



## Science Curriculum Key Stage 5

### Intent:

To equip our students with problem solving and critical thinking skills so that they become engaged and inquisitive students of Science so that they are able to 'talk like a scientist and think like a scientist', developing their passion for Science and a deep understanding of the world around them.

Our Science curriculum at Christ the King contextualises our students' learning, both to our local area, as well to issues of national and international importance. We strive to develop our students' understanding of the careers available in STEM fields, and we deliver multitude of tailored workshops, trips and outreach opportunities to enable our students to have rich experiences and be aware of onward opportunities at University, apprenticeships and other opportunities after College.

We embed the gospel values in our teaching and in our relationships with students and each other.

### Curriculum Outline Key Stage 5

#### Physics – Year 12

- Measurements and their errors (2wk intro here but also ongoing through course)
- Particle physics
- Quantum physics
- Electricity (RP5)
- Electricity (RP6)
- Waves (RP1)
- Waves (RP2)
- Mechanics (RP3)
- Materials (RP4)
- Summative testing
- Start A2 course: Periodic motion (RP7)

#### Physics – Year 13

- Thermal physics (RP8)
- Gravitational fields
- Electric fields
- Capacitors (RP9)
- Magnetic fields (RP10)
- Magnetic fields (RP11)
- Nuclear Physics (RP12)
- Turning points in Physics
- Revision for exams
- A Level exams in first week of this term

## **Biology – Year 12**

- Biological Molecules
- Cells
- Organisms exchange substances with their environment
- Genetic information, variation and relationships between organisms
- Revision and mocks
- Year 12: Start Genetics, populations, evolution and ecosystems
- Conservation research project
- Beach Field trip

## **Biology – Year 13**

- Energy transfer in and between organisms
- Organisms respond to changes in their environment
- Genetics, populations, evolution and ecosystems
- Control of gene expression
- Revision

## **Chemistry – Year 12**

- Physical Chemistry 1 - quantitative chemistry, properties of atoms and molecules
- Physical chemistry 2 - Energetics and kinetics
- Inorganic chemistry 1
- Organic chemistry 1
- Revision and mocks
- Year 12: Start Physical chemistry 3 – Thermodynamics

## **Chemistry – Year 13**

- Physical chemistry 3 - Thermodynamics and Rates
- Physical chemistry 4 -  $K_p$ , electrochemical cells, acids and bases.
- Inorganic chemistry 2
- Organic chemistry 2
- Revision