

CURRICULUM IMPACT STATEMENT: SCIENCE

INTENTION

- To provide a curriculum that all pupils can access and engage with and which provides them with the best opportunity to achieve a recognised qualification at whatever point throughout the academic year they join the Short Stay School for Norfolk.
- To strengthen links between the mathematics and science curriculums.
 - TLR to investigate and develop resources to be used to boost mathematics skills in science. For example scientific investigation data sets to be used in mathematics for graphs skills and starter and plenary tasks in science that are maths focused.
 - To analyse the mathematics and science curriculums with the mathematics TLR to identify areas where there is cross over between the curriculums, and where teaching staff can look for opportunities for pupils to demonstrate proficiency of the skills they have developed.
 - TLR to develop a simple record sheet that can be used to evidence the use of cross curricula skills in science so that they can be evidenced and passed on to mathematics teachers to be used to achieve third ticks on their mathematics learning ladders.
 - Practical resources to be investigated and purchased to ensure that pupils have the same equipment available to them in both subject areas to help assist the transfer of skills between subjects.
- To work together with the English department to improve literacy skills of pupils.
 - Explicit focus in science lessons to identify opportunities to extend the range and depth of pupil's vocabularies, in terms of both their science specific subject vocabularies and their vocabularies in general.
 - The TLR to develop literacy based intervention resources to be used in science such as sentence starters and suitable connectives to help improve the quality of pupil's scientific explanations.
- To work with the TLR's for PSHE and art to identify any areas of the curriculum where links can be developed between the two subjects to enhance the teaching of all three subjects.

IMPLEMENTATION

- Keystage 4 topics arranged so that the content for each of the science papers is spread out throughout the year so as to ensure that if a pupil joins later in the year they will still

be taught some of the content for each of the papers, therefore allowing them to access at least some of the content on each paper.

- Science teachers trying to prioritise teaching the required practicals and in working to develop pupils skills in answering questions based on this content. For example ensuring pupils understand the key terminology associated with practicals such as accuracy, reliability, precision etc.
- Steps taken to strengthen links between the science and mathematics curriculums:
 - Scientific calculators have been purchased for the science department so that pupils are using the same make and model in both science and mathematics. This is to encourage the transfer of skills between subjects.
 - The science department has also purchased some mathematics skills for science posters which will be rolled out to all bases.
- Steps taken to strengthen links between the science and English curriculums:
 - Regular use of shared writing in science lessons to improve the quality of pupils written explanations.
 - Science teachers using opportunities within lessons to identify and discuss prefixes and suffixes to help pupils work out the meanings of new scientific terminology.
 - Science teachers being encouraged to use creative writing opportunities to allow pupils to express their understanding of scientific ideas for example the journey of a hamburger through the digestive system.
- Science teachers utilising opportunities to use pupils modelling and drawing skills in art to develop their understanding of scientific concepts. For example asking pupils to make models of images in scientific diagrams so that pupils can develop their understanding of the three dimensional nature of the subjects depicted and therefore their ability to interpret and extract useful information from scientific diagrams.
- Science and PSHE teachers utilising opportunities to discuss issues relevant to both subjects and where appropriate to exchange work produced by students in each subject to evidence progress made in the other subject. Staff also working together to develop pupils discussion skills by jointly agreeing and implanting ground rules for participation in class discussions.

IMPACT

- An increase in the number of pupils achieving a good pass at GCSE level.
- Students able to apply learning from mathematics effectively in science and therefore improve their performance on the 20% of GCSE science paper marks that are mathematics based.
- Pupils demonstrating an increase in their effective use of key scientific terminology, particularly in extended writing pieces.
- Pupils extending the length and quality of their scientific explanations, particularly with regard to Keystage 4 pupils ability to respond to the six mark questions on their GCSE papers.
- Pupils consistently using evidence obtained from scientific diagrams in their explanations.
- Pupils discussing ideas and issues such as the ethics associated with genetic engineering appropriately and whilst being respectful of others ideas and opinions.