Evidence Slides PSQM

D'Eyncourt Primary School is a one and half form entry school from Nursery to Year 6. We are part of the MAT – Central Learning Partnership Trust. We currently have 31.5% Pupil Premium and 12.5% SEND. This academic year we opened our new Nursery on 30th September. We have previously achieved the PSQM Award during 2021-2022 and we working towards retaining the mark for a second time.

PSQM
Primary Science Quality Mark

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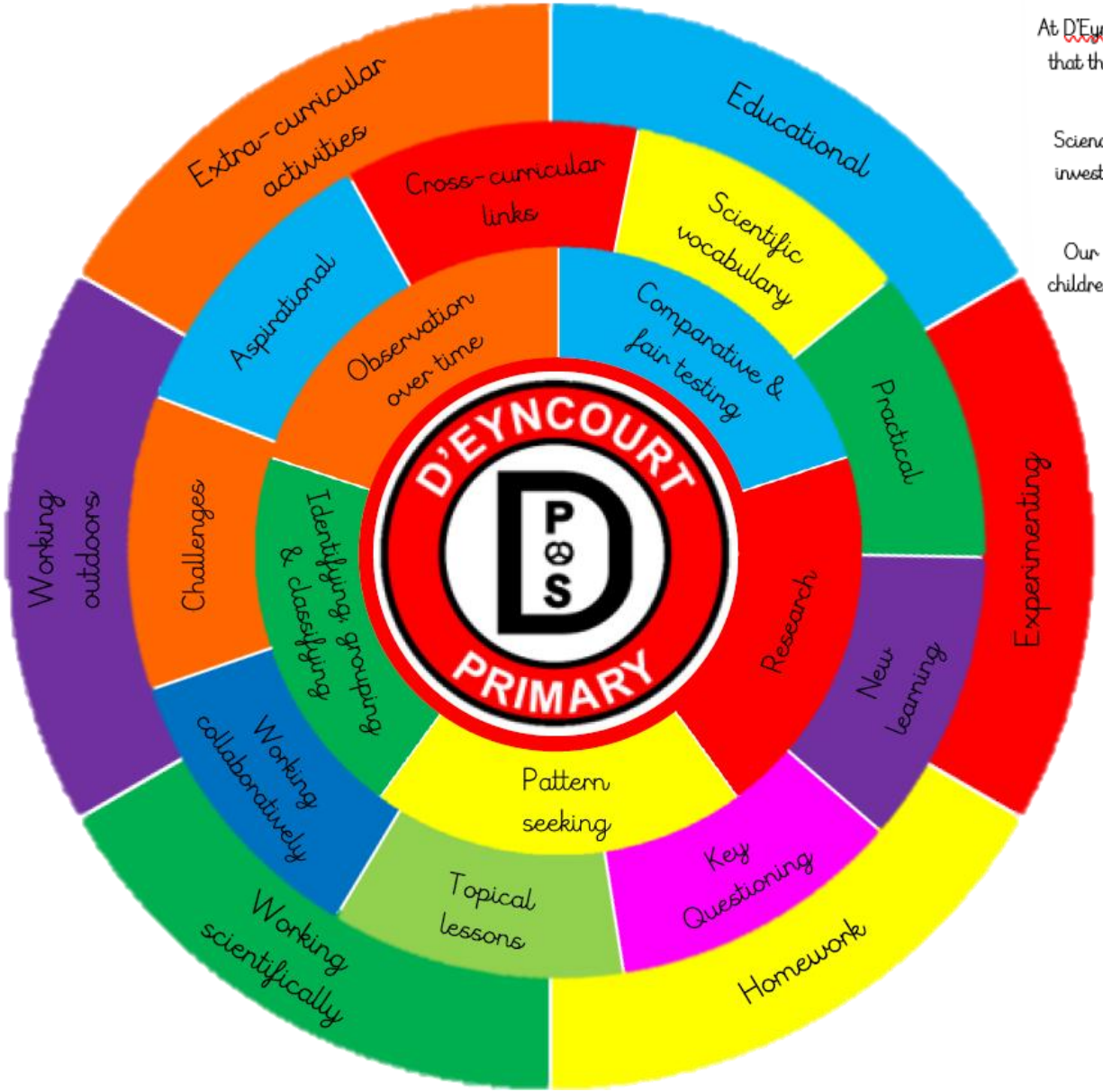
Colour Code:

- Captions
- Pupil, Parent & Staff voice
- Pre PSQM
- During PSQM/Now
- Impact

SLIDE 2: Insert your Vision and Principles information here. Use the version you uploaded as your In-school PD Task folder for Module 2 on the VLE.



Vision Statement

At D'Eyncourt Primary School our vision for science is to provide a curriculum which offers the children the opportunity to explore the world, so that they have a deeper knowledge and understanding of the world, in which they live. We aim to nurture the children's curiosity through fun and engaging experiences that inspire high level questioning.

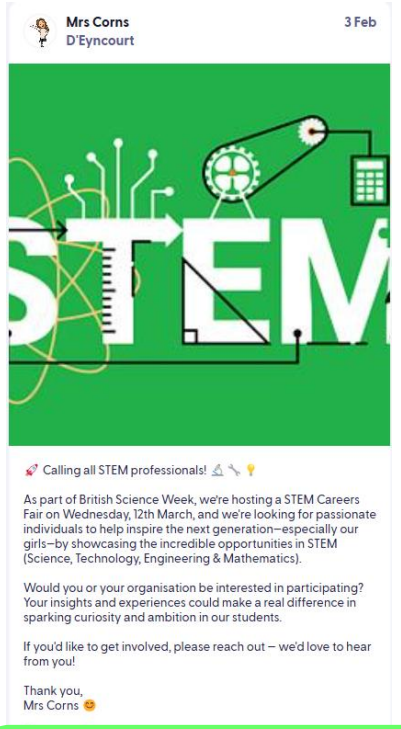
Science is all around us, in every day live and we pride ourselves in providing the children with endless opportunities to delve into practical investigations, where they will explore new learning, scientific vocabulary, working collaboratively with peers and embracing challenges that build upon previous learning and experiences.

Our children at D'Eyncourt will have a richer knowledge of science through the five enquiry types that embed our science curriculum. Our children will complete lessons with a greater understanding of what enquiry type they have worked with during that lesson, strengthening their knowledge and their confidence to work scientifically.

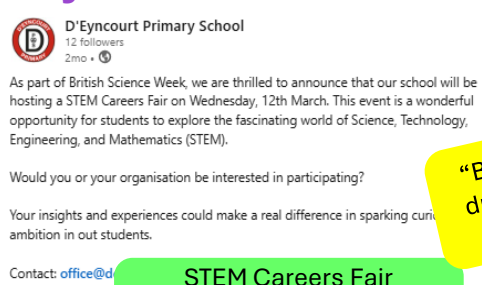
Our school logo is in the centre as all the stakeholders work together to improve our Science curriculum at D'Eyncourt. The first layer then has the 5 enquiry types that we continuously embed into our science curriculum. The second layer is our staff voice and how they feel science at our school is and should be. The final layer is the voice of our pupils and how they feel science is and should be at our school.

SLIDE 3 - CDA – The science curriculum engages, inspires and challenges all children by promoting inclusion and equity

Photos of the children engaging with the different STEM professionals.

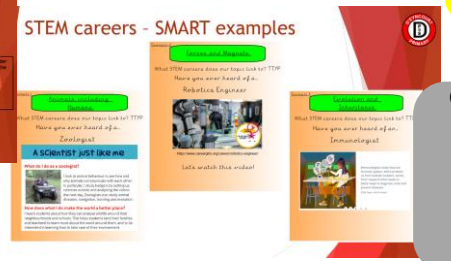


Advertising the STEM Careers Fair to our school community inviting any STEM professionals if they would be interested in taking part.



STEM Careers Fair advertisement on several social media platforms.

STEM Careers Fair advertisement poster.



CPD was provided for staff on how they can engage the children further by the addition of a STEM based career added to their lesson SMARTs.

"Being a videographer is my dream job; it was so good to see what you have to do!"

"I loved seeing how the biomedical scientist could see the bacteria the all the different germs!"

"My favourite was the web developer, I really like computers and it was really interesting to see how everything works!"

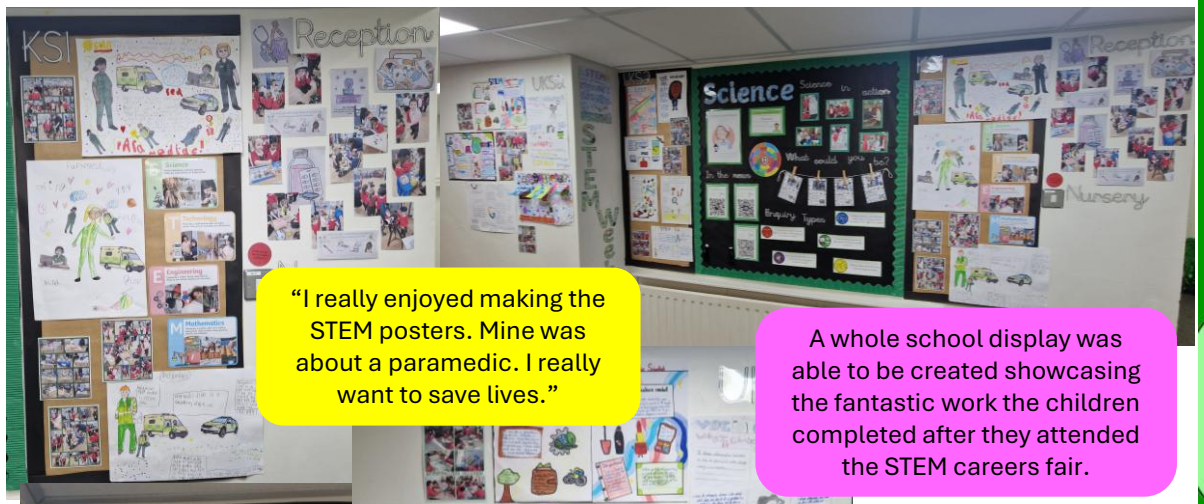
"The STEM fair was fantastic, and it showcased a diverse range of careers."

"The STEM careers fair was excellent. I cannot commend the experiences the children had enough. The vast majority of them spent the entire time utterly engrossed with the guests."

"Both staff and children had a wonderful time. The children really enjoyed the follow up task and were extremely engaged!"

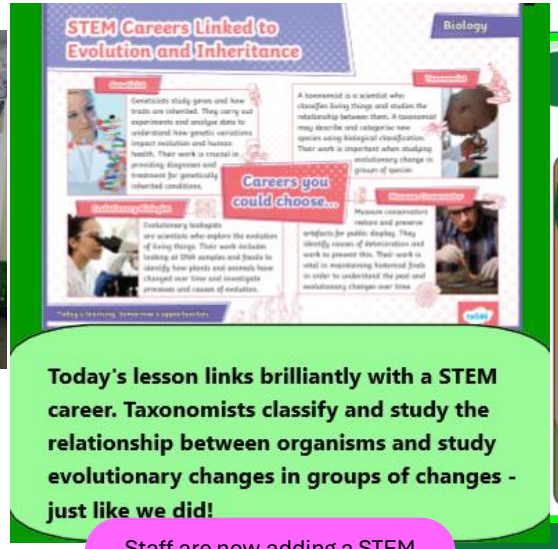
Celebrating the success of our STEM Careers Fair with our school community on ClassDojo.

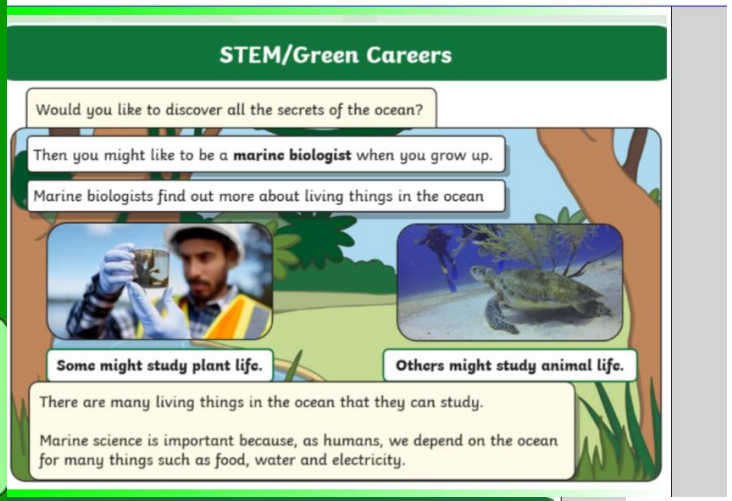
SLIDE 4 - CDA – The science curriculum engages, inspires and challenges all children by promoting inclusion and equity



"I really enjoyed making the STEM posters. Mine was about a paramedic. I really want to save lives."

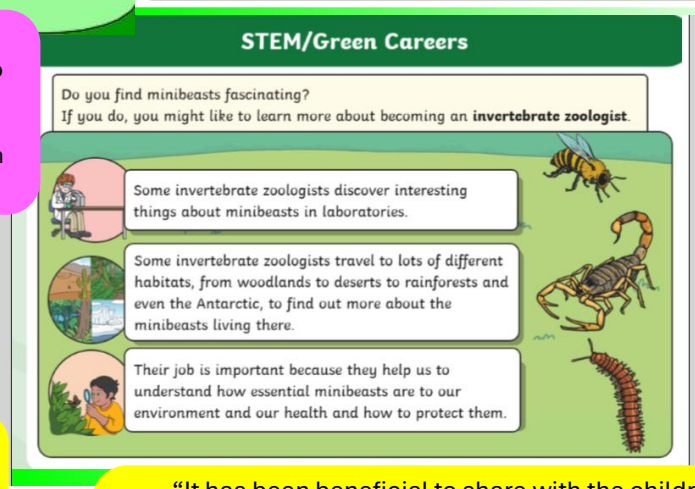
A whole school display was able to be created showcasing the fantastic work the children completed after they attended the STEM careers fair.





"It's not very often we get to have experiences like this, and I really wish we could do it again."

Staff are now adding a STEM career linked to their topic to their planning SMARTs, exposing the children to different careers, building on their aspirations.



"I found it so interesting experimenting with sound and finding out how it travels."

"We spoke and sang down the cups; it was like we were having a music lesson!"

"I really enjoyed doing this lesson outside in the fresh air. It made me feel happy."

"Our lesson was a bit like DT because we had to make the cups and strings and use them for a purpose."

After completing pupil voice, a common lesson that came up from Year 3/4 children that they felt inspired by was how sound travelled.

"It has been beneficial to share with the children different STEM careers related to our current learning. We are able to share with the children, professions that they will never have heard of before and you can see how interested they are and how engaged the children become."

SLIDE 5 - CDB – The science curriculum engages, inspires and challenges all children through planned progression in content and procedural knowledge

Prior to completing the PSQM this year, our children completed a lot of worksheet-based tasks.

As part of our action plan, one of our areas for development was the reduction of written more and more opportunities for hands on learning.

PSQM
development points

Less writing!

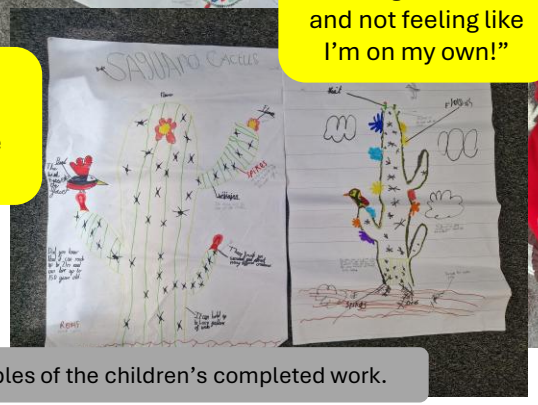
Next development point: Practical learning.

Pupil voice! The most common answer that I get when completing a pupil voice questionnaire is - less writing and more practical work. So that is what we are going to do, but not completely.

The children have found that lessons are much more memorable when they get to complete work practically.

During next half term, after speaking with Anthony and Danielle, 3 & 4 are going to be having a 2 week block out of the half term, where they will be completing work more practically and with less written work. This work can then be evidenced in books by simple picture collages and an overview. It's a chance for the children to spend more time completing hands on learning and less time worrying about a write up. This approach should improve the wellbeing of the children when it comes to Science and hopefully the wellbeing of staff, with less workload over a two-week period. After this time, we shall review the outcomes from staff and children and see if this is something that can be rolled out across the rest of the school.

The staff really took on board this next developmental step. They were enthusiastic about trying out this teaching approach as this is something we have not done before.



Examples of the children's completed work.

Children completing work on cacti fruit. Work linking to their history topic of Native America.

"I felt like I learnt more in the lesson because sometimes I get a bit bored writing all the time."

The children were extremely engaged in their learning and gave back lots of positive feedback. They felt as if they had learnt more in that two week block because they were able to complete hands on learning.

"I really enjoyed working as a team and not feeling like I'm on my own!"

"I thought the work was better like this because it was more fun!"

"The children were extremely engaged and loved working collaboratively."

"It made me reflect as a practitioner and my own teaching methods."

"I feel it has been great for my mental wellbeing and my work-life balance as it reduced my marking. However, it did shift my workload to printing instead, but this was still manageable."

SUBJECT LEADER SELF-EVALUATION TOOL

Working towards excellent teaching of science

why & how? PRIMARY SCIENCE TEACHING TRUST

WHOLE SCHOOL APPROACH

ROLE OF THE SUBJECT LEADER

5. Differentiation

- Is every child's prior knowledge considered when teachers plan units of work?
- Do teachers adapt the pace, challenge and content of activities for pupils, including SEND and EAL?
- Are all children able to demonstrate their science skills and knowledge in an appropriate way?

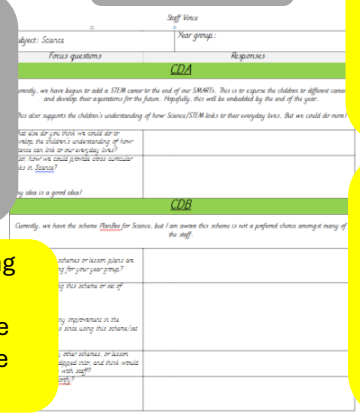
3. Monitoring teaching and learning

- Does the subject leader review teaching and pupil progress across the school?

This was extremely impactful as it gave me a clear layout of where I could look and how I could best develop science for not just KS2 but across the school too. I now feel my own subject knowledge for KS2 science has improved because of using this simple tool.

As part of our action plan, the CPD I needed, as a subject leader, was that of my subject knowledge of the KS2 curriculum, to ensure coverage could be met. I used the PSTT subject self-evaluation tool to support me in giving me guidance into how to best support myself.

Staff voice questionnaire



Staff were asked to share what schemes, or lesson plans they use in their science lessons that best support their children and if they had seen any improvement in the children's learning since adapting their lessons from PlanBee.

"We adapt the planning and use Twinkl. The children are a lot more engaged and enjoy the lessons more."

"The lessons we have planned and created ourselves have worked better as PlanBee solely on its own is very input and text heavy and there was not enough opportunity for practical demonstrations and testing/exploring."

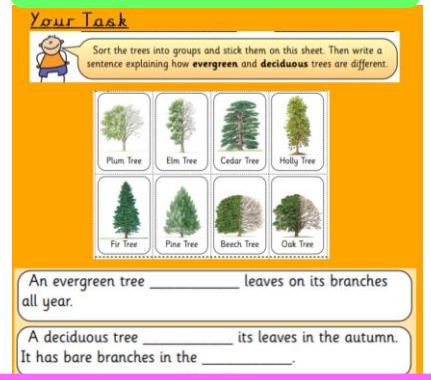
"Pupils are making good progress in Science. Adapting and enhancing the Plan Bee resources is an integral part of this success. Engagement and retention have definitely improved since we have started to adapt the original plans to better suit the needs of our pupils."

SLIDE 6 - CDB – The science curriculum engages, inspires and challenges all children through planned progression in content and procedural knowledge

23/24 Year 1/2 Planning SMART

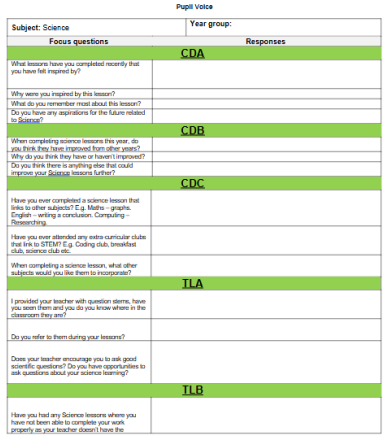
"The lessons are better. We do new stuff in our learning. I really like Science."

24/25 Year 1/2 Planning SMART



The SMART planning is a lot more engaging and visual. The children are able to focus more and complete work successfully.

The children were asked, during a pupil voice, if over the last year if they felt their science lessons had improved and what else could be done to improve their lessons further.



23/24 Year 5/6 Planning SMART

"The lessons have definitely improved. They cover more of a range in science."

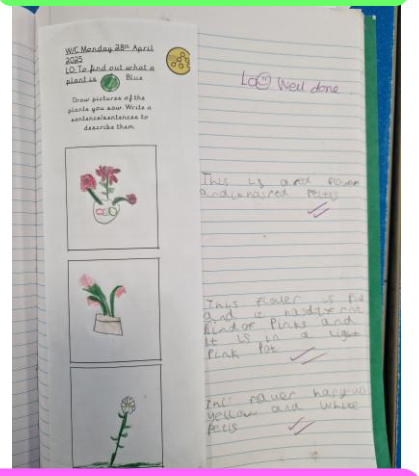
24/25 Year 5/6 Planning SMART

The SMART planning contains more images for visual learning and detail.

23/24 Year 1/2 Task following PlanBee scheme

"I always know what I have to do, and I like my science lessons."

24/25 Year 1/2 Task adapting to meet the needs of the cohort

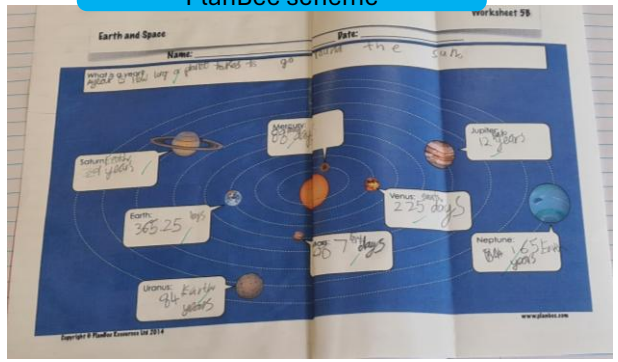


The tasks are a lot more purposeful, and the children are able to complete more work as the tasks are more engaging and interesting.

Next steps:
"I think if we had the chance to go outside more for Science lessons, that would make them even better."

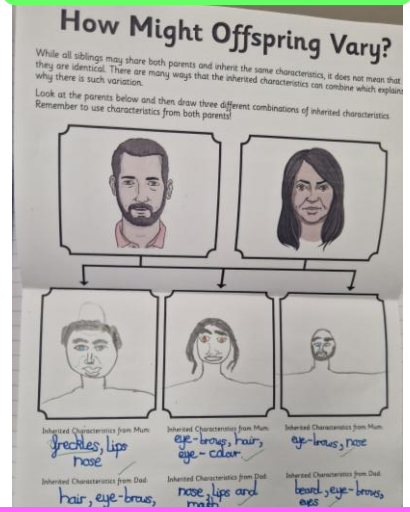
"We do experiments already, but I think if we had chance to do some like they do at secondary school, that would be cool."

23/24 Year 5/6 Task following PlanBee scheme



"I think the lessons are better, as you learn more stuff as you get older."

24/25 Year 5/6 Task adapting to meet the needs of the cohort



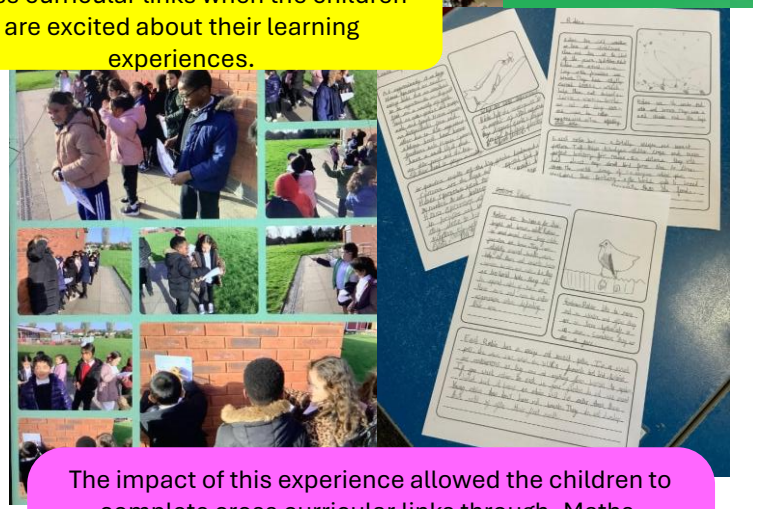
The tasks have more opportunity for discussion and children's interpretations.

SLIDE 7 - CDC - Teaching enables all children to learn science content and procedural knowledge by planning and sharing contexts and skills with other curriculum areas

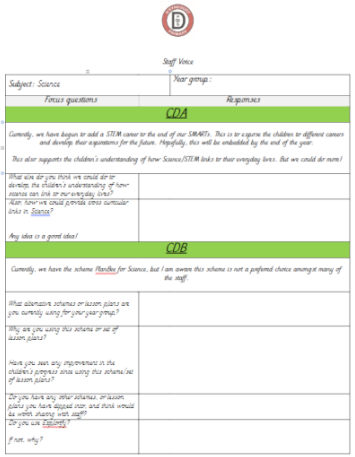
We are currently completing our application for our Eco-schools' award. One of our areas for improvement is – Biodiversity. As part of completing this section the whole school took part in Big Schools Birdwatch.

"I really liked getting outside of the classroom and observing our wildlife."

"It's a great opportunity to make several cross curricular links when the children are excited about their learning experiences.



The impact of this experience allowed the children to complete cross curricular links through, Maths, Computing, English and Geography. The work was purposeful, and the children were thoroughly engaged throughout the experience. Also developing science capital across the school.



Staff Voice

Subject: Science | Year group:

Focus questions	Responses
CDA	
Currently, we have begun to add a STEM corner to the end of our SMARTs. This is to expose the children to different careers and develop their aspirations for the future. Hopefully, this will be embedded by the end of the year. This also supports the children's understanding of how Science/STEM links to their everyday lives. But we could do more!	
What else do you think we could do to develop the children's understanding of how science can link to our everyday lives?	
Also, how we could provide cross curricular links in Science?	
Any idea is a good idea!	
CDB	
Currently, we have the scheme Rockbo for Science, but I am aware this scheme is not a preferred choice amongst many of the staff.	
What alternative schemes or lesson plans are you currently using for your year group?	
Why are you using this scheme or set of lesson plans?	
Have you seen any improvements in the children's progress since using this scheme/set of lesson plans?	
Do you have any other schemes or lesson plans you have tapped into and think would be worth sharing with staff?	
Do you use Explorify?	
If not, why?	

"We could make it clearer on medium/long term plans where the cross curricular links are and these could be added to SMARTs."

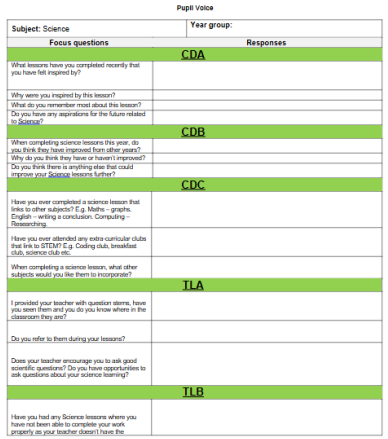
"We could provide homework grids for Science that could be completed over a term linking to different subjects."

Staff were asked how we could improve cross curricular links within science lessons.

Children were asked during their pupil voice if they could recall any science lessons that they had completed that linked to other lessons.

"We have completed bar charts in science, and I've learnt that in maths before."

"We use the iPads a lot to research, that's computing."



Pupil Voice

Subject: Science | Year group:

Focus questions	Responses
CDA	
What lessons have you completed recently that you have felt inspired by?	
Why were you inspired by this lesson?	
What do you remember most about this lesson?	
Do you have any aspirations for the future related to Science?	
CDB	
When completing science lessons this year, do you think they have improved from other years?	
Why do you think they have or haven't improved?	
Do you think there is anything else that could improve your Science lessons further?	
CDC	
Have you ever completed a science lesson that links to other subjects? E.g. Maths – graphs. English – writing a conclusion. Computing – Researching.	
Have you ever attended any extra curricular clubs that link to STEM? E.g. Coding club, breakfast club, science club etc.	
When completing a science lesson, what other subjects would you like them to incorporate?	
TLA	
I provided your teacher with question stems, have you seen them and you do you know where in the classroom they are?	
Do you refer to them during your lessons?	
Does your teacher encourage you to ask good scientific questions? Do you have opportunities to ask questions about your science learning?	
TLB	
Have you had any Science lessons where you have not been able to complete your work properly as your teacher doesn't have the	

We celebrated World Space Week and completed tasks across the school. There were lots of cross curricular links made from, Art, D&T and English

The children we're fully engrossed with the activities and lessons planned for this week. They were excited by the engaging lessons and experiments.

"I absolutely love space, and I really liked making and testing our rockets. It was so much fun."

"It was really nice to work in pairs to complete our activity and even though our designs can't be proven, it was still really fun to let us use our imaginations!"

"I like learning about Earth and what is on it. I liked making our Earth picture as a class."

SLIDE 8 - CDC - Teaching enables all children to learn science content and procedural knowledge by planning and sharing contexts and skills with other curriculum areas

Extra-curricular activities with cross curricular links to STEM

Science club videos shared with our school community on ClassDojo.

Cross-curricular links in the children's books

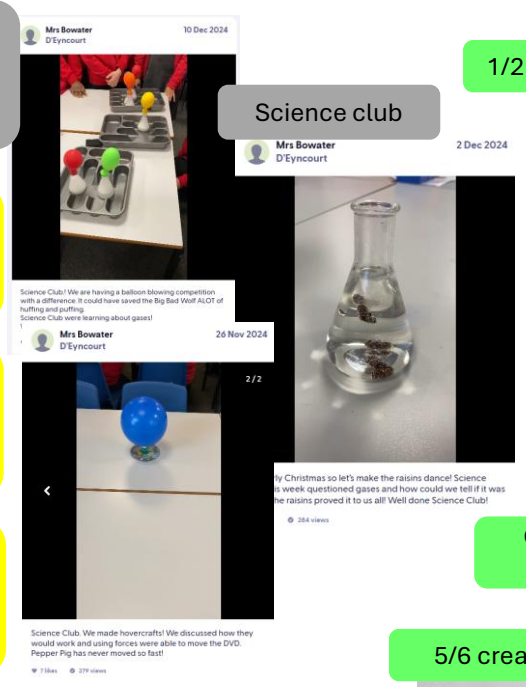
Breakfast club

"I absolutely loved breakfast club. I loved making all of my favourite breakfasts!"

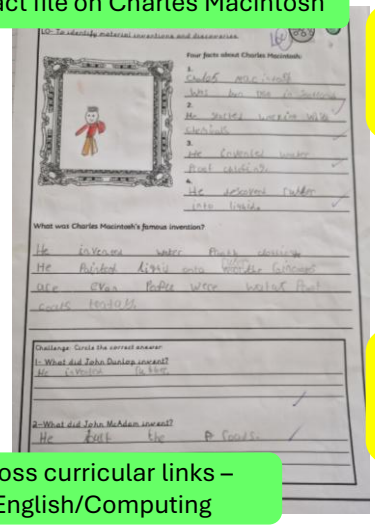
"Science club is so much fun. It's so good to do lots of experiments with my friends."

"I was so pleased I got picked for coding club. I really enjoy working on computers."

Science club



1/2 Fact file on Charles Macintosh



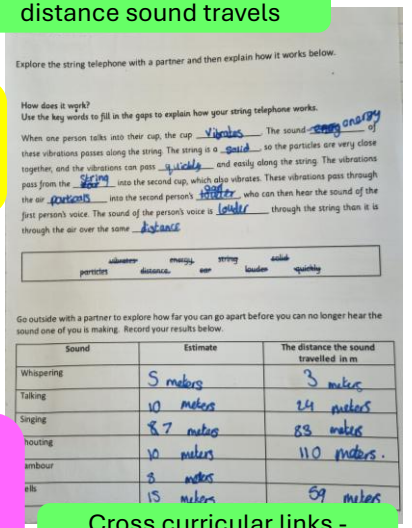
"The children were really engaged using the iPads to help them research."

"I really liked using the trundle wheel to help us measure the distance."

"I enjoyed making the leaflet, it was good to draw the pictures to go with the information."

Cross curricular links – English/Computing

3/4 measuring the distance sound travels



Cross curricular links - Maths

These clubs were very impactful as the children learnt different skills such as, how to make various breakfast meals which links to D&T, the need for basic hygiene and states of matter linking to Science, learning different skills on how to code linking to computing and how to conduct lots of different science experiments with cross curricular links to Maths.

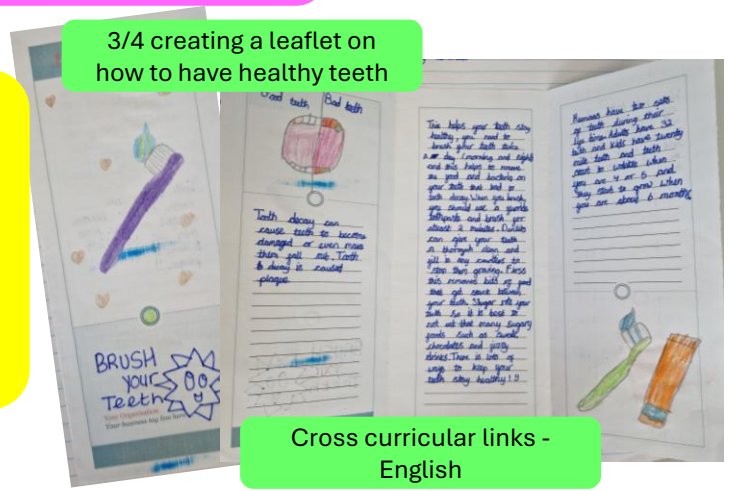
5/6 creating periscopes

"It was interesting finding out how to make the periscope, and I enjoyed testing it out to see if it worked."

Cross curricular links – D&T

The children have been thoroughly engaged during these lessons, and they are also developing and refining their previous learning from other subjects.

3/4 creating a leaflet on how to have healthy teeth



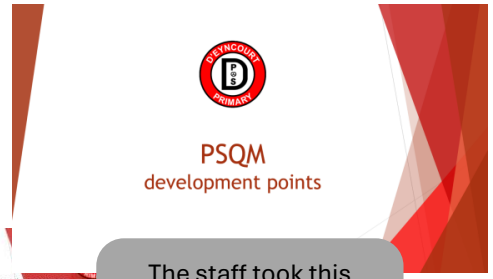
Cross curricular links - English

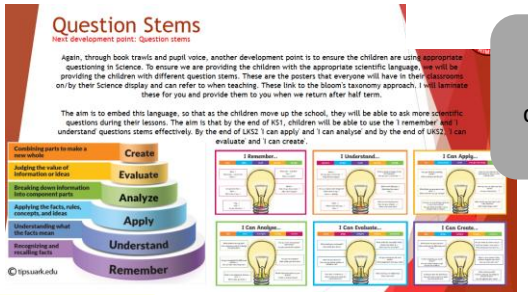
Coding club

SLIDE 9: TLA - Teaching enables all children to learn science content and procedural knowledge by encouraging them to ask questions and express ideas

Prior to completing the PSQM this year, our children did not ask many scientific questions.

As part of our action plan, one of our areas for development was supporting the children to ask more scientific questions.

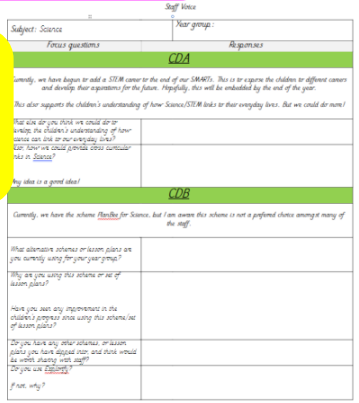




The staff took this advice on board and did add these to their working walls.

However, after completing staff voice, it was very clear that this approach was not the right one for our children. I found this to be very useful as then I could look for an alternative strategy.

"This strategy we found to be too 'wordy' for our children and found quite difficult to incorporate into our lessons."

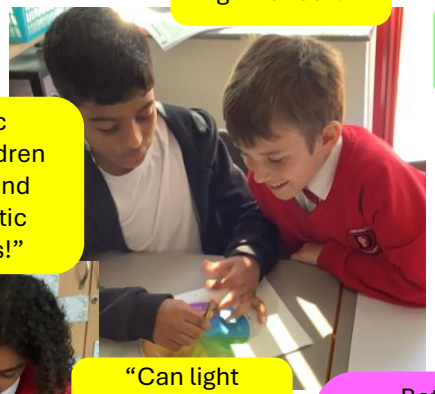


After the useful feedback from the staff voice. I decided that I needed some support as the subject leader, so I attended the free CPD session through PSQM.

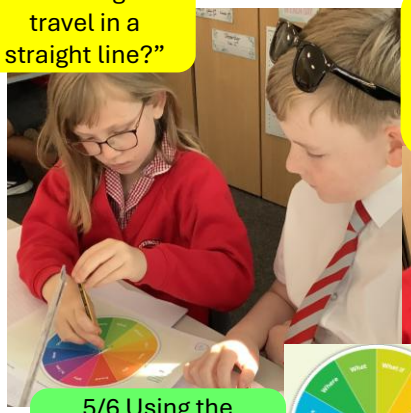
It was here where I found out the resource 'Great Science Share' and 'Explorify'.

From this I was able to share with staff further CPD to try these strategies which I received successful responses!

"How does light reflect?"



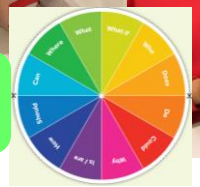
"Does light travel in a straight line?"



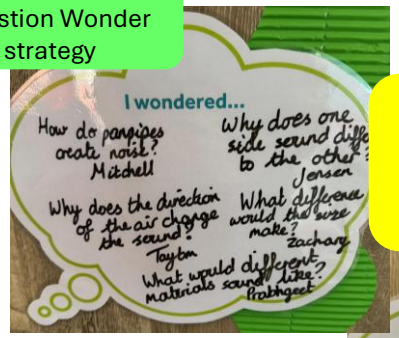
"This is a fantastic resource! All the children were able to use it and create some fantastic scientific questions!"

"Can light travel through a wall?"

5/6 Using the Question Spinner strategy



3/4 Using the Question Wonder strategy



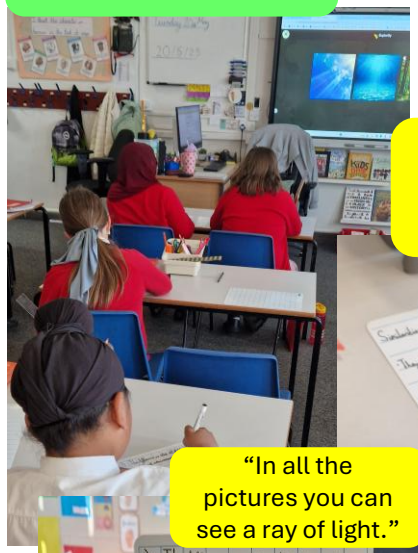
"This was a brilliant way of encouraging the children's curiosity and getting them to ask good scientific questions."

Both strategies were extremely impactful as they both encouraged the children to think scientifically and ask appropriate questions about their topics. All children were engaged and focussed at the same time and they encouraged lots of conversation.

Next steps:
To embed these strategies across the school and continue to monitor the progress of the children's ability to ask good scientific questions.

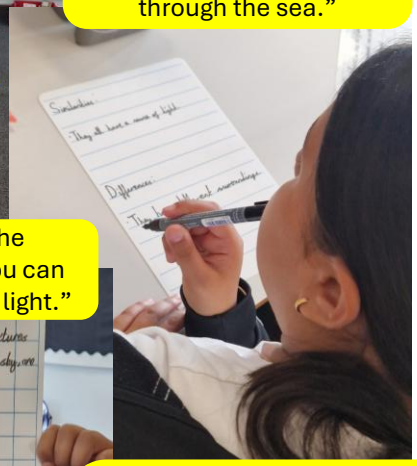
SLIDE 10: TLA - Teaching enables all children to learn science content and procedural knowledge by encouraging them to ask questions and express ideas

5/6 Using the 'Odd One Out' starter on Explorify

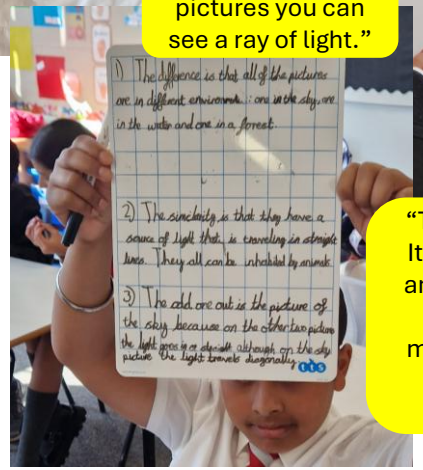


This starter was clearly impactful as it allowed children of all abilities to join in and share their own thoughts and opinions and get the children really thinking about which image, they think, is the odd one out.

"The odd one out is the ocean picture. As the rays of light are reflecting through the sea."

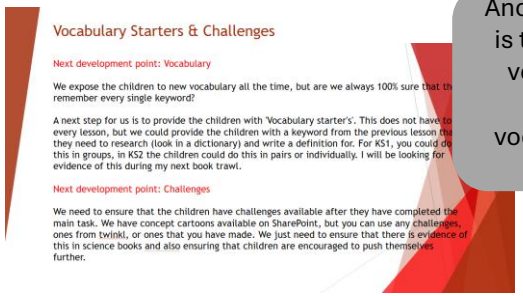


"In all the pictures you can see a ray of light."



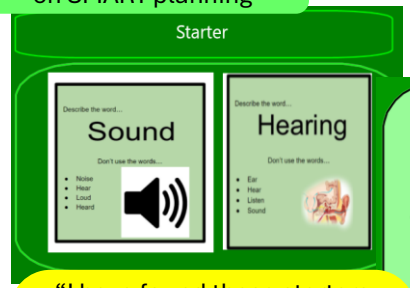
"This is a fabulous resource. It was quick and easy to find and even better to set up. No printing needed and a lot more conversation was had, more than other starters I have done before!"

PSQM development points

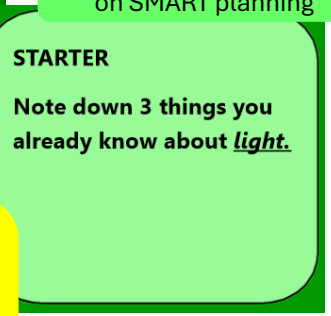


Another step in our development is the use of starters to support vocabulary. CPD was shared with staff to implement vocabulary starters within their Science lessons.

3/4 Vocabulary starter on SMART planning



5/6 Vocabulary starter on SMART planning

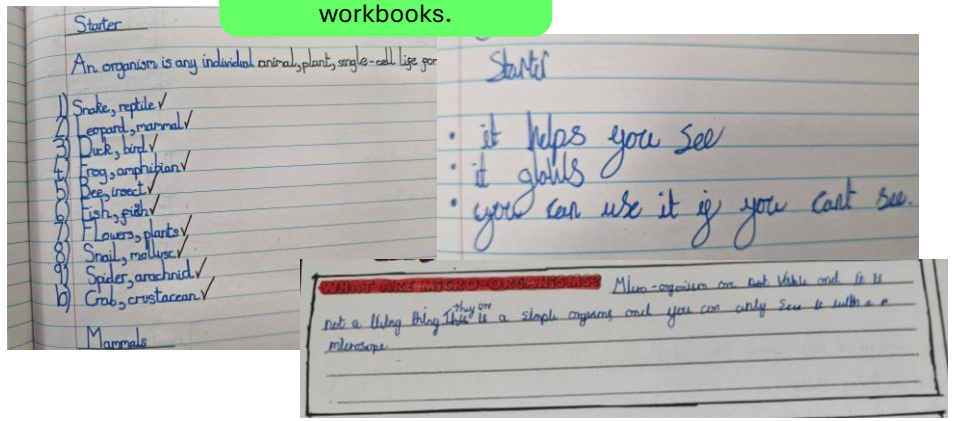


"I have found these starters beneficial for my teacher assessment judgements. It shows clearly the children's understanding of the vocabulary linked to the current topic."

"I really like doing the starters it gets me ready to do the learning for the lesson."

The children have been able to recap their prior learning and show their clear understanding of the vocabulary that they have been taught during their Science lessons. They have been focussed and engaged and feel confident to start the next lesson.

Evidence of vocabulary starters in children's workbooks.



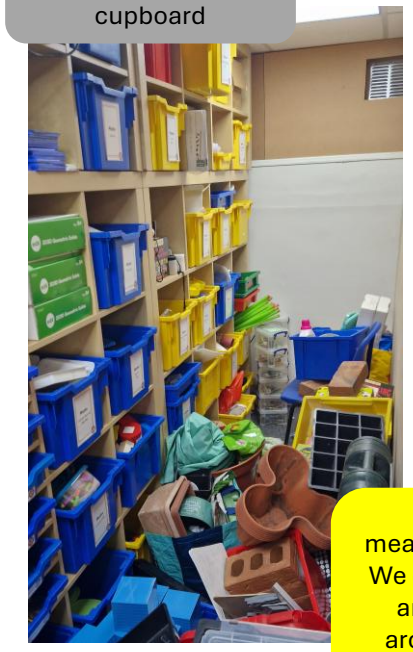
As a subject leader I have found sourcing and implementing these different strategies and seeing them unfold extremely gratifying. It shows that these small changes provide for deeper understanding.

Next steps:
To continue to monitor through planning, book trawls, staff and pupil voice the impact these strategies have on the children's learning.

SLIDE 11 - TLB - Teaching enables all children to learn science content and procedural knowledge by using approaches and resources that enable lesson outcomes to be met

Prior to completing the PSQM this year, we do not have all the necessary resources to teach all our Science lessons effectively.

Before photo of Science resources cupboard



As part of our action plan, one of our areas for development is our lack of science resources. I completed staff and pupil voice to see what it is we need or are missing before completing inventory.

"When we were doing work on electricity. We didn't have enough batteries for the torches, half them didn't work."

"When we were measuring with weights. We didn't have enough, and we had to wait around a lot until the others were done."

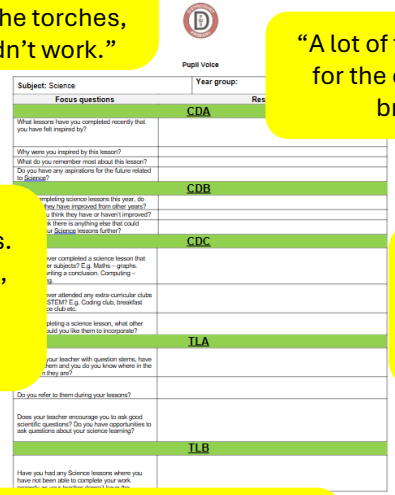
"It would be useful to have more variety of materials to support the children's learning."

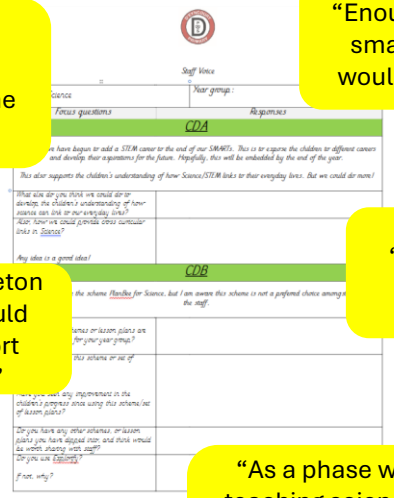
"Investing in a skeleton for body parts would be great to support visual learning."

"A lot of the light bulbs for the circuits were broken."

"Even when we had working batteries, sometimes the torches didn't even work."

"Some of the thermometers have bubbles in them and don't work properly anymore."



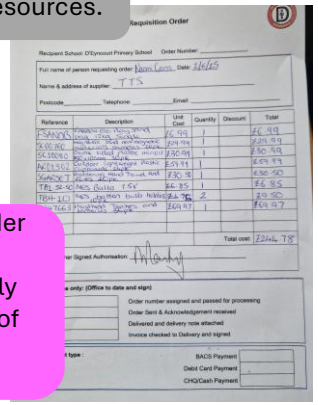


"Enough resources for small group testing would be beneficial."

"Bulbs and batteries need replacing,"

"As a phase we avoid teaching science at the same time, as we do not have the resources to teach the lesson."

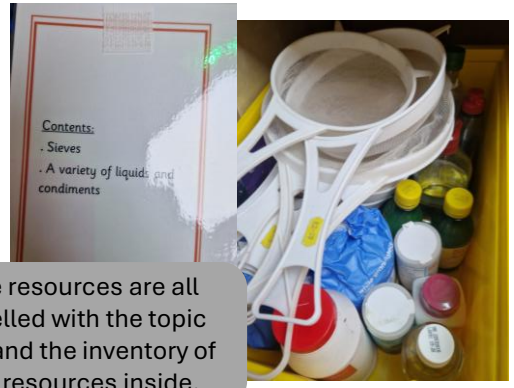
Order form for new resources.



This supported me in completing an order for new resources. I was able to do a complete inventory of what we currently have and referencing to the staff voice of the resources that staff felt we were lacking.

This was extremely impactful because it gave me an idea straight away of what I need to be looking at when I begin my inventory. Also, I could start to look at the prices of the resources and looking at our budget.

The resources have now been organised.



The resources are all labelled with the topic link and the inventory of the resources inside.

SLIDE 12 - TLB - Teaching enables all children to learn science content and procedural knowledge by using approaches and resources that enable lesson outcomes to be met

After photo of Science resources cupboard

The science resource cupboard is now completely up to date, and the wellbeing of staff has improved as they are now able to access the cupboard safely and find resources effectively.

"It's so much better, I am able to get what I need in half the time!"

"There's actually a floor!"

"Thank you for sorting it, it was in desperate need."

"It's a lot better now. I don't feel like I'm spending my whole lunchtime looking for stuff."

"It's making the bugs look bigger!"

Reception children investigating minibeasts using magnifying glasses.

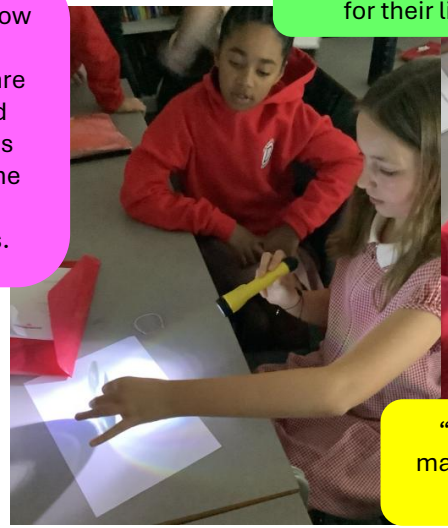
Science lessons have now been much more enjoyable. Resources are easily accessible, and staff can teach lessons effectively, providing the children with rich scientific experiences.

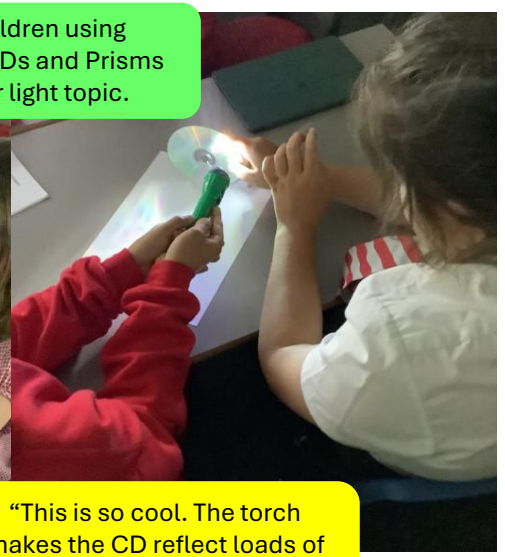
Reception children using magnetics to explore different materials.

"This is so much fun!"

"The magnetic is picking up these ones because they're made of metal."

5/6 Children using torches, CDs and Prisms for their light topic.





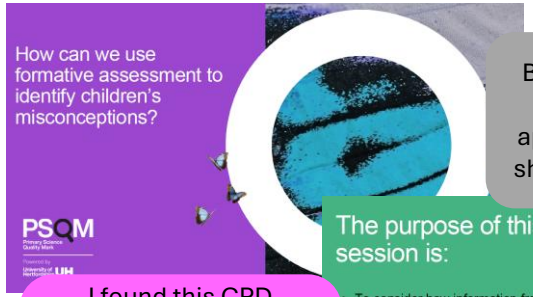
"This is so cool. The torch makes the CD reflect loads of different colours."

Nursery children using torches and animals to create shadows.

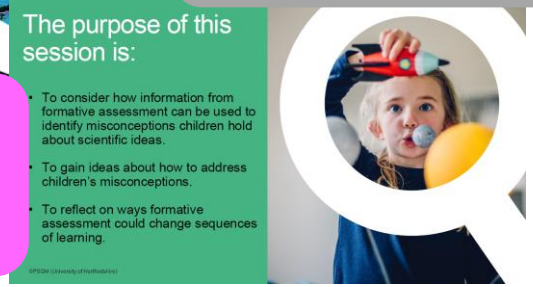
"Moving the torch makes the shadow big and small!"

SLIDE 13 - TLC - Teaching enables all children to learn science content and procedural knowledge informed by formative and summative assessment

Prior to completing the PSQM this year, there was not enough evidence on SMARTs or in children's workbooks that we provided the children with challenges to extend their learning further.



Before providing next steps, I wanted to have the appropriate CPD to be able to share good practice with staff.

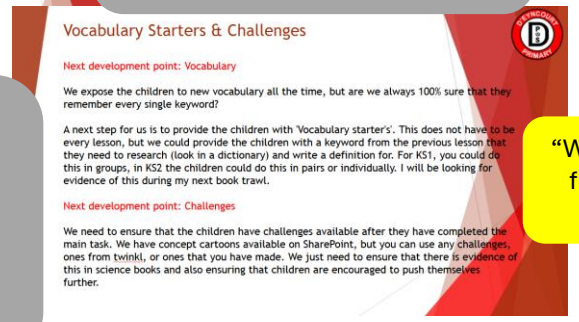


I found this CPD extremely helpful as it gave me direction as and lots of good practice that I could share with staff.

PSQM development points

I shared next steps to staff and shared with them lots of good practice. I also explained that I would be completing planning/book trawls soon and the expectation was to see the evidence of challenges being completed.

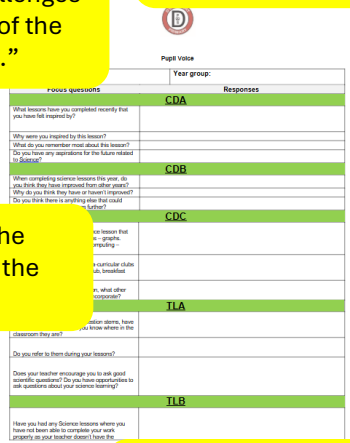
The staff took this advice on board and began to make those small changes to ensure there was clear evidence of challenges being provided for the children.



Before completing the book/planning trawls I completed a staff and pupil voice to see what was being provided and if it was easily accessible.

"We do challenges all the time."

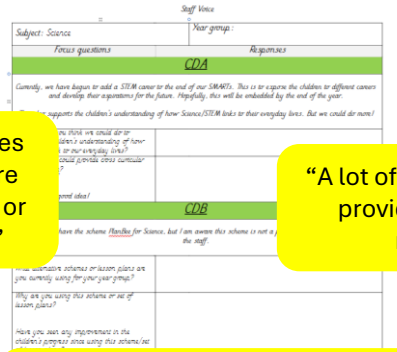
"We get our challenges from the front of the classroom."



"Sometimes the challenge is on the board."

"We sometimes use Twinkl or Grammarsaurus. But a lot of time we make them ourselves!"

"The teacher tells us where the challenges are."



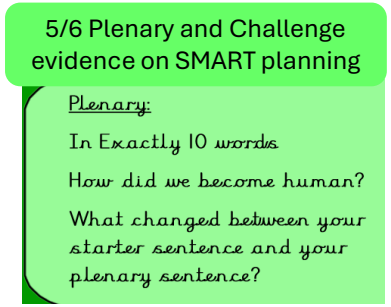
"We provide challenges each lesson. A mixture from Plan Bee, Twinkl or Concept Cartoons."

"A lot of the challenges provided are self-made."

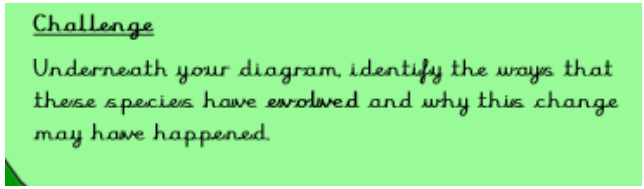
"Challenges are usually provided every week at the end of the SMART or on the end of their worksheet."

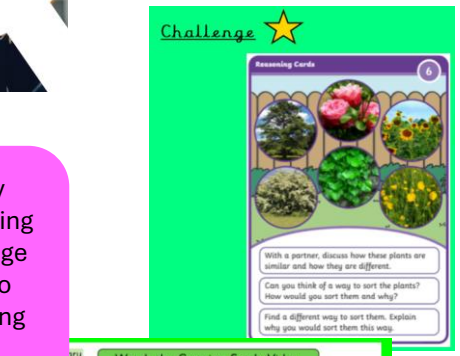
The pupil and staff voice questionnaires were extremely impactful. As it was clear that challenges were being accessed within every lesson.

5/6 Plenary and Challenge evidence on SMART planning



This has been extremely impactful as staff are making those small steps of change to support the children to deepen their understanding of their science topics.



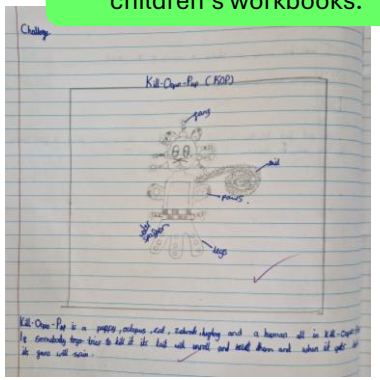


1/2 Plenary and Challenge evidence on SMART planning

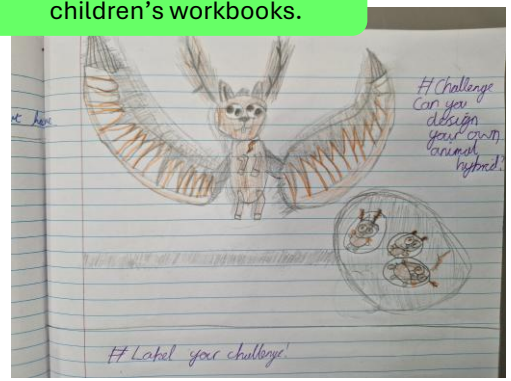
SLIDE 14 - TLC - Teaching enables all children to learn science content and procedural knowledge informed by formative and summative assessment

After completing a book trawl was able to collect lots of evidence of challenges, self-assessment, next steps and end of topic tests.

3/4 Self-made challenge in children's workbooks.

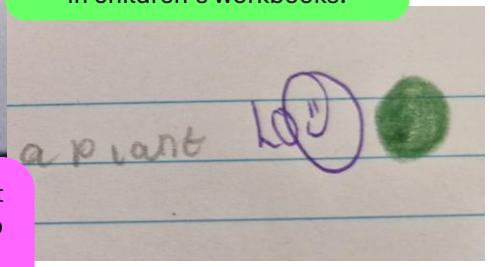


5/6 Self-made challenge in children's workbooks.



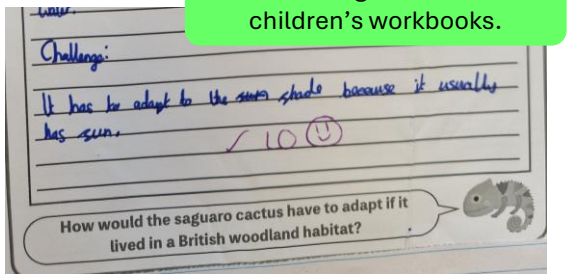
This has been a fantastic change with huge impact. The children are able to challenge themselves further with the variety of different challenges provided across the school.

Evidence of self-assessment using the traffic light strategy in children's workbooks.



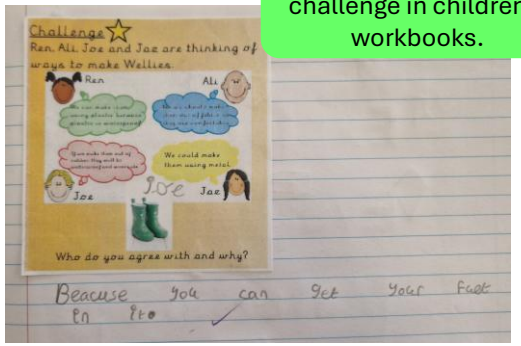
This is great to see the instant feedback from the children to see how confident they feel after completion of the main task and challenge.

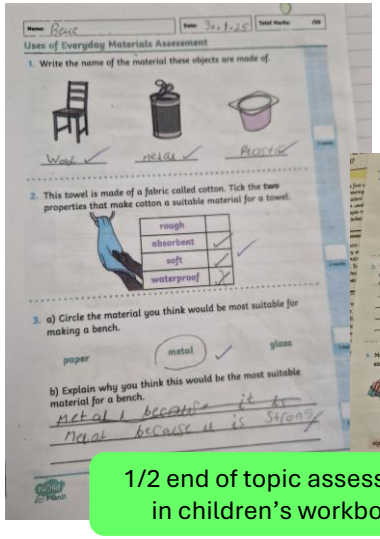
3/4 challenge extension in children's workbooks.

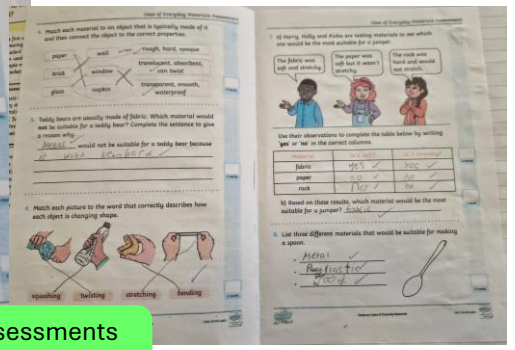


1/2 Self-made/Reasoning challenge in children's workbooks.

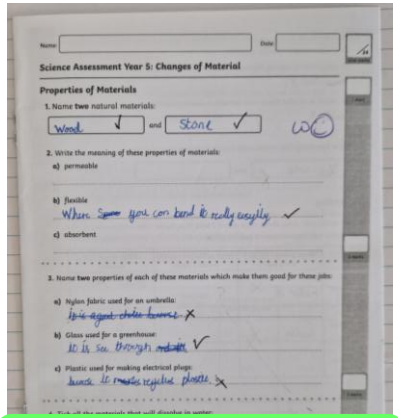
1/2 Concept Cartoon challenge in children's workbooks.



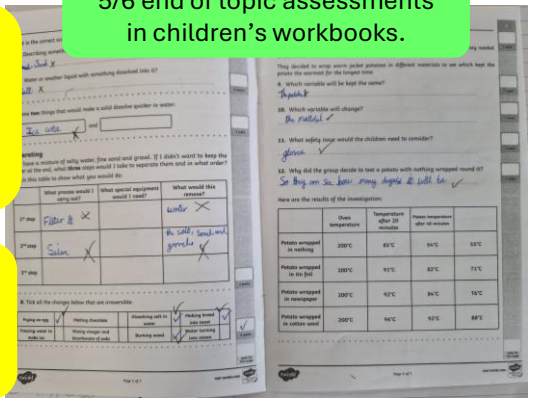




1/2 end of topic assessments in children's workbooks.



5/6 end of topic assessments in children's workbooks.



"I like having the chance to do the challenges because it lets me push myself."

"Having the challenges helps me understand what we are learning."

From the feedback given from the children you can see that they are very secure in their subject knowledge after being provided with lots of challenges and assessments.

"I think the tests we do at the end of the topic are good because you get to show everything you've learnt."

"I like doing challenges, they're fun."