

## **Science**

### **Intent**

We believe that Science provides an opportunity to develop an understanding of the concepts and processes that describe the world around us, and can lead to diverse choices for future study and careers. Students will develop and build upon the scientific skills met in KS2 such as scientific questioning, investigation and analysis in lessons and also through enrichment opportunities such as Science Club, Olympiad competitions, exciting trips to lectures and places as diverse as London Zoo and the Hadron Collider at CERN. Students will be inspired to maintain curiosity and apply their scientific understanding to explain the phenomenon they meet.

### **Implementation**

Science at Kingsdale starts with the development of foundation skills that will be further advanced as students move through the key stages. During Key Stage 3, there are a range of interlinked topics based on the disciplines of Biology, Chemistry and Physics. Scientific disciplinary skills are interwoven into the curriculum with students moving towards mastery as they move into KS4 where they are taught the 3 disciplines separately.

Lessons begin with retrieval of knowledge to aid student memory whilst also providing a connection to the new learning. New concepts are clearly explained and modelled by the teacher, with students then being supported to apply their new knowledge and skills, students becoming more independent as the lesson progresses. Questioning is a key feature of science lessons, students are encouraged to think deeply throughout the lesson with teachers questioning to ensure misconceptions are picked up and dealt with immediately. Practical work is purposeful and selected to develop student understanding of the curriculum and their disciplinary skills. Students have access to an on-line textbook and resources through Kerboodle, with teachers also sharing their own resources and revision materials on the class pages in MS Teams.

### **Impact**

Student understanding is continuously assessed in lessons through a range of questioning techniques and application practice. Students also complete assessed homework prior to their end of topic tests to secure their understanding before the summative assessment. When completed, tests are analysed by the teacher who uses this data to inform their planning of the follow up lesson, students complete a question level analysis which allows the students to reflect on their progress.

Teachers are highly skilled with many being mentors supporting the development of trainee teachers. Within the department we have an on-going programme of professional development where teachers share good practice in weekly department meetings. Teachers are members of professional subject associations to support the further development of their subject knowledge.

Students in our department are inspired and successful with large numbers every year going on to study the sciences at A-Level and beyond.