Curriculum Intent for KS3 Science at Blessed Robert Sutton Catholic Voluntary Academy

	Science at Blessed Robert Sutton allows pupils to gain a coherent understanding of the links between structure and function of living organisms; understand the properties and interactions of matter in all its forms; understand forces and the impact of these on matter; explore chemical interactions; develop a understanding of the world around them. Throughout the curriculum the students will become proficient practical scientist enlightened by The Sutton Way.
	Science will teach **spiritual development** by pupils developing an appreciation of God's creation and an understanding the interactions of science and religion. Pupils will understand uses of the Earth's recourses and how these need to be preserved and recycled, strengthen their understanding of sustainable energy sources. Pupils will be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future. They will be taught to be critical about information and to evaluate strategies and behaviours that could have an impact on the environment. Pupils will at times explore the relationship between the Church and the scientific community – and potential conflicts.
	Science will teach **social excellence** throughout the curriculum by encouraging students to listen to each other's points of view and respecting those views shared. The curriculum allows students to work together effectively in practical and non-practical situations. Pupils will develop their analytical skills and learn to draw conclusions from observations made and communicate these ideas in a variety of ways.
	Science will teach **academic excellence** by developing an understanding of the academic rigours of studying Science. Pupils will develop an understand of scientific literacy and become proficient at using it. Teaching will equip pupils to critically analyse scientific theories and question observations made in practical investigations. Pupils will strengthen their understanding of practical equipment and be able to manipulate the equipment with confidence, including the use of microscopes; safe handling chemicals; carrying out chemical reactions; taking measurements of time, distance and forces in different contexts. Pupils will develop their mathematical skills through manipulation of calculations and graphically displaying information.
Enrichment Opportunities: There is a science wow club that runs biweekly allowing students to conduct fun experiments to support their learning that are beyond the normal scope of the science curriculum.	

Pupils will follow the Key Stage 3 National Curriculum through the AQA KS3 syllabus, this consists of 10 subject areas spread across the 3 sciences:

- **Forces**: students will develop knowledge contact forces, pressure, speed and gravity. Develop their disciplinary knowledge measuring forces and representing them diagrammatically.
- **Electromagnets**: students will construct electrical circuits and investigate the relationship between potential difference and current, construct electromagnets and investigate magnetic fields.
- **Energy**: students will investigate energy transfers, efficiency and Energy costs. Relating them to everyday living.
- **Waves**: students will learn about light and sound, learning about the properties of these waves and their application in industry and medicine. This links into their understanding of the structure and function of the human eye and ear.
- **Matter**: students will be introduced to the particle model and learn how models are used to represent and explain abstract ideas in science that are difficult to visualise. They will be introduced to the elements and their place in the periodic table,

- **Reactions**: students will investigate the reactions of elements and compounds, and start to learn how to measure volumes, masses and concentrations.
- **Earth**: students will learn about the structure of the earth and its place in the solar system, and universe. They will consider the finite nature of the earth's resources and the ethics of their exploitation.
- **Organisms**: students will learn about movement, breathing and digestion and start to use microscopes to observe and draw cells.
- **Ecosystems**: students will investigate the inter relationships between all living things and gain a basic understanding of the energy transfers within ecosystems, photosynthesis and respiration.
- **Genes**: Students will learn about inheritance and human reproduction, learning how variation is passed on and be introduced to the idea of evolution.

These topics and covered through completing practical investigations to develop their disciplinary and substantive knowledge, and be expected to know the key content, and be able to apply their and explain observations. To provide a solid foundation for KS4 and GCSE.

Assessment:

Students will be assessed within their lessons to ensure they understand the work they are completing. This formative assessment is used to identify areas that need to be retaught to ensure a secure grasp of the curriculum. Students are assessed half termly with a short quiz on their work, involving multiple choice recall questions, short answer question on the application knowledge. There are also some extension questions to stretch the most able and identify students with knowledge beyond that which is expected. Enabling us to identify and differentiate for those students appropriately.

Ways to help your child succeed:

If you are visiting the larger cities round the UK then taking time to visit some of the science, natural history and technology museums is a great way extend your child's knowledge and appreciate its importance in the modern world. There are also many great documentary and natural history programs, many of these are freely available on BBC iPlayer.

Websites:

We supply all our pupils with a subscription to century.tech which has content tailored to the curriculum. There are also many high quality resources on BBC Bitesize Science.