# **Dudley Academies Trust -** The Link Academy

## Statement of Curriculum Intent – **Science** 2023 - 2024

We believe that students deserve a broad an ambitious science curriculum, rich in skills and knowledge, which ignites curiosity and prepares them well for future learning or employment.

Science is taught through 12 big ideas linking Biology, Chemistry and Physics, they are sequenced through a spiral curriculum that supports student progression through years 7-11. The big ideas help to define the ultimate goal of the Science curriculum, they provide a framework to help students organise knowledge, this framework directly supports what we know about how students learn in science e.g. grouping related ideas together, moving from concrete to abstract ideas and revisiting and building upon the same idea multiple times.

## How will this be achieved in our curriculum?

The big ideas allow students to develop scientific knowledge and conceptual understanding. Our scheme of learning aims to give students an understanding of the key ideas, the links between structure and function in living organisms, the particulate model as the key to understanding properties and interactions with matter in all its forms and the resources and means of transfer of energy as key determinants of all these interactions. It develops an understanding of the nature, processes and methods of science through different types of science enquiries that help to answer scientific questions about the world around them. Students are taught about working scientifically through a range of practical investigations that are always clearly related to the science content. We ensure students are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. We teach students to be critical about information and to evaluate strategies and behaviours that could have an impact on the environment.

## How does assessment fit in?

Being part of a MAT has allowed us to develop common assessments. These are summative which allow pupils to demonstrate their growing understanding of the subject and teachers to assess the impact of their teaching. Summative assessments in years 7-9 are taken 3 times a year and in years 10-11 6 times a year, enabling teachers to focus on formative assessment from lesson to lesson. Question level analysis is used to

plan reteach Green for Growth lessons focussing on questions where students underperformed. The Demonstrate task is an independent activity which involves an exam or specification-based question that allows the class teacher to evaluate the progress achieved in a lesson. This activity should be challenging and assess the extent to which pupils have met the progress indicators. The Connect task is an activity designed to address misconceptions or mistakes from the previous lesson's Demonstrate task. The regular use of demonstrate and connect tasks in lessons ensure that students embed knowledge into their long-term memory, freeing up working memory to attend to current learning. The increased consistency in the use of connect tasks shows teacher expertise in identifying the highest leverage gap to address misconceptions ensuring that students demonstrate progress. We are conscious of the role that literacy and vocabulary plays and we explicitly teach the meaning of subject-specific language using key terms and the Frayer Model.

## How does extra-curricular for **Science** benefit our learners?

Participating in extracurricular activities **builds teamwork, communication, relationships, and a sense of belonging**, all of which help students to develop socially and be successful in school. Participation in extracurricular activities demonstrates the importance of community involvement. Science extra-curricular at The Link Academy strives to cultivate a sense of belonging, increase collaboration with students in different year groups, and provide opportunities for students to connect with teachers outside of the classroom