

## **Golden Threads**

### **Knowledge**

At BGGs, knowledge in science comes in 2 forms; substantive knowledge which covers the subject content and disciplinary knowledge which covers the skills needed to be a good scientist.

Our through school curriculum, from EYFS to year 11, covers these aspects within the context of 10 key themes:

- Ecosystems
- Organisms
- Genes
- Matter
- Reactions
- Earth
- Energy
- Forces
- Waves
- Electromagnetism

Students revisit these key themes regularly throughout the course of the curriculum adding depth each time whilst further securing their understanding of previously taught critical content, thanks to our spiral curriculum. This allows students to master the curriculum and learn the fundamental aspects of science in the world around us.

### **Cultural capital**

At BGGs it is important to us that we develop the cultural capital of our students. We do so by providing opportunities for them to appreciate that science is more than just a subject to be learnt, and that it is a vital tool needed to have a full understanding of the world.

We use examples of science in the local area to make the subject relevant and then expand this to other familiar, and unfamiliar, industries around the world. We aim to teach students how science has advanced society and our view of the World, how science will move us forward and be the driving force behind solving future global issues.

Wherever possible, our cultural capital work is enriched further by extracurricular opportunities including STEM club, relationships with local industries and external visits.

### **Diversity**

It is vital that our students recognise themselves as future scientists, and that they feel represented within the science curriculum.

We work hard to educate students that science is very much a multi-cultural area of study by using examples of scientists from a variety of cultural and religious backgrounds. We also ensure through work in our senior phase, that women in STEM feature prominently in the work we do, to motivate and encourage our students to succeed, by looking at these as role-models to aspire to.

We regularly look at different career paths that science can lead into from each of our 10 key themes to broaden aspirations and promote equality.

## **Vocabulary**

Success in science relies on students being confident in their ability to articulate their understanding of their knowledge, both verbally and through written work.

As such, promoting the learning of, and accurate use of, vocabulary has always been a priority of the science curriculum at BGGs.

Our curriculum promotes vocabulary by embedding science-specific terminology (tier 3 words) into every lesson, signposting these as priority terms that should be used accurately to fully demonstrate understanding. We also promote the use of other transferable vocabulary (tier 2 words) which students are exposed to in everyday life e.g. compare, evaluate, discuss. A solid understanding of both tiers of words will aid progress across all subject areas, not just science.

We also ensure that when new vocabulary is introduced, we look at its etymology to aid understanding, application and retention.