



Scientist-in-Residence



Materials Workshops Year 1 October and December 2021



This half-term, Year 1 have been exploring materials and finding out about their uses with Scientist-in-Residence Colin Stuart. Working in groups of fifteen, they worked through three different sessions each themed around a different aspect.

The first session focussed on experiments involving water and the concepts of floating and sinking.

First the children predicted whether raisins would float or sink when dropped into a bottle of water. The raisins sank, but the children were surprised to find them floating when dropped into a second bottle of fizzy water. Next they made an 'Ocean in a Bottle' by first adding some blue food colouring to water in the bottom of a bottle and then topping it up with cooking oil. The result was a clear separation between the two liquids, with the oil floating on the water. Then came the eggs.

The students carefully placed an egg in a jug of water, where it sank to the bottom but they were able to make it float by adding salt to the water. Finally they coloured in ducks, some with felt tips and some with crayons. Colin then sprayed the drawings with water to show the wax to be waterproof, but the ink not.



In the second week the focus moved onto friction. First the students interleaved the pages of two books and were surprised to find that they couldn't pull them apart again!

Next, clued in to the fact that friction stops materials from sliding over one another easily, they built a hovercraft. Colin had glued a bottle cap to a CD and by attaching a blown up balloon to the cap the escaping air provided a cushion on which the CD could glide across the table more easily.

The students were also able to lift a water bottle filled with rice using just a pencil. Jabbed hard into the rice, friction stopped the pencil sliding out easily.

Finally, the session was rounded off by covering wooden ramps in various materials before sliding cars down them. The children correctly predicted that the car would move fastest down the smoothest ramp.

In their final session entitled 'Escape From The Jungle', the pupils found themselves stuck in the canopies after parachuting out of a stricken aeroplane. They had to fashion a basket for a Lego person to slide down a zip wire to the jungle floor. They then encountered a wizard who would only let them pass if they unscrambled the names of some of the materials they'd been studying in the previous sessions. Having done that, they had to create a bridge to span crocodile infested waters. The bridge had to be freestanding and capable of holding the weight of a few handfuls of coins. A troll blocked the way to a ramp and the price of passage was the successful completion of a word search containing the names of materials. Word search completed, they could send the Lego figure down the ramp to a sandpit. They had to build two sandcastles and lay a ruler between them to straddle the sandpit. Finally, the satellite phone they needed to call their rescue party was locked in a coded box. The code was in the form of numbers (A=1, B=2, C=3 etc). Deciphering the code revealed the code words to be 'friction', 'floating' and 'sinking' - all key words they'd spent the last two weeks exploring. It was certainly a fun way to round off and recap the materials topic.

What the children thought of the Science workshops in their own words:

"The best bit was making the bridges which took a while but we got there!"

"I realised it was easier when we worked together and listened to everyone's ideas."

"Learning about friction is going to make me a much better driver now!"

"I'm going to show my mum how to make raisins dance. She will think I'm a magician but I'm a scientist!"



Kind regards,
Miss Kelly & Mrs Wordsworth
Science Co-ordinators