

# **CURRICULUM MAP**

Term Summer 14

weeks Literacy foci

vocabulary Writing skills

Past papers

**Graph skills** 

Calculations

STATs tests

Rf values

Flip learning

Kerboodle

and terms

work

tasks

Hardy Weinberg

**Redox reactions** 

Standard deviation

Revision of content

Required practicals'

Additional support

1-1 Intervention

Tiers exam style auestions

PR support lessons

Study skills sessions

schemes to

Year 12 PPE

progress

Tracking on Pupil

Reading skills

Terminology and

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|--|--|
| Term   | A Level Biology  |
| Autumn 12  | Year 12  |
| weeks  |  |
| Literacy foci  | Section 1 Biological molecules and Section 2 cells, Section 3          |
| Reading skills   | Organisms exchange and substances with their environment               |
| Terminology and  | Enrichment/life and work skills:                                       |
| vocabulary   | Debating   |
| Writing skills   | · · · ·  |
| Numeracy   | Public speaking  |
| Graph skills Calculations  | Opportunities to debate topical issues in Biology                      |
| STATs tests  | Required practical's   |
| Hardy Weinberg   | Practical's will continue to take place.                               |
| Microscopy   | Group work - pair and share, peer assessment, creating revision        |
| Homework   | resources, designing experiments                                       |
| Exam style questions   | Analysis   |
| Revision of content  | Research skills  |
| Revisiting, revising,  | Communication  |
| remembering  | Assessments:   |
| opportunities Exam style questions   | Section 1, 2 and 3 assessment exam style questions, short and long     |
| Flip learning  | answered questions. Critical analysis of given experimental data.      |
| Required practical's   | Feedback targeted to individual learners                               |
| Kerboodle  | Peer assessment  |
| Kahoot of key words  |  |
| and terms  | SMSC Opportunities: The Advanced Biology course continues to develop a |
| Additional support   | pupils ability to make judgements and make reasoned opinions built on  |
| Differentiated online<br>work  | knowledge gained at foundation and mastery.                            |
| 1-1 Intervention   |  |
| Tiers exam style   | Each assessment must cover AO1: Demonstrate knowledge and              |
| questions  | understanding of scientific ideas, processes                           |
| Scaffolded classwork   | AO2: Apply knowledge and understanding of scientific ideas, processes, |
| tasks  | techniques and procedures.   |
| PR support lessons   | AO3: Analyse, interpret and evaluate scientific information, ideas and |
| Study skills sessions  | evidence, including in relation to issues.                             |
| Working scientifically skills  | evidence, including in relation to issues.                             |
| Assessments  | Practical assessment:  |
| Year12 Transition  | Practical's will resume and take place                                 |
| Work   | Independent thinking   |
| Year 12 Assessment 1   | Use and application of scientific methods and practices                |
| SIMS Data drop:  |  |
| Monday 12th Oct  | Numeracy and the application of mathematical concepts in a practical   |
| Year 12 EOC Test/EOC HWK   | context  |
| Tracking on Pupil  | understand how to use a wide range of experimental and practical       |
| progress   | Instruments and equipment  |
| Blended learning for   | 5. 6. 1. 1. 1. 1. 1. 200   |
| students that are self-  | Extra Curricular opportunities and trips: TBC                          |
| isolating to reduce  | Science lectures at Brunel University                                  |
| knowledge gap.   | Bioscience Lectures  |
|  | Future scientists virtual Science Club                                 |
|  | Future Learn resource sharing on Science Club                          |
|  |  |

|          | Term                                     |  |
|----------|--|--|
|          | Spring 10                                |  |
|          | weeks                                    |  |
| n 3      | Literacy foci                            |  |
| ent      | Reading skills                           |  |
| <u> </u> | Terminology and                          |  |
|          | vocabulary                               |  |
|          | Writing skills                           |  |
|          | Numeracy                                 |  |
|          | Graph skills                             |  |
|          | Calculations                             |  |
|          | STATs tests                              |  |
|          | Hardy Weinberg                           |  |
|          | Heart rate and lung                      |  |
|          | volume                                   |  |
|          | Rearranging                              |  |
|          | equations                                |  |
|          | Homework                                 |  |
|          | Exam style questions Revision of content |  |
|          |  |  |
|          | Revisiting, revising, remembering        |  |
|          | opportunities                            |  |
|          | Exam style questions                     |  |
|          | Flip learning                            |  |
|          | Required practical's                     |  |
| evelop a | Kerboodle                                |  |
| on       | Kahoot of key words                      |  |
|          | and terms                                |  |
|          | Additional support                       |  |
|          | Differentiated online                    |  |
|          | work                                     |  |
| sses,    | 1-1 Intervention                         |  |
| ,505,    | Tiers exam style                         |  |
| , al     | questions                                |  |
| nd       | Scaffolded classwork                     |  |
|          | tasks                                    |  |
|          | PR support lessons                       |  |
|          | Study skills sessions                    |  |
|          | Working                                  |  |
|          | scientifically skills                    |  |
|          | schemes to Assessments                   |  |
| cal      | Year 12 Assessment                       |  |
|          | 2  |  |
|          | SIMS Data drop:                          |  |
|          | Friday 19th March                        |  |
|          | Year 12 EOC                              |  |
|          | Test/EOC HWK                             |  |
|          | Tracking on Pupil                        |  |
|          | progress                                 |  |
|          | Blended learning for                     |  |
|          | students that are                        |  |
|          | self-isolating to                        |  |
|          | reduce the                               |  |
|          | knowledge gap.                           |  |

| erm   | A Level Biology   |
|---|---|
| oring 10  | Year 12   |
| eeks  |   |
| eracy foci<br>ading skills<br>minology and<br>abulary | Section 2 Cells and section 3 Organisms exchange and substances with their environment and section 4 genetic information, variation and relationships between organisms |
| iting skills  | Enrichment/life and work skills:  |
| meracy  | Debating  |
| ph skills<br>culations                                | Public speaking   |
| ATs tests   | <ul> <li>We will provide students with opportunities within the school. (assembly<br/>presentations current science news)</li> </ul>                                    |
| dy Weinberg   | Required practical's  |
| art rate and lung                                     | Practical's will continue to take place   |
| ume   | Group work: pair and share, peer assessment, creating revision resources,   |
| arranging<br>Jations                                  | designing experiments   |
| mework  | Analysis  |
| m style questions                                     | Research skills   |
| vision of content                                     | Communication   |
| visiting, revising,                                   | Assessments:  |
| nembering<br>portunities                              | Section 2, 3 and 4 assessment exam style questions, short and long  |
| m style questions                                     | answered questions. critical analysis of given experimental data. Peer  |
| learning  | assessed.   |
| quired practical's                                    | SMSC Opportunities: Pupils develop the ability to discuss social issues for   |
| boodle<br>loot of key words                           | example, the global impact of malaria and HIV; the use of vaccination   |
| terms   | programmes; the effects of smoking. Student's will be able to apply and   |
| ditional support                                      | incorporate the knowledge developed in this section to the current Covid-19   |
| ferentiated online                                    | pandemic.   |
| rk  | Each assessment must cover AO1: Demonstrate knowledge and   |
| Intervention rs exam style                            | understanding of scientific ideas, processes  |
| estions   | AO2: Apply knowledge and understanding of scientific ideas, processes,  |
| ffolded classwork                                     | techniques and procedures.  |
| ks  | AO3: Analyse, interpret and evaluate scientific information, ideas and  |
| support lessons<br>dy skills sessions                 | evidence, including in relation to issues.  Practical assessment:   |
| rking   | Practical assessment:  Practical's will resume and take place   |
| entifically skills                                    | Independent thinking  |
| nemes to  | Use and application of scientific methods and practices   |
| essments<br>or 12 Assessment                          | Numeracy and the application of mathematical concepts in a practical  |
| ir 12 Assessment                                      | context   |
| 1S Data drop:   | understand how to use a wide range of experimental and practical  |
| day 19 <sup>th</sup> March                            | Instruments and equipment   |
| r 12 EOC  | Extra Curricular opportunities and trips: TBC   |
| t/EOC HWK<br>cking on Pupil                           | Science lectures at Brunel University   |
| gress   | Bioengineering Project  |
| nded learning for                                     | Bioscience Lectures   |
| dents that are  | Research skill to include Harvard referencing   |
| isolating to  | Participate and leading celebration of British Science week at Uxbridge   |
| uce the<br>wledge gap.                                | High School .   |
|   | Open Day's at Universities  |
|   |   |

Future scientists virtual Science Club

**Future Learn resource sharing on Science Club** 

A Level Biology Year 12 Section 3 cells Organisms exchange and substances with their environment and section 4 genetic information, variation and relationships between organisms Enrichment/life and work skills: Debating Public speaking • We will provide students with opportunities within the school. (assembly presentations current science developments) Required practical's Practical's will continue to take place Group work: pair and share, peer assessment, creating revision resources, designing Species diversity index experiments Exam style questions Analysis Research skills Communication Exam style questions Assessments: Section 3 & 4 assessment exam style questions, short and long answered questions. critical analysis of given experimental data. Each assessment must cover AO1: Demonstrate knowledge and understanding of scientific ideas, processes Kahoot of key words AO2: Apply knowledge and understanding of scientific ideas, processes, techniques and procedures. AO3: Analyse, interpret and evaluate scientific information, ideas and evidence, Differentiated online including in relation to issues. Feedback targeted to individual learners Peer assessment SMSC Opportunities: Animal and Human Behaviour is discussed how the links Scaffolded classwork between a range of human behaviours and the dopamine receptor may contribute to the understanding of human behaviour. Thus social understanding maybe enhanced. Practical assessment: Working scientifically Practical's will take place Independent thinking Use and application of scientific methods and practices Numeracy and the application of mathematical concepts in a practical context Year 12 EOC Test/EOC understand how to use a wide range of experimental and practical Instruments and Extra Curricular opportunities and trips: TBC

The progressive

acy, life skills and enrichment'

Summer Schools at Universities

Work experience

· Work experience placement in Hillingdon Hospital External Doctors/ cardiologist lectures

scientists involved in the world's biggest experiment

· CERN visit -Geneva, July-working of the Hadron Collider and meet with



Year 13 PPF 1

18th December.

SIMS Data drop: Friday

Year 13 EOC Test/EOC

Tracking on Pupil progress

## **CURRICULUM MAP**

Term

Reading skills

vocabulary

Writing skills

Graph skills

Calculations

STATs tests

Chi-squared

T-test

Hardy Weinberg

Heart rate and lung volume

Rearranging equations

Correlation coefficient

Exam style questions

Exam style questions

Revision of content

% cover and change

Terminology and

Spring 10 weeks

| Term   | A Level Biology  |
|--|--|
| Autumn 12                                    | Year 13  |
| weeks  |  |
| Literacy foci                                | Section 4 genetic information, variation and relationships and   |
| Reading skills                               | the state of the s |
| Terminology and                              | Section 7 Genetics, populations, evolution and ecosystems  |
| vocabulary                                   | between organisms and  |
| Writing skills                               | Enrichment/life and work skills:   |
|  | Debating   |
|  | Public speaking  |
| Graph skills                                 | <ul> <li>We will provide students with opportunities within the school.</li> </ul>   |
| Calculations                                 | Required practical's   |
| STATs tests                                  | Practical's will continue to take place  |
| Hardy Weinberg                               | Group work: pair and share, peer assessment, creating revision   |
| Redox reactions                              | resources, designing experiments   |
| Standard deviation                           |  |
| Species diversity index Range and error bars | Analysis   |
| Range and error pars                         | Research skills and scientific enquiry   |
| Homework                                     | Communication  |
| Exam style questions                         |  |
| Revision of content                          | Assessments:   |
|  | Section 4 & 5 assessment exam style questions, short and long answered   |
| Revisiting, revising,                        | questions. critical analysis of given experimental data. Each assessment   |
| remembering                                  | must cover AO1: Demonstrate knowledge and understanding of scientific  |
| opportunities                                | ideas, processes   |
| Exam style questions                         | AO2: Apply knowledge and understanding of scientific ideas, processes,   |
| Flip learning                                | techniques and procedures.   |
| Required practicals'                         | AO3: Analyse, interpret and evaluate scientific information, ideas and   |
| Kerboodle                                    |  |
| Kahoot of key words and terms                | evidence, including in relation to issues.   |
| Additional support                           |  |
| Differentiated online work                   | SMSC Opportunities: Biotechnology and Gene Technology provide ample  |
| 1-1 Intervention                             | scope for moral and social considerations for example the use of   |
| Tiers exam style questions                   | microorganisms in food and drug production; cloning of animals for   |
| Scaffolded classwork tasks                   | human advantage; gene therapy; and the ethical concerns raised by  |
| PR support lessons                           | genetic manipulation of humans, animals, plants and microorganisms.  |
| Study skills sessions                        | Practical assessment:  |
| Working scientifically                       | Practical's take place   |
| skills                                       | Independent thinking   |
| Assessments                                  | Use and application of scientific methods and practices  |
| Year 13 Transition Work                      | Numeracy and the application of mathematical concepts in a practical   |
| Year 13 Assessment 1                         | context  |
| SIMS Data drop: Friday                       |  |
| 23 <sup>rd</sup> October                     | understand how to use a wide range of experimental and practical   |

Flip learning Required practicals' processes, techniques and procedures. Kerboodle Kahoot of key words and evidence, including in relation to issues. terms Differentiated online work 1-1 Intervention Tiers exam style questions Scaffolded classwork tasks PR support lessons moral consideration. Study skills sessions Working scientifically skills Practical assessment: Practical's take place Year 13 PPE 2 Independent thinking SIMS Data drop: Friday 19th Use and application of scientific methods and practices March Year 13 EOC Test/EOC HWK practical context **Tracking on Pupil progress** Instruments and equipment Extra Curricular opportunities and trips: **Bioscience Lectures** Work experience placement in Hillingdon Hospital **Future scientists virtual Science Club** Future Learn resource sharing on Science Club

A Level Biology Year 13 Section 6 Organisms respond to changes in their environment and Section 7 Genetics, populations evolution and ecosystems Enrichment/life and work skills: Debating **Public speaking**  We will provide students with opportunities within the school. Required practical's · Practical's will continue to take place Group work: pair and share, peer assessment, creating revision resources, designing experiments Analysis Research skills and scientific enquiry Communication Assessments: Section 6 & 7 assessment exam style questions, short and long answered questions. critical analysis of given experimental data. Each assessment must cover AO1: Demonstrate knowledge and understanding of scientific ideas, processes AO2: Apply knowledge and understanding of scientific ideas. AO3: Analyse, interpret and evaluate scientific information, ideas and **SMSC Opportunities:** The causes of variety in human (and other) populations is studied in Meiosis and Variation. Thus an opportunity to reflect on the reasonableness of tolerance of all peoples is provided. When considering the environment the use of further natural resources and its effect on future generations is an important Numeracy and the application of mathematical concepts in a understand how to use a wide range of experimental and practical

A Level Biology Term Summer 14 weeks Year 13 Section 7 Genetics, populations, evolution and ecosystems Reading skills And Section 8 The control of gene expression and Essay writing Terminology and vocabulary Enrichment/life and work skills: Writing skills Debating **Essay writing** Public speaking Planning essays . We will provide students with opportunities within the school. Past papers Required practical's Practical's will continue to take place Graph skills Group work:pair and share, peer assessment, creating revision Calculations resources, designing experiments STATs tests Analysis **Hardy Weinberg** Redox reactions Research skills Tracking on Pupil progress Standard deviation Communication Species diversity index Assessments: % cover and change Section 8 assessment exam style questions, short and long answered Chi-squared questions and drafting essays in timed conditions. The essay includes one T-test essay from a choice of two titles. critical analysis of given experimental Correlation coefficient Probability data. Each assessment must cover AO1: Demonstrate knowledge and understanding of scientific ideas, processes AO2: Apply knowledge and understanding of scientific ideas, processes, Exam style questions techniques and procedures. Revision of content AO3: Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues. Exam style questions Flip learning Required practicals' Kerboodle discussions re balance and non-biased. Students receive Kahoot of key words and terms information which enables them to form their own opinions. Differentiated online work 1-1 Intervention Tiers exam style questions the social responsibility involved. Scaffolded classwork tasks Practical assessment: PR support lessons Practical's take place Study skills sessions Use and application of scientific methods and practices Working scientifically skills Numeracy and the application of mathematical concepts in a practical context Year 13 Final understand how to use a wide range of experimental and practical SIMS Data drop: Fri 14th May Instruments and equipment Tracking on Pupil progress

SMSC Opportunities: Many aspects of biology can be used to draw attention to matters human significance for example, cooperation between cells, organs and organ systems. Fair testing in practical's Referencing work. Pupils are encouraged to consider the benefits and drawbacks of scientific and technological developments and

### Extra Curricular opportunities and trips:

- **Bioscience Lectures**
- Work experience placement in Hillingdon Hospital
- CERN visit -Geneva in July-working of the Hadron Collider and meet with scientists involved in the world's biggest experiment.

## Extra Curricular opportunities and trips:

Bioscience Lectures

Instruments and equipment

- Work experience placement in Hillingdon Hospital
- **Future scientists virtual Science Club**
- . Future Learn resource sharing on Science Club