



## BRANNEL SCHOOL

### PROGRAMME OF STUDY FOR Science

#### Purpose of Study from the National Curriculum

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all students should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, students should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

#### Aims from the National Curriculum

The national curriculum for science aims to ensure that all students:

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics
- develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.

#### Studying science at Brannel School

Why does an aircraft fly? What are the fuels of the future? How does the internet work? How will nanotechnology save lives? What is Global warming? It is when people understand why and how things work, that they then apply that knowledge to create new technologies and achieve a better understanding of the environment we live in.

Through studying science at Brannel we hope to give students the knowledge and skills that will allow them to pursue one of the many career opportunities in science, whether locally in Cornwall, nationally or worldwide.

#### Curriculum Provision for Science at Brannel School

Students at Brannel School study Science during Key Stage 3 and 4. They receive the following number of 75 minutes sessions per fortnight during each cycle of the two week timetable.

Year	No of 75 minute lessons per fortnight
7	6
8	6
9	7
10	7. Triple science is delivered as an option and has 4 extra lessons.

11

7 .Triple science is an option and has 8 extra lessons

## Termly Programmes

These termly programmes indicate the sequence of topics which students study in science and allow parents/carers, teachers and students to understand the structure of the learning over the course of the length of study. These termly programmes are then planned in more detailed for teachers to use as schemes of work when planning their teaching.

Please note that the Autumn Term begins when the new academic year timetable starts in June.

<b>Year 7</b>	
Autumn Term (from September)	Working Scientifically Cells Particles and their behaviour Forces
Spring Term	Structure and function of body systems Elements, atoms and compounds Reactions Sound
Summer Term	Reproduction Acids and alkalis Light Space
<b>Year 8</b>	
Autumn Term	Health and lifestyle The periodic table Separation techniques Electricity and magnetism
Spring Term	Ecosystem Processes Metals and acids Energy
Summer Term	Adaptation and inheritance The earth Motion and pressure
<b>Year 9</b>	
B1	1 Keeping Healthy 2 Coordination and Control 3 Medicine and Drugs
C1	1 Fundamental ideas 2 Rocks and Building Materials 3 Metals and their uses 4 Crude oil and fuels
P1	1 Energy Transfer by Heating 2 Using Energy 3 Electrical Energy
<b>Year 10</b>	
B1	4 Adaptation for Survival 5 Energy in Biomass 6 Variation, reproduction and new Technology 7 Evolution
C1	5 Products from Oil 6 Plant Oils 7 Our Changing Planet

P1	4 Generating Electricity 5 Waves 6 Electromagnetic Waves	<b>Core Science GCSE</b>
<b>Year 11</b>		
B2	1 Cells, Tissues and Organs 2 Organisms in the Environment 3 Enzymes 4 Energy from Respiration 5 Simple Inheritance in Animals and Plants 6 Old and New Species	
C2	1 Structure and Bonding 2 Structure and Properties 3 How much? 4 Rates and Energy 5 Salts and Electrolysis	
P2	1 Motion 2 Forces 3 Work, Energy and Momentum 4 Current Electricity 5 Mains Electricity 6 Radioactivity 7 Energy From the Nucleus	<b>Additional Science GCSE</b>
<b>Year 11 Triple Science</b>		
B3	1 Exchange of materials 2 Transporting Materials 3 Keeping Internal Conditions Constant 4 How Humans Can Affect the Environment	
C3	1 The Periodic Table 2 Water 3 Energy Calculations 4 Analysis and synthesis 5 Organic Chemistry	
P3	1 Medical Applications of Physics 2 Using Physics to Make Things Work 3 Using magnetic Fields to keep things moving	<b>Further Additional Science GCSE</b>

Each student has their own personal Login details for our online KS3 resource 'Activate' and our online KS4 resource 'Kerboodle'. These resources give a more comprehensive description of the topics, schemes of work and lesson plans. They also give the students access to the online text books, revision and assessment activities.