stored at an appropriate height for easy access.

St Giles'

Science resources are situated in the staffroom for both staff and pupil to access easily. Boxes are clearly labelled.

Faber

Resources can be accessed by pupils and teachers very easily at any time. Boxes are labelled and stored at an appropriate height for easy access.
We improved our scientific observation skills by looking carefully at the materials, so we could decide what they could be used for.

My spaceship crash-landed in St Mary’s school playground. I was badly injured but, luckily, there was a hospital in the Year 2 classroom. Sophie and the other children bandaged my arm and then wrote newspaper reports about the event. I want to stay here forever!

Further evidence of impact across the school at St Mary’s

The way we work cohesively together with other schools is now very strong within the cluster.

In Year 3, we enjoyed using our Numeracy sorting skills to group rocks in different ways. We learnt that some rocks are smooth and sometimes shiny and others can be dull and rough.
Teachers have become more creative and confident in their science teaching and are now much more effective in using assessment to develop children’s learning.

Year 1

This experiment was really good fun. We didn’t expect the volcanoes to erupt so quickly. We are going to make one with our mums and dads at home and then tell our friends when we come back to school.

Year 6

Further evidence of impact for St Thomas’

Making and testing a variety of teas for a well known tea manufacturer

Interactive Science Displays!

Yrs R, 1, 2
Assessing pupil progress is now consistent and records are now being regularly maintained and used to inform future planning. Moreover, pupils are enjoying and achieving in science.
Local Press and retailers celebrating funding from the Big Lottery Fund to develop an area at school for learning about wildlife, habitats and to grow crops as part of a healthy lifestyle.

Further evidence of impact across St Giles’

Working closely with colleagues across the Cluster has contributed to my development as a leader and has enabled me to provide quality enrichment opportunities and resources within my school.

Y1 applying scientific skills – making predictions then checking against results and drawing simple conclusions. Also can be used to assess children’s understanding and to correct any misconceptions.

Rec

Harry made a ‘house’ trap for spiders!

Examples from book scrutiny with focus on assessment (AFL)

Yr 6

Local Press and retailers celebrating funding from the Big Lottery Fund to develop an area at school for learning about wildlife, habitats and to grow crops as part of a healthy lifestyle.
Further evidence of impact across the school at Faber.

It was really, really, really, really, really good! - Logan

It was amazing - Ollie

It was great and interesting. I think I might be more interested in science now! - Georgia

‘Wow, wasps are very clever.’ ‘How do they do that?’

Pupils used the local environment to carry out water investigations. These investigations were then continued back in the classroom and at home.
Evidence Beyond the Cluster

* Influencing another Primary School in local area
  St Mary's

* Influencing the PE Curriculum from Leek College
  St Mary's

* Bollington Science Celebration of 50 years of discovery, suggested involvement by St Thomas' and influenced by cluster for content and programme of events. The impact of this will be known in May 2014 when event is held St Thomas'

* Influencing another Primary School in local area
  St Joseph's

* Influencing another Primary school in local area. Pam has emailed Head teacher to determine response to this school embarking on the PSQM. She awaits confirmation but initial contact is favourable
  St Giles'

GW=Influencing Leicester University Research for online labs 'Go-Lab Project' to be continued with ICT G&T pupils across the cluster and into other schools. Primary opinion given on development of same. The impact will be known in July 2014

GW=Influencing Painsley Science Department in APP/AFL grids to show pupil progress and assessment in science topics/targets. Used in Years 1-9 they are impacting on pupil progress and teacher understanding of levels and targets of each pupil

* Influencing another Primary school in local area with a view to them doing PSQM and coordinator assisting
  Faber
Science Leaders in our Academy cluster wanted to improve their science knowledge, develop excellent T & L strategies and coordinate their subject more effectively and to share good practice and ideas.

The results are that we do not now feel we are working in isolation, but have a bank of expertise between us to draw on.
What we will do next

Science Leaders continue to liaise with each other about issues of concern, share good practice and successes as they are all keen to meet again this year.

We have already organised 2 courses to attend together and there will no doubt be more in the future.