Science

Intent, Implementation, Impact

Intent

At Medway, our vision for science is to develop pupils' knowledge, particularly that 'powerful' knowledge which builds their habitus and cultural capital and will make them successful adults. We aim to use science as a lens to understand and engage with the 'best that has been thought and said' throughout scientific history, and as such we engage with great scientific minds and thinkers. Moreover, we develop scientific skills through scientific enquiries that allow children to think scientifically. This allows them to apply their thinking in different domains and contexts, enabling their progression outside of Science in other related subjects, especially Geography and Maths.

Implementation

Scientific thinking, and consideration of the natural world, is considered in a range of ways:

- Through Scientific Empiricism and Experimentation: We consider scientific empiricism as a means of understanding the world, including working scientifically and the scientific method.
    - This is primarily enacted by conducting scientific experiments. In doing so, teachers consider the working scientifically objectives: asking scientific questions; planning an enquiry; observing and classifying; taking measurements; gathering and recording results; presenting and interpreting results; drawing conclusions (KS2); making predictions (KS2); and evaluating an enquiry (KS2).
- Through Spirituality: This links to our 'Medway Musings' where we consider the moral and spiritual nature of the world around us and the awe and wonder it inspires in us.
    - As part of this, we consider great works of art. We consider the world through art, literature and poetry to try to see it through a different lens. For example, we might look at Rembrandt's 'Storm on the Sea of Galilee' before exploring the scientific principles that underpin storms and the weather.

Impact

Working scientifically and scientific knowledge objectives are indicated in books using dedicated science stamps, and attainment data is recorded and analysed termly using target tracker.

However, the primary means for assessing science is through curriculum in action (CIA) meetings. These are conducted regularly as part of a collaborative dialogue between senior teachers, senior leaders, the subject co-ordinator and teachers on the quality of their science curriculum in each year group and across the whole school. The most recent CIA, on the 24th January 2022, found that:

- Overall, science is strong throughout the school and there is good evidence of this in books.
- Year 1 demonstrated excellent coverage and presentation.
- Year 3 science was exceptionally strong and demonstrated effective discovery learning.
- Year 4 science had improved markedly over the course of the year and is now strong.
- Year 5 & 6 science was strong.

Areas for improvement were:

- Some teachers in Year 5 require new stamps to ensure conformity of marking.
- Year 6 could consider the difference between Physics, Chemistry and Biology to further stretch and challenge pupils.
- Establishing a common approach to GDS in science, considering what this looks like in Medway's context.