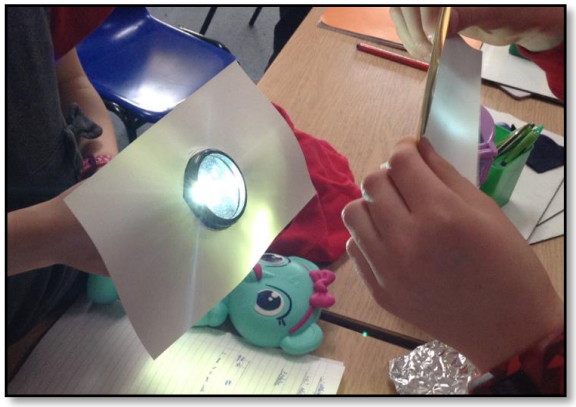
Science at Killigrew Primary and Nursery School

At Killigrew, we follow the National Curriculum Programme of Study for science. We enhance the curriculum that we teach through focussing on our own key driver for science: our ambition is to provoke the children's curiosity about the world around us and the wider universe. We also want our pupils to make informed decisions and feel confident to voice their opinions on local, national and global challenges linked to their science learning.

Through our assessment of the children's work and the gathering of pupil voice, we know that most of our pupils have a strong and comprehensive knowledge base. However, we want to develop the spirit of scientific enquiry, so that our children can critically examine scientific evidence from their own and others' experiments, and draw justifiable conclusions based on this analysis. Within this process of learning, we want our pupils to experience the joy of scientific discovery, provoking a long-lasting interest and passion for scientific learning.

Through prioritising the teaching and modelling of enquiry in our science lessons, we ensure that our pupils become more confident when asking questions and expressing their knowledge and viewpoint. Through this process, we know that our pupils will be active learners and, in line with our whole school curriculum driver, develop excellent spoken language skills that will support them throughout their academic studies and in later life.



Year 3 children exploring patterns in the way that the size of shadows change.

With all of this in mind, our science curriculum progression is mapped in two parts: one progression document details the skills needed to be a successful scientist and the other the knowledge progression needed to continuously progress and achieve at least age-related expectations.

Year 2 planting seeds in order to observe and describe how seeds and bulbs grow into mature plants.

Our skills curriculum progression is divided into key themes:

1. **Posing ideas and asking questions**
2. **Planning approaches**
3. **Gathering equipment**
4. **Considering variables**
5. **Observing and measuring**
6. **Utilising secondary sources**
7. **Recording and presenting data**
8. **Looking for patterns**
9. **Explaining results**
10. **Evaluating outcomes**

Our knowledge curriculum progression covers statutory curriculum objectives, but also provides additional challenge ideas to engage and inspire all learners.

Year 5 made models of a planet with some key facts included.

We supplement our weekly teaching of science with a science week, focussed on skills progression with a carefully chosen theme. We plan offsite learning opportunities to deepen our pupils' understanding of key knowledge concepts.

A magical wizardry science day!

A visit to the Science Museum in London

Through our partnership with a local secondary school, we offer a term of curriculum enrichment in STEM for our more able scientists in upper key stage two.

We also engage in local initiatives linked to our science curriculum and conservation. This included supporting a lottery bid for planting a chalk bank for endangered butterflies.

Killigrew Reception children planting plants and sowing seeds on a chalk bank to encourage the rare Small Blue Butterfly to live in the local area.

Outcomes in books evidence a thorough and effective science curriculum and demonstrate the children's acquisition of both scientific knowledge and skills. Through comparing baseline questions at the start of each new unit to assessment questions at the end of teaching, progress is evident for all children. The use of a range of spaced retrieval activities at the start of a lesson supports pupils in transferring their knowledge from their short-term memory to their long-term memory. When comparing science between year groups, increased pitch and expectation is evident for both knowledge and skills learning. Children are supported to reach at least age-related expectations and challenge is evident.

Through lesson observations, we know that children ask perceptive questions, show high levels of engagement and are curious about their learning. Teachers' subject knowledge is excellent and their enthusiasm for the subject is evident.

Pupil voice indicates that children have a coherent knowledge and understanding of science. They are curious about the world around them and enjoy their science lessons. When asked, they can explain how their science learning relates to the wider world and why learning about science is important for their future.

An outdoor science quiz to review and revise prior learning.

Learning about habitats and creating bug hotels in Reception