STEM

The STEM curriculum in the Riviera Education Trust encompasses learning in Science, D&T and Computing and has strong links with our mathematics curriculum. STEM learning seeks to encourage pupils to ask questions about the world around them and use logic, imagination and creativity to develop their understanding and solve real-world problems. These subjects support pupils in developing skills of observation, design and evaluation and pupils will develop the skills to work collaboratively.

We believe that an aligned curriculum can reduce workload, allowing our teachers to focus on providing the best possible classroom experience for our children. After careful research, we have chosen to adopt the United Learning Curriculum to provide resource for our Science and humanities curricula, *with each school carefully adapting the curriculum to reflect the specifics of their locality**. This allows the children to make links between science and humanities in a planned and structured way, further developing their understanding of the wider world, beyond the specifics of a single subject.

Science

We provide a high quality, engaging and progressive science curriculum that develops pupils' natural curiosity in the world around them by selecting examples and applications of science that inspires pupils' curiosity about the world and natural phenomena and ensuring that all pupils can see themselves reflected in the science curriculum, by highlighting present-day role models and the contributions of scientists from a wide range of backgrounds; and considering social and cultural values around scientific ideas.

Pupils are taught substantive knowledge that:

- Ensures pupils **master** core content through the development of key concepts and **timely revisiting** of key knowledge
- **Prevents common misconceptions** that are often formed at an early age and prove problematic at the later stages of pupils' science education
- Purposefully teaches appropriate knowledge that **goes beyond the KS1 and KS2 national curriculum**, to aid current and future understanding, and to smooth the transition to KS3
- Encourages pupils to apply and **make connections** between the disciplines of science, the wider curriculum and the wider world

And disciplinary knowledge that:

- Sequences Working Scientifically elements so that they are **explicitly taught** and practised alongside the substantive knowledge, and regularly reviewed and built upon across the years and key stages
- Makes deliberate and **explicit links to other curriculum areas** – particularly geography and mathematics – to ensure there is a consistent approach to teaching content, and that pupils are always **first taught content in the most relevant subject**. For example, pupils are taught how to construct bar charts or calculate the mean in mathematics before they are applied in science
- Plans practical tasks that have a **clear purpose**: to demonstrate or prove substantive concepts, or to allow pupils to deliberately practice working scientifically skills in a relevant context

The curriculum is design around these key areas:

- Working scientifically
- Earth Science & Geology

- Environmental Science
- Physics
- Chemistry

These areas are sequenced to allow for the gradual development of vertical concepts – the big ideas in science – to provide firm foundations for Key Stage 3 and 4.

**For details of adaptations to the Science curriculum that reflect each school's unique context, please see the school's website.*

Design and Technology

In the Riviera Education Trust, we aim for a high-quality design and technology curriculum which is designed to provide challenge through the cyclical design process (research, design, make, evaluate, improve, evaluate) and real opportunities in order to prepare pupils for the future. Through research, pupils gain knowledge of past and present designs and develop the skills to allow them to translate this knowledge into their own designs. We provide opportunities to think and intervene creatively to solve problems both as individuals and as members of a team. The emphasis within teaching and learning in the DT curriculum is for pupils to have a range of opportunities to use and develop practical skills that they can apply to solve real-world problems. Through their study of food and nutrition, pupils learn how to cook and apply the principles of nutrition and healthy eating.

We encourage a cross curricular approach and, wherever possible, link work from other STEM subjects as well as art in order that pupils develop a real understanding of the importance of the skills they are learning.

The curriculum is designed around these key areas:

- Design
- Make
- Evaluate
- Technical Knowledge

Computing

In the Riviera Education Trust, we aim for a high-quality, experience-based computing curriculum, designed to develop pupils' computational thinking skills. We aim to support pupils to understand and change the world through logical thinking, precise decision making and creativity. Our pupils become active digital citizens, participating in, contributing to and questioning an ever-evolving digital world. Pupils are equipped to understand, analyse and evaluate the use of technology to ensure they are competent, confident and responsible users to prepare them for their future workplaces, including those which may not currently exist.

The curriculum is designed around these key areas:

- Understanding technology
- Programming
- Information and communication
- Online safety