



Farnborough partnership Science news





INVENTORS & MAKERS

I liked how we made cup towers. We made 4 cup by 4 cups to make the base then stacked cups on top to make the tower. Our next task was to make our tallest tower, my group added an antennae on top as it counted towards how tall it was. It fell over but we managed to fix it so it measured 70cm.

Aarav year 4 St Peters



What I like the most was learning about the tallest building but it was in Dubai. We had yummy biscuits and juice as a treat. I also liked building the cup tower. When we had to build our tallest structure our group came second because we use lots of cups at the bottom rather than at the top so it was bigger at the bottom and stood longer. We learned about so many different people including Gustava Eifel who built the Eiffel tower and he also lived in it! He also helped to engineer the statue of liberty. We learnt it was orange but turned green because of a chemical reaction.

Suri Year 4 St Peters



I enjoyed learning about the fact that we need to keep the structure of the buildings we make in a strong shape like a triangle or a square like a square based pyramid. I also liked learning about the fact that one of the tallest buildings in the world only used to be 10 stories high but now buildings can be more than 200 floors. I loved making buildings out of cups since it helped us to realise how strong buildings can be and if you wanted to be a builder it would be extremely important to pay attention! This has been my favourite activity so far learning about buildings and other structures.

Will Year 4 St Peters



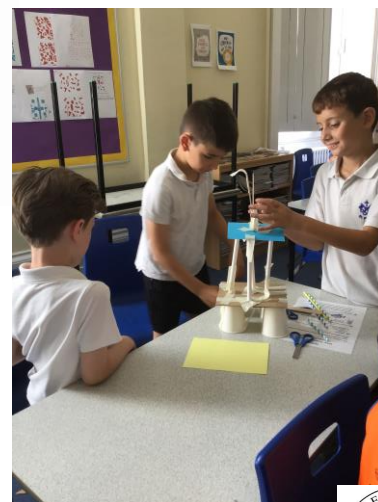
INVENTORS & MAKERS

On the 19th of June, we went to a science workshop and we learned how buildings evolved over time. For example in the 18 hundreds the tallest building was only 10 floors high
But now in Dubai the Burj Khalifa is a 163 floors tall. And we looked at structure and how you could prevent tall buildings and other things from falling.

First we built a skyscraper with 30 paper cups. Then we got lots of different resources and built a tower/skyscraper with paper tubed cardboard, 4 cups and lots of tape until we built a big skyscraper.

When I was there I was really excited and I had a really good experience. I would like to do it again.

James Y4 South Farnborough Junior school



I really liked learning about towers and how they are made. I also liked building and making towers. It was very interesting and fun, I had a really great time learning about towers. Thank you for inviting me, I would definitely recommend this to future Hafsa Y4. South Farnborough Junior school

We went to an amazing workshop all about firm foundations. We learnt about two engineers, one was important a long time ago. He made the Eiffel Tower and Statue of Liberty. After looking at different aged buildings, we were building groups with cups. We were given 30 cups and had to make a firm foundation to build the tallest tower. For mine we made a huge base and it was really tall but then we put one more on and it tipped over. For another activity, we used cardboard, card, three tiny straws and three big ones to make a very tall structure. We did card at the bottom, a layer of cups, then some more card and straws at the top. Lolly sticks held up the straws to make it easy. Once we did that we had lots of ideas. It was very strong. It was really good fun!

Year 4 child



• Oliver Y4 South Farnborough Junior school

The whole idea of the trip I thought was quite spectacular.

- We were learning about structural safeness and learnt that triangular buildings are more likely to survive earthquakes.
- Me Max and Hafsa built a 35 centimetre tall, spectacular and outstanding tower in 30 minutes.
- I give the experience a 5/5.



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DO TRY THESE AT HOME



Download more Marvin and Milo activities at iop.org/marvinandmilo

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FOOTBALL STEM CHALLENGES

FOOTBALL KICKING MACHINE

Design and build a mini football kicking machine.



TEMPERATURE AND FOOTBALLS

Cool a football in a fridge for about an hour. Is a cold football less bouncy or more bouncy than a warmer ball?



<https://spark.iop.org/marvin-and-milo>

<https://www.science-sparks.com/>

BOUNCING BALLS

Bounce different size and shape balls. Are some easier to control than others?

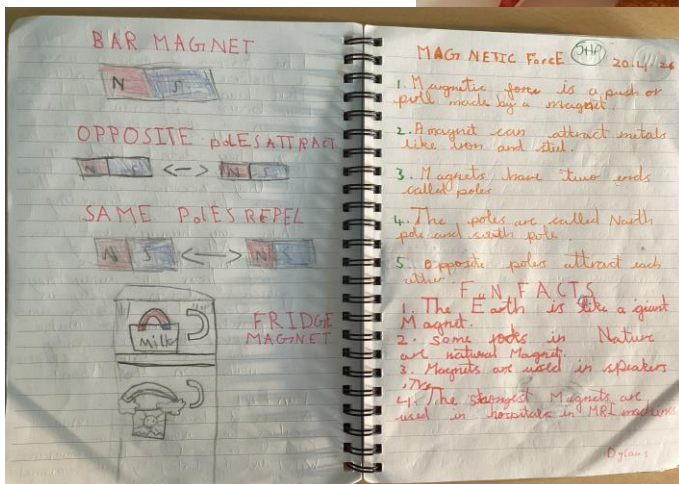
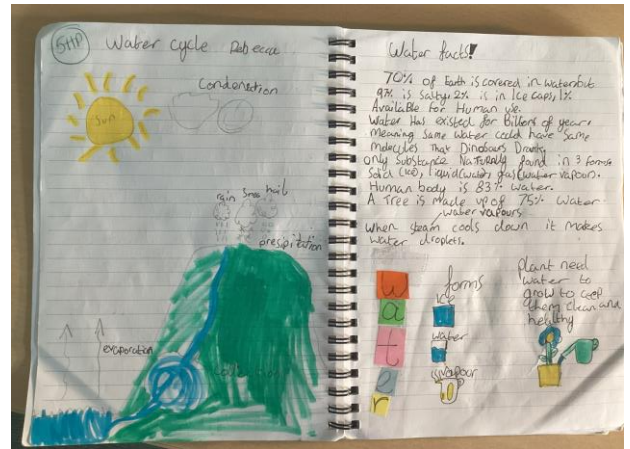
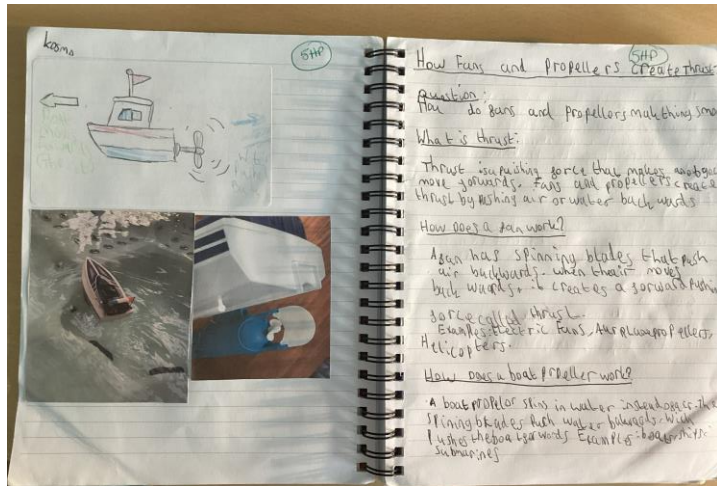


GOAL AND LAUNCHING DEVICE

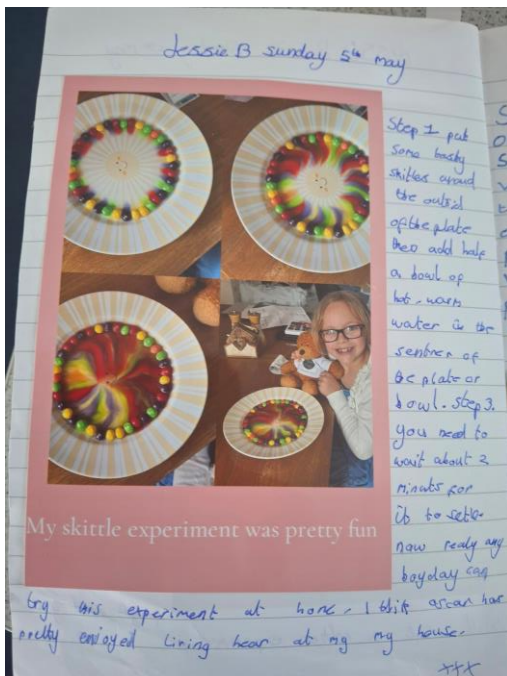
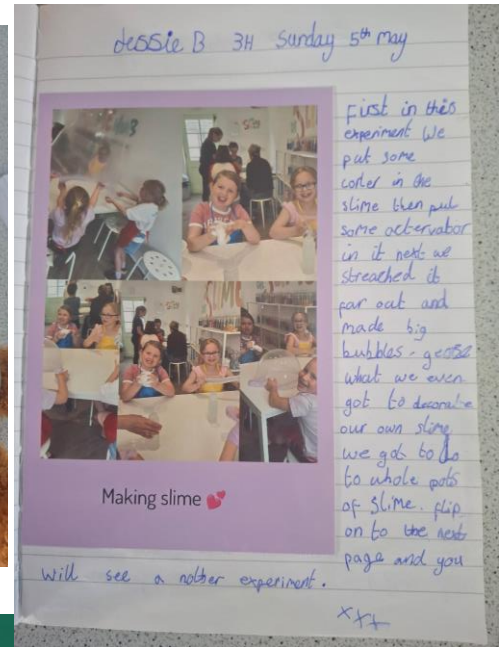
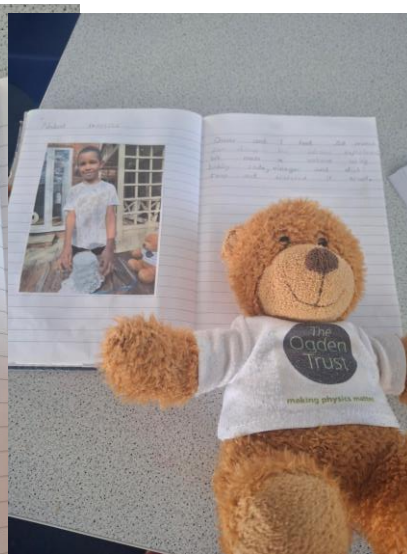
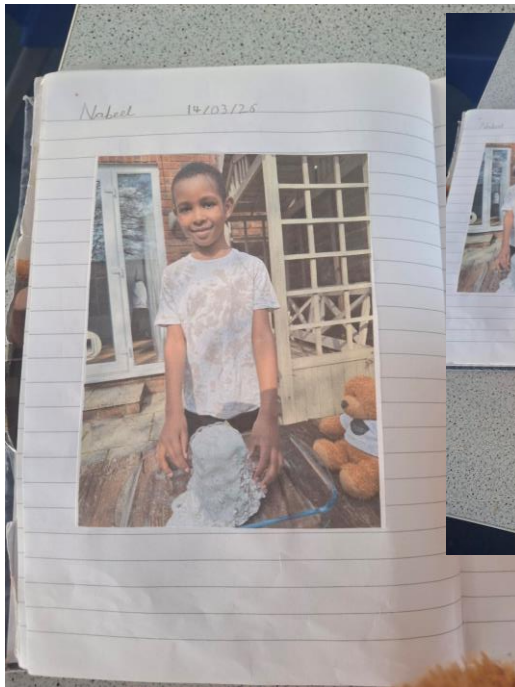
Design and build a football goal and launching device (maybe a catapult or lever system?)



Oscar's the Ogden Bear's adventures at St Bernadette's



Oscar's the Ogden Bear's adventures at St Peter's





News from our Phizi lab





South Farnborough
Infant School

Y2 have enjoyed using new science capital bags this year. They've had lots of fun at home reading about magnets and exploring magnets.



Super magnet
connection 🌟



Radiator magnet 😊

30.01.26 Magnets with Rapirety Presented By Ava
We learn that magnets are everywhere!
The two different poles of the Earth are North and South which effect compasses, and that's how they tell you which way is which.
we learn a little rhyme to go along with compasses to help you remember
Naughty Elephants ought
Water!
we went on a small treasure hunt to find what was magnetic, and what wasn't. Flick through to see what we found!
we had so much fun learning.



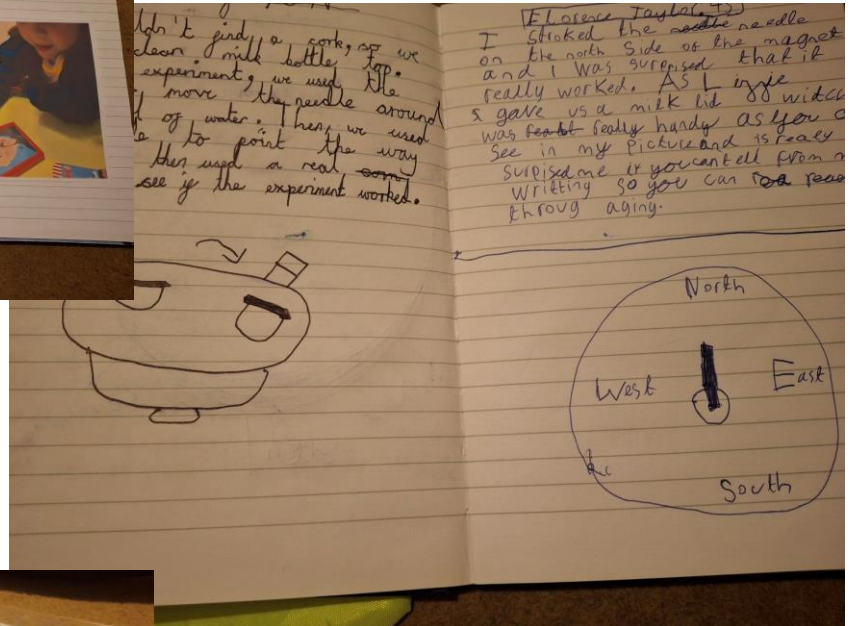
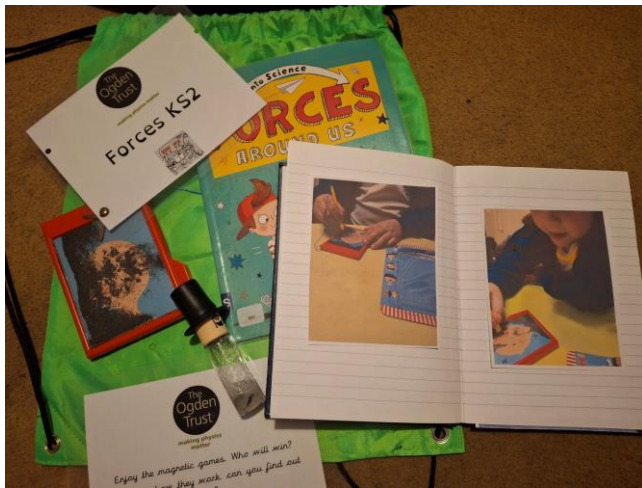
Thank you for letting us borrow the magnets! Shay had a great time + especially enjoyed reading the magnet magic book, He also liked seeing the photos of his friends.

Shay went around the house finding out what was magnetic, some of the magnetic things he found, was the radiators, chair legs + cutlery!

Shay also spent a long time constructing a house + a tower from the magnetic tiles.

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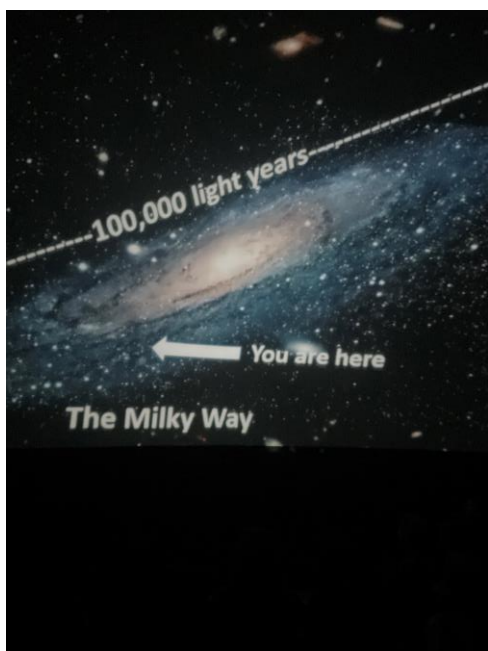
School
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Our science capital bags are a little bit like a library book. We take them home, read the book inside the bag and then have a go with the science equipment that we have. Its great fun!



This term, Year 7 had the opportunity to partake in various space themed activities with fun twists! Firstly, we took part in an egg drop competition, which had everybody deep into thinking like a NASA engineer, as the challenge came with a budget twist! In the end, there were some pretty egg-cellent creations (get it?) and majority survived, but some creations ended as a egg-tastrophe! It was a very fun and interesting experience for us, and it helped to further develop not only our scientific knowledge, but also our cooperation with one another!



We also did space coding which meant that we were designing a game about a character travelling through space trying to avoid aliens, we also learned how to make the background continuous and also how to customise the characters, aliens, and even add boxes of ammo so that the character could shoot those aliens, all of the games looked awesome, there were a lot of creative ideas and it was lots of fun.

Next we did the Wonder Dome, which is an inflatable dome with images projected on the inside. When we entered the Wonderdome, everyone immediately got the feeling of the spacey magic! We then went through this really cool space projection and we compared all the planets sizes with Earth and let's just say there are some very big stars out there! To end it off, we had a very realistic simulation of a roller coaster ride which had everybody in a knot! This was a very fun event!

Thank you to the science department for organising this fun event for us!
Celine and Maya



Scientists have discovered that the milky way may be further away than we first thought.



Scientists had deduced using two space telescopes that The Milky Way (our Galaxy) may be wider than we ever imagined. They looked at cosmic explosions | beyond our Galaxy leading to us discovering the truth about how wide the Milky Way might actually be.

Space experts have been able to deduce the distance to the outer spirals from Earth may be up to 10% wider than first thought. Experts have said this brilliant discovery could help the human race understand the structure of our galaxy (The Milky Way.)

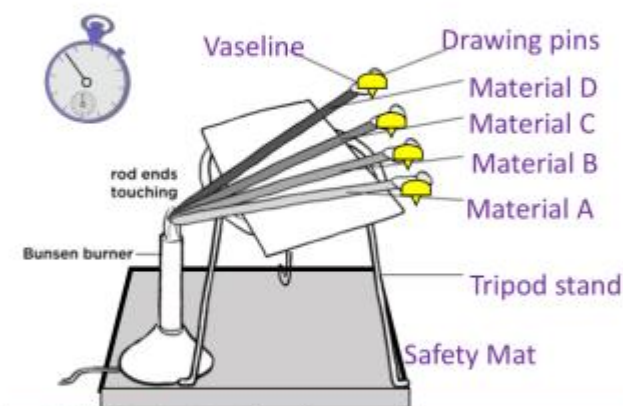
By Jack and Noah



"Year 7 Students this week investigated "Thermal conductivity" of different metals. The method was the following:

Energy transfer - Conduction

Working in groups of two you will be investigating the best conductor from a group of **three** metals.



- **Health & Safety:** Coats & bags hung up on the pegs
- Goggles on; Hair tie back (inside the jumper)
- Stools under the desks.
- Bunsen burner hot - don't touch
- Metal rods hot - don't touch

Method

1. Set the equipment like in the diagram.
2. Use the **half flame** of the Bunsen burner.
3. Once you lit your Bunsen **start the stopwatch** and let it run until all the pins have fallen.
4. Record time for each pin without stopping the stopwatch.
5. Once all the pins have fallen leave the metal rods to cool down for 2 minutes.
6. Clean the metal rods with paper towels and place it in the corresponding tray.
7. Place all equipment away.

The students used Bunsen burners, lab equipment and gained practical skills to complete this investigation. They were able to identify which metal rod was the best conductor of heat, write a conclusion, identify the variables, plot a graph (maths skills) and gained more confidence developing their learning.



Also during this term the Year 7 students investigated part of Forces topic **“How height of the ramp affect the speed of a toy car”**

Practical activity - Measuring speed

Equipment and materials:

- selection of toy cars to choose from
- stopwatch
- ramp
- meter ruler or tape measure
- objects, such as books to raise the end of the ramp or retorts to clamp the ramp at different heights.

Variable to investigate:

- height of ramp



How do you think changing your variable will affect the average speed of the car?

Prediction: I think that changing ... will ...

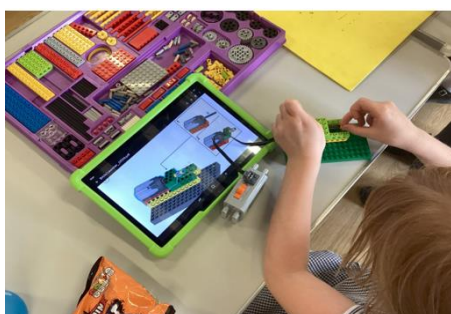
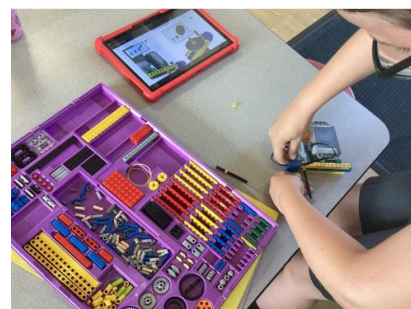


I am really proud of their enthusiasm, and engagement this week. They all receive house points and rewards (stickers, certificates and ducks).

Science Selfie Competition



Well done to everyone that took part in the Science selfie competition, there were so many wonderful selfies to choose from. Congratulations to all our winners, Imogen, Rebecca and Aoife.



We hosted a STEM day with Inventors and Makers.

Science Competition KS1



Lagan in Year 1 who used oil, water and food colouring to create his own lava lamps!

1st Place



Ewan in Year 1 who created a colourful reaction by mixing hydrogen peroxide, washing up liquid and a catalyst.

2nd Place



Ryshaan in Year 1 who investigated whether flowers could absorb coloured water and change the colour of their petals.

3rd Place



CONGRATULATIONS TO OUR WINNERS AND TO EVERYONE WHO ENTERED!

Science Competition KS2



Vihaan in Year 4 who soaked an egg in vinegar for 24 hours, which dissolved the shell and made the egg bouncy!

1st Place



Arlo in Year 3 who pumped as much air as he could into a bottle with a small amount of liquid to make a rocket that flew around the garden!

2nd Place



Suvaan in Year 4 who mixed soap, water and sugar to create bubble foam!

3rd Place



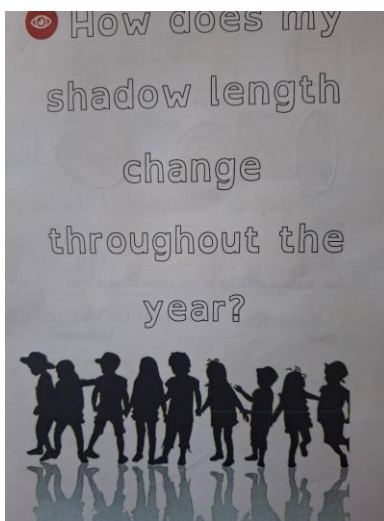
CONGRATULATIONS TO OUR WINNERS AND TO EVERYONE WHO ENTERED!

Our Year Five scientists took their learning outdoors to explore the forces of gravity in a hands-on way. Using everyday materials, they designed and built their own mini parachutes, then tested how different sizes affected the speed of descent. There were plenty of predictions, surprises, and laughter as parachutes floated (or zoomed!) to the ground. It was a fantastic mix of creativity and science in action!



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Year 3's long term study

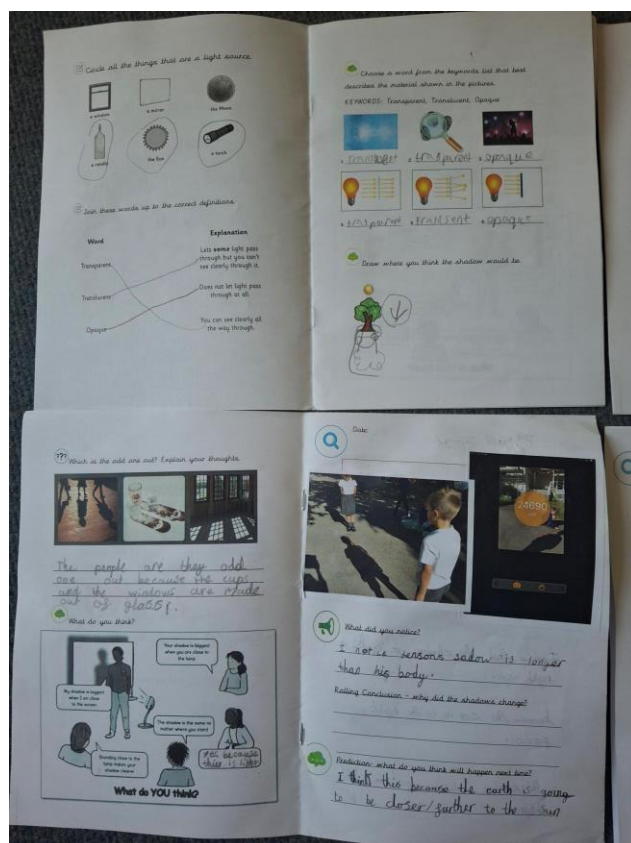


Sofia yr 3

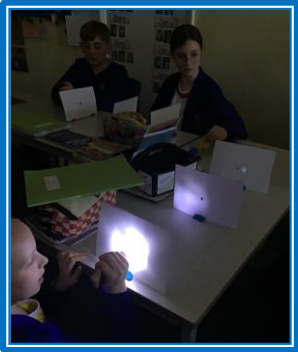
Over the year, I noticed that the one that we took at the start, the light level was 24690lx and in July it was 16165lux, that was on the playground. We discovered the field was 17546lux – it was even brighter than the playground.

Milo yr 3

Throughout the year we learnt that light sources make people see better. The shadow is formed when light source is shone at an object that blocks the light that creates a big black shadow. The object is opaque.



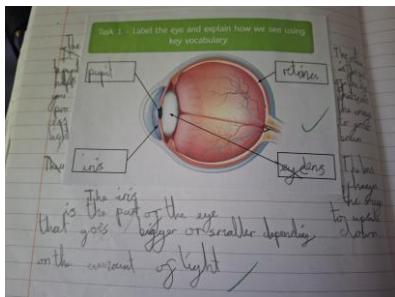
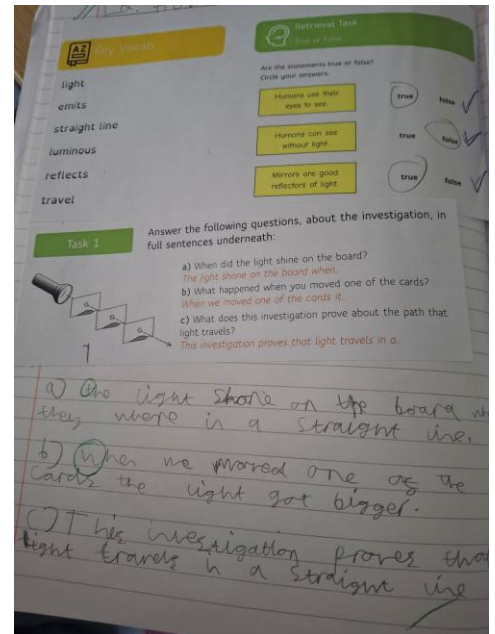
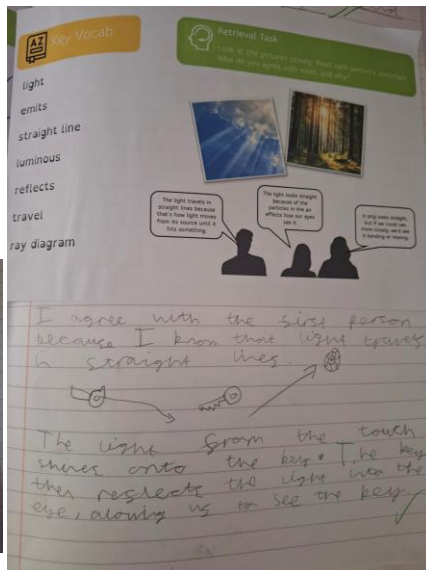
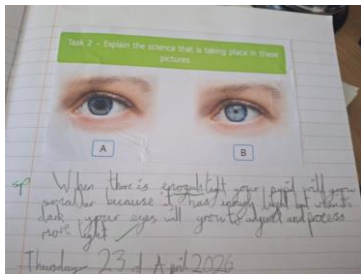
Year 6 Light experiments.



I was surprised that in one of our science experiments we put light in our eyes and then our pupil got smaller. This happened because when there is enough light the pupil grows smaller but when it doesn't it will grow bigger.
Ore year 6

The light from the torch shines onto the key.
The key then reflects the light into your eyes allowing us to see it!

Lara Year 6



6C spotted a rainbow out of the classroom door! Then they looked at rainbows and how they are formed by refracted light.

First what we did was we used a torch to shine on the board. The board had a hole in the middle so we could see the light through it. What we did was when we moved one of the cards it blocked the light from travelling forwards.
Alex year 6



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Capital

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Another amazing year of different physics activities.

Next year look out for

Our science competitions

Stargazing events

Family fun nights

Inventors and makers workshop

British science week activities

And much more.....

