



## **Science curriculum intent**

Our science curriculum aims to cultivate enquiring mind, think critically and develop skills to become life-long learners and successful citizens. At The Kassia Academy, we believe that the science curriculum must work for each individual child, regardless of their background and starting point.

The aim of our curriculum is to build up on a body of key knowledge and concepts, through highly differentiated teaching. It is important that students are supported and lessons are sequenced in such a way that information is reviewed and key concepts, known as Golden Threads, are revisited so that key learning is built upon progressively.

Throughout the key stage 3 and key stage 4 science curriculum, students will:

- Develop knowledge and understanding through learning about biology, chemistry and physics
- Develop knowledge and understanding of concepts and procedures through demonstrations, modelling, practical investigations and data analysis.

Pupils are assessed at regular intervals, through regular questioning and performance based tasks that assess students' ability to apply what they have learnt. Tasks may be end of unit tests, extended writing pieces or practical assessments.

## **Developing literacy in science**

At The Kassia Academy, we address literacy in science by integrating reading, writing, listening and speaking skills into science lessons. Students are provided with key scientific vocabulary which they are encouraged the use in speaking and writing assignments.

Throughout teaching the curriculum, students are expected to engage in close reading of scientific texts, including textbooks and web-

based news articles and then summarise key ideas, presenting information as a newspaper article, comic strip or presentation. Developing visual literacy is also important within our science curriculum. Teachers will teach students to use data and present information as graphs, charts and diagrams. Students are encouraged to create their own visuals to represent new scientific concepts they are learning.

### Developing mathematics in science

Mathematics is a key skill within the science curriculum at key stage 3 and key stage 4. Throughout the curriculum, students are taught how to apply formulas to solve physical, biological and chemical problems. In addition to the use of formulas, students will collect, organise and analyse data using mathematical techniques, such as graphing, averaging and calculating measures. The use of scientific investigations throughout our curriculum allow pupils the opportunity to apply mathematical skills to interpret results.

### Developing capital culture in science

At The Kassia Academy, capital culture in science involves creating an inclusive learning environment where students are empowered and able to fully participate in scientific inquiry regardless of their background or socioeconomic status. Students are encouraged to embrace challenges and take on board feedback from the teacher in order to develop learning. The science curriculum has been specifically designed to meet the needs of all students and allows them to engage in scientific experiments, within the classroom environment. In addition, we provide opportunities for students to engage in STEM based activities from external providers, such as 'snap circuits' delivered by EQUANS engage programme.

In conclusion, our science curriculum is designed with a clear vision aimed to foster a good understanding of scientific concepts, encouraging students to develop their inquiry-based skills and nurturing curiosity. By integrating literacy, mathematics and capital culture into science teaching, our aim is for students to use these skills to problem solve and contribute positively to the world around them.

