



Curriculum Update 2020-21

Science Department

On returning to school in September 2020, we embarked on a full Gap Analysis for all year groups to ascertain the breadth and depth of gaps resulting from the National Lockdown in the previous academic year.

We spent the first three/four weeks of the academic year assessing checking knowledge, skills and understanding for our subject. These skills and knowledge would be essential for future learning.

Gap Analysis

| | Gaps identified | Recovery plan from October 2020 |
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| Year 7 | A few KS2 areas...Teeth, Lifecycles of Butterflies and Frogs. | KS2 Baseline Test has been sat, marked by students and marks for question recorded. This has allowed us to identify weak areas for each individual pupil and also spot trends across the year. Due to the students having different experiences in their respective Primary Schools we always start as if all students haven't done any Science at all. This year to make sure that they haven't missed anything out from Primary we have checked against the KS2 Curriculum and identified where they may have gaps due to the school closures and hence, we have inserted extra lessons into the appropriate topics in years 7-9 to ensure that they're covered. |
| Year 8 | Some gaps in Environment. May have had some gaps in Year 8 topics but we'll be reteaching these. | The Environment Test has been sat, marked by students and marks for question recorded. This has allowed us to identify weak areas for each individual pupil and also spot trends across the year. This will be addressed when we cover Environment 2 in year 8 and also in the second half of the Year 9 Photosynthesis Topic. We have or are still in the process of re-teaching and testing Forces. This Topic wasn't set over the school closure as the three different sets were at three different points hence, we decided to start afresh as there is plenty of curriculum time in year 8. Also the |

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| | | <p>pupils are no longer set according to our criteria but have been placed in English sets.</p> <p>After this we will continue with the Year 8 Curriculum as normal.</p> |
| Year 9 | <p>Some individual gaps but nothing in terms of massive whole class gaps.</p> | <p>The Year 8 Exam 3 has been sat, marked by students and marks for question recorded. This has allowed us to identify weak areas for each individual pupil and also spot trends across the year. These will be addressed through various of the Topics during the remainder of the Year 9 Curriculum:</p> <p>Microbes – Biology Fundamentals Cells, Biology Fundamentals Disease</p> <p>Heat Transfer – ‘Speed, Pressure & Moments’, Physics Fundamentals Energy</p> <p>Space – ‘Speed, Pressure & Moments’, Physics Fundamentals Energy and again should pupils take Triple Science Physics in P8.</p> <p>Students have also sat their Photosynthesis test and their Genetics test, they have marked their work and their marks for individual questions have been recorded to inform us of their individual weaknesses and to spot patterns which can then be addressed in the appropriate topics through their Year 9 curriculum. After this we will continue with the Year 9 Curriculum.</p> |
| Year 10 | <p>Individual gaps but nothing whole class or missing chunks of lessons.</p> | <p>Students in Sets 1 and 2 have sat (or at the time of writing are finishing sitting) the End of Topic Tests for the work that was set during the school closure. Each test is marked by the pupil, checked by the member of staff, the marks for each individual question are recorded so that we are aware of the individual weaknesses of each pupil and their grade is RAG rated so that we can target individuals for prompt intervention.</p> <p>As we have come to the end of the Spiral Curriculum, we can’t just cover the areas the next time we come to an appropriate topic therefore we will use the weaknesses to target individual revision tasks. In the recording spreadsheet the relevant page numbers that relate to the specific questions have been noted and when all pupils have access to their Revision Guides, we can start setting weekly home works asking the</p> |

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| | | <p>pupils to read through a selection of these pages and then use SENCA to check their understanding.</p> <p>An extra level of gap filling will occur when all topics previously covered will be thoroughly revised during class time ready for pupils to sit a Mock Paper possibly in late Spring.</p> <p>Set 3 for Science have been following the pattern as agreed. They have completed B1 and these scores are in the spreadsheet. An Exampro test for P1 was created on the aspects that had been covered using entry and standard level questions which allowed them to access L5 questions. The monitoring spreadsheet has been updated to reflect the number of questions and the topic and student marks. Work on C1 and B3 is being completed and then the Department will look at their weak areas as per the other two sets but also moderate the grade boundaries.</p> <p>Continuing with the curriculum content but over learning the fundamentals such as states of matter, particles etc, that underpin all topics.</p> <p>Assessment continuing in a variety of ways – end of topic test was delivered with recordings of how to answer questions for students to refer back to. Assignments issued as written tasks and a forms quiz.</p> <p>C2 end of unit test to be completed next week (devised using exampro to allow for suitable questions for the group).</p> |
| Year 11 | <p>Individual gaps but nothing whole class or missing chunks of lessons.</p> <p>Concerns about set 2 and Chemistry...</p> | <p>We have planned to complete the same tasks with Year 11 as we have for Year 10 with the additional measure of using the Mock Exams to allow us to further prepare students and fill any remaining gaps in their knowledge during the revision periods that we have planned. Set 2 are being entered for Triple Biology and Physics only – which frees up a quarter of their remaining curriculum time once we have taught the additional content they have missed. All pupils will still have the hence to gain 2 GCSEs, we have met our obligation as we have taught/will teach all of the Chemistry but pupils won't be examined on what is their weakest and most challenging subject.</p> |

From October until December 2020, we taught an adapted curriculum so that we could fill the gaps identified in the full gap analysis. The recovery plans that were put in place for short-term, medium-term and long-term planning, starting with the most urgent gaps in short term planning. The plans put in place aimed to

January 2020

From January 2020, the school is again closed to most children as a result of another National Lockdown. Although we are delivering all lessons live to children at home via the remote learning systems, we have made the following adaptations to planned curriculum to ensure that the lessons are translatable for those at home.

| | Adaptations to taught curriculum | Rationale |
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| Year 7 | <p>KS2 gaps highlighted in relevant lessons and where needed additional lessons added in.</p> <p>Move Cells & Classification and Particles & Matter to the end of the year and ALL reteach.</p> | <p>The gaps identified at KS2 have been identified and will either be filled as the content naturally comes round in the spiral curriculum or, in a few cases, lessons have been added in the appropriate place. The first topics were completed face-to-face – so Skills and Energy but due to Set Lists changes due to the concerns that arose on analyse of the CAT data and also now Lockdown 2 we've had to reshuffle the curriculum plan. So, everyone will be in the same place we have/will covered. Environment, Forces and Body Systems. We will look at the next topics to teach remotely once we have an idea of how much longer schools will be closed.</p> |
| Year 8 | <p>Forces Year 7 addressed</p> <p>Taught Exam 3 topics (Heat Transfer, Microbes and Earth in Space) before Exam 2 topics.</p> | <p>The gap that was Forces from Year 7 was addressed at the start of year so all pupils have filled the gap and we've now moved onto the main Year 8 topics. To make Remote teaching more effective we have switched the topics around so that those that have a more practical/demonstration basis will be taught in the summer (Exam 2 topics) and instead we have delivered the Exam 3 topics remotely. Students will be able to sit their Exam 3 either remotely or in class. We will move onto the Exam 2 Topics. In this way I can't see there being any gaps but there could be slightly less depth in their learning which we can identify when they sit the exam. Depending on what we</p> |

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| | | find from this analysis we can come up with an appropriate scheme of intervention work – this could be as simple as identifying needs and addressing them in the relevant Year 9 topics or could be more extreme where we hold a series of ‘Catch up lessons’ targeting any class wide gaps that are picked up. |
| Year 9 | <p>Covering Fundamentals first.</p> <p>Moved Electricity and Speed, Pressure & Moments to later in the year.</p> | <p>A lot of the Year 9 work was completed during the last Lockdown when they were in Year 8 and also through in school learning from September.</p> <p>As Sets are taught topics at different times those topics that pupils were in the middle of or just starting will be completed once pupils return and have complete whichever topic they were working on during the Lockdown. Whilst Lockdown continues, we will cover The Fundamentals – Biology, Chemistry and Physics. Assessment is ongoing with pupils sitting End of Topic Tests remotely and so any gaps can be quickly identified and then filled with a DIRT lesson subsequent to marking.</p> |
| Year 10 | No real changes – may need to start Year 11, Paper 2 Topics before sitting a Paper 1 Mock? | <p>We were able to carry on almost seamlessly from pre-closure through to remote learning. Due to this we will be able to complete all of the year 10 modules soon so we have two plans dependent on when pupils return:</p> <ol style="list-style-type: none"> 1. Should students return sooner – complete Year 10 topic teaching and then have a week for each Subject where they will complete revision during lesson time and then sit a Mock Paper 1 at the end of the week during or during their double lesson. This will allow us to identify any gaps further to the work that we do with End of Topic Tests and then these can be addressed in Purple Pen/DIRT lessons when we go through the paper. |

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| | | <p>2. Should the pupils return later – we will start the Year 11, Paper 2 Topics and then complete whichever one that we are on upon the pupils return. After this we will follow the same procedure as in Plan 1.</p> |
| Year 11 | No real changes... | <p>Varies between 1-2 weeks behind the schedule set out last time but this is because we've switched to remote teaching and so are having to move at a slightly slower pace.</p> <p>That being said by almost all of the content has been covered; 11.1 will be completed by the end of the first week back after half term and 11.2 will only be a week and a bit behind.</p> <p>We will then start revising the Paper 2 materials because:</p> <ol style="list-style-type: none"> 1. They haven't been assessed on this yet with a Mock 2. The materials are fresher in their minds having only just finished the content 3. We will then have an overall view of where their weaknesses are 4. The content is actually more manageable and we find that pupils generally do better in Paper 2 than 1 which will serve as a boost to their confidence <p>After this we will analyse the papers, go over year group gaps and then counter individual gaps that are still left during lesson time whilst other students in the room are completing individual revision work. The revision work to start with will be remote but hopefully we can switch to face-to-face and small groups dependent on need as and when.</p> |