Intent, Implementation and Impact in Science

Rationale: The provision of a 'broad and balanced' Science curriculum at Croft Community School involves more than coverage of the National Curriculum outcomes relating to the areas of Biology, Chemistry and Physics; it also encompasses experiences of 'cultural capital, Social, Moral, Spiritual and Cultural experiences and knowledge of democracy and the rule of law,

In Science we also understand that having a wide vocabulary and good reading skills are crucial for our students to be able to access all aspects of the curriculum and also wider skills and experiences, such as: extracurricular activities, trips and exploring future career paths, these form part of the Science curriculum within school.

Croft Community School Science curriculum is linked to our vision and values and reflects the community we serve - We believe that every individual is valued and is given the greatest possible opportunity to achieve their best in a school where pupil needs are met, enabling social and academic achievement with the highest possible outcomes

Intent: Science at Croft Community school is planned to develop and encourage a 'can do' mindset in learners and staff by ensuring that the curriculum is relevant and accessible to all whilst providing appropriate stretch and challenge at every stage. Pupils will leave Croft with an appropriate range of qualifications in Science that allow them to make positive choices in preparation for adulthood.

It is the intention that the Science department will seek to allow the Science curriculum to evolve in order to include the following aims:

- To ensure and promote the provision of stretch and challenge to all students at Croft.
- Provide learning opportunities that are relevant, interesting and support the preparing for adulthood curriculum whilst inspiring creativity and original thinking.
- Build skills of independence and resilience in a safe and nurturing environment where pupils feel comfortable to challenge or question their own learning as well as the teachings of others.
- To develop and embed schemes of learning that embrace fundamental British values, rule of law, democracy, healthy living, careers' guidance and the promotion of citizenship.
- Promote the preparation of our students for the next stage of their education and adulthood by ensuring that the teaching of science provides opportunities for pupils to consider how their own learning in science contributes to the decision making processes relating to future employment, independence, community inclusion and their own health and wellbeing.

Implementation: Implementation is how the curriculum is delivered; it is the journey of learning from Year 1 through to Year 11. In Science we seek to develop a broad, rich and rigorous curriculum that stretches and challenges all our students.

The Science department consists of a Lead for Science / Specialist Science teacher (Secondary), Primary link lead, 4 non-specialist science teachers (secondary) and 4 non specialist Science teachers (Primary).

The Science team have regular collaborative meetings and training on how to develop their pedagogy and expertise in the area of Science

Students are generally taught in pastoral groups and teachers are expected to differentiate to ensure there is stretch and challenge for all abilities in every class.

The Lead for Science is supporting non-specialist teachers in demonstrating consistent high-quality teaching across the department and key stages.

The lead for Science also works closely with the primary link lead to ensure that when topics are revisited through the key stages the priority it is to build upon and consolidate prior learning, ensuring any 'gaps' in knowledge are addressed before transition from primary phase to secondary.

The Science department has planned out topics in detailed medium-term plans (MTP), which include, where applicable, reference to the requirements of the National Curriculum. These MTP are quality assured by senior leaders to ensure there is depth of knowledge at Key Stage 3 and that Key Stage 3 forms the building blocks for progression into Key Stage 4 and further study for students who can access courses. All MTP are mapped on to the Departmental long-term plan (LTP). Furthermore, part of our rigorous quality assurance systems ensure that the 'planned curriculum' is evidenced in books and lesson observations. Where there is a need to have flexibility in timescales of delivery for individuals or groups of students this is applied.

At KS1 and KS2 is taught through the international primary curriculum (IPC) with all objectives mapped against national curriculum expectations for the relevant stage.

At KS3 content is mapped under 10 'big idea' headings: Forces, Electromagnetism, Energy, Waves, Matter, Reactions, Earth, Organisms, Ecosystems and Genes. Each idea contains four smaller topics: the building blocks for the big ideas and these smaller topics form the half termly themes for learning. Pupils in KS3 receive 3 lessons of Science per week. At KS3, all pupils will access accreditation through the AQA Unit Award Scheme.

At Croft Community School most KS4 pupils will work within the Framework of the AQA Entry Level Certificate. Those who are more able will access learning and accreditation at GCSE level either within school or in conjunction with our local mainstream settings.

At KS4 pupils receive 3 lessons of Science per week. Learning in KS4 builds on that of KS3 with students further developing skills of investigation and reporting as well as applying the skills and knowledge gained at KS3 to address more complex and abstract Scientific issues and ideas.

Pupils with more severe learning difficulties and those who struggle to engage with the traditional model of learning will follow an individually tailored programme of learning. This modified national curriculum is planned to meet the needs of each pupil as an individual learner.

Long-term and Medium-term plans have been developed for each key stage which encompasses all of these the themes, topics and knowledge requirement above.

Specific information on the knowledge, understanding and learning required for each of the courses above can be found in the Science Department Teaching File and can be viewed on request.

Alternatively this can be found through the links below.

AQA KS3 programme of learning: http://www.aqa.org.uk/subjects/science/ks3/ks3-science-syllabus

AQA Unit Award Scheme: http://www.aqa.org.uk/programmes/unit-award-scheme

AQA Entry Level Science: http://www.aqa.org.uk/subjects/science/elc/science-5960

Parents, governors and members of the Croft Community can find more details of the Science curriculum by looking at the department sections of our website. There we also have our 'curriculum maps' that show the topics students are studying over the year.

Impact: All teachers have high expectations of all students, whether in terms of upholding the core values of the school or in respect to their own progress and responsibilities within science lessons. Expectations of behaviour and learning are visible to students in their books. All students agree to and sign a science contract at the beginning of the year and reflect on their own progress with half termly targets at the front of every book.

The Lead for Science monitors student progress throughout the year and uses the Progression assessment tool to ensure that the needs of all students are being met. This is done by utilising assessment data in a meaningful way, for example; to address misconceptions in learning and to target intervention to improve individual outcomes and monitor progress. In terms of planning for learning, data is used to ensure that LTP and MTP provide appropriate stretch and challenge to those who are most able and provides appropriate learning experiences to those that struggle to access particular aspects of the curriculum. Scrutiny of individual student data ensures that students are placed on appropriate pathways to learning at all Key stages.

At the end of each academic year we will scrutinize how the curriculum is designed to ensure that students remember what they have been taught. Students are included in a pupil learning review to embrace the thoughts, ideas and suggestions from our student learners. This regular review cycle ensures that we have a curriculum pathway that promotes success for all learners and ensures that the Science curriculum is appropriate and fully differentiated for all pupils.

As a department, and school we seek to ensure that when our learners leave Croft they are well-rounded young people with an excellent set of examination results and a planned path forward in preparation for adulthood.

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