

## Science

### Curriculum Principles

**By the end of their secondary education, a student of science at Dixons Broadgreen will:**

- Know fundamental scientific principles from biology, chemistry and physics that will provide a foundation for understanding and navigating the world. Student knowledge is structured around the big ideas in science which range from the particulate nature of matter, to the cellular basis of living organisms, to the structure of the universe.
- Understand the processes of scientific inquiry that leads to the creation and development of concepts and theories. Students will understand how science can be used to explain observations and make predictions about natural phenomena.

Our unifying 'sentence' is: The science department empowered students by strengthening their ability to think critically, evaluate evidence and fostered their curiosity of the natural world.

**In order to achieve a true understanding of science, topics have been intelligently sequence based on the following rationale:**

- Scientific knowledge is broadly hierarchical in nature – students must have a secure understanding of each key block of knowledge before progressing onto the next stage. Therefore, in order to support this, topics have been meticulously planned and ordered to ensure that students are always building on and deepening their previous learning.
- In biology, primary students are introduced to different animals (including humans) and plants and their life processes. From year 7 students learn about the structure, function and behaviour of living organisms in detail, building up from the microscopic cellular level to the macro-scale interactions in an ecosystem. These topics are then extended with the expectation that students learn to apply this knowledge and make links with other topics. In 6<sup>th</sup> form these topics are explored further along with others such as metabolism, nucleic acids and animal physiology which lay the groundwork for further study in university.
- In chemistry, primary students are introduced to the properties of everyday materials. Students explore ideas such as: floating, sinking and melting. They investigate different materials and their uses, before moving onto more abstract concepts such as solubility, conductivity and changes of state. From year 7 students start with a rigorous grounding in the fundamentals of secondary level chemistry: states of matter, the periodic table, chemical reactions and the behaviour of materials. Having mastered the foundation knowledge, students are fully equipped with the necessary knowledge and skills to tackle the more challenging content, such as chemical bonding and quantitative chemistry. In 6<sup>th</sup> form these concepts are developed further along with topics such as periodicity, chemical kinetics and equilibrium so that students can continue seamlessly to study chemistry at university.
- In physics, primary students are introduced to the fundamentals of forces, electricity, sound, light and space – focusing on concrete concepts and experiences. These topics are taught explicitly and then revisited in more depth throughout. From year 7 students continue to study these topics as well as introducing more challenging concepts such as energy pressure and density. As they continue to study these topics in more detail, the focus shifts to a more quantitative appreciation of the subject matter and develops mathematical skills. In 6<sup>th</sup> form these fundamentals are explored further and are



expanded to include topics like particle physics, quantum mechanics and astrophysics that prepare them for university.

- Experimental work is a key feature of Science and at the start of Y7, 'working scientifically' skills are taught explicitly. These skills have been carefully mapped across all topics throughout all years so that students are given many opportunities to apply and develop these concepts. For example, each topic deliberately includes several opportunities to revisit graph and table interpretation skills.

**The science curriculum will address social disadvantage by addressing gaps in students' knowledge and skills:**

- Our curriculum is designed around the most disadvantaged learners. We are careful not to assume any prior general knowledge or cultural capital and always teach new knowledge explicitly.
- The Education Endowment Foundation published a major report in 2017 examining the disadvantaged attainment gap in science. The strongest factor affecting pupils' science scores is their literacy levels. In our department, we actively promote literacy every lesson through reading, annotating and discussing challenging texts. We also support children to answer questions in full sentences by verbally modelling sentence starters, giving adequate thinking time and allowing children to 'turn and talk' with a partner. We plan frequent extended writing tasks and support children with verbal rehearsal activities, sentence starters and keywords.
- Disadvantaged students and those from identified underrepresented groups receive priority for extra intervention sessions. For example, when Teachers create and implement their Intervention Prevention plans. Disadvantaged students are also always prioritised when selecting students for small group trips to museums and universities and for science competitions. At GCSE level, students are provided with suitable revision resources (e.g. revision guides and stationary) to give all students a fair opportunity to be successful.
- All students are taught the same rigorous curriculum – we do not narrow or dilute the curriculum. All students are taught from the same student work booklets so that everyone is given access to the same powerful and catalytic knowledge. That being said, teachers understand the need to supplement the work booklets with additional practice/scaffolds or extension material, as required for individual students.
- Students with special educational needs or disabilities are given extra support through the use of Learning Support Assistants. In some cases, classes have two Science teachers so that students can be taught in small groups and individual needs can be catered for. Students have access to a rich and diverse curriculum focussing on key skills and powerful knowledge delivered with the appropriate scaffolding and challenge to ensure all pupils master the entire curriculum. Embedding cultural capital into lessons by providing real life context on scientific phenomena. Students who are new to English receive support with vocabulary and literacy from a dedicated member of support staff.

**We fully believe science can contribute to the personal development of students at DBA:**

- The social development of our students is nurtured through the explicit teaching and practice of effective teamwork and communication skills when working in groups for scientific investigations. Groups are selected by the teacher to ensure that students learn to effectively collaborate with others from different backgrounds or from outside of their friendship circle.
- Science naturally provides many opportunities for balanced discussions of moral and ethical issues. For example, we explore the moral complexities of organ transplant, the controversial use of genetic engineering and the disputed use of stem cells for disease treatment. Students are given time to discuss these issues both in pairs and as a class to allow students to develop spiritually.



- When teaching topics such as the theory of evolution and the Big Bang theory, this provides a chance to develop students' cultural awareness as we can discuss viewpoints of these theories from different religions and cultures. We also discuss historical sexism in scientific developments – for example, the famous case of Rosalind Franklin's discovery of the structure of DNA.
- Science lessons also provide a wealth of opportunities to explore personal development relating to physical and mental health. For example, students study the effects of smoking, drugs and alcohol from both a scientific and social perspective. When teaching about the digestive system, students are taught about the importance of a balanced diet and how to interpret nutritional information.
- We want students to become respectful and responsible citizens who contribute positively to society. For example, students are taught in detail about global warming, pollution and energy resources so that they understand the importance of recycling, reducing waste and cutting down their carbon footprint. We also teach our students to critically analyse sources of scientific models so they can more successfully navigate the plethora of unreliable and sometimes false sources of science information available online.

**At KS3, KS4 and KS5, our belief is that homework should be interleaved revision of powerful knowledge that has been modelled and taught in lessons. This knowledge is recalled and applied through a range of low stakes quizzing and practice.**

**Opportunities are built in to make links to the world of work to enhance the careers, advice and guidance that students are exposed to:**

- Each topic in KS3 and KS4 have a 'careers spotlight', where students will explore a profession linked to that particular unit of work. For example, when Y8 students study chemical reactions, they learn about careers in chemical engineering.
- Problem solving activities are built into the curriculum that allow students to apply scientific knowledge to certain career based scenarios. For example, when learning about health and disease in year 8, students have to write an explanation to a patient from the point of view of a doctor explaining why they are prescribing painkillers rather than antibiotics.
- We aim to work collaboratively with our local community to show the career opportunities available to our students within Science in our city.

**A true love of science involves learning about various cultural domains. We teach beyond the specification requirements, but do ensure students are well prepared to be successful in GCSE examinations:**

- Opportunities to explore the history and philosophy of science are embedded into the curriculum. For example, reading rich texts about an array of topics, such as: the history of space exploration, Semmelweis' work on Germ Theory and how new chemical elements get their names. Whilst not examined, they are included for engagement and to build cultural capital.
- Although students' practical skills are no longer examined through coursework, they still make up at least 10% of each exam so we believe it is absolutely essential that all students can plan and carry out practicals using laboratory equipment safely and accurately so that they are fully prepared for future study and employment. In KS3, we want students to be exposed to a wide variety of engaging practicals, such as investigations into the effectiveness of different brands of indigestion tablets and



hand sanitiser and finding the best metal for making frying pans. In KS4 there is a greater focus on the GCSE Required Practicals – but we are not restricted to this list of experiments.

- Students that wish to develop their science knowledge beyond the curriculum can select STEM Club for their co-curricular elective. As part of this club, students are given opportunities to represent the academy at competitions and to gain a CREST award.



## Year 7 Science

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2						
	Orientation	Orientation	Science Skills	Science Skills	Science Skills	Cells & Life Processes	Cells & Life Processes	Cells & Life Processes	Cells & Life Processes	Forces & Space	Forces & Space	Forces & Space	Particles & Solutions	Particles & Solutions
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
		Term 3												
	Particles & Solutions	Energy	Energy	Energy	Energy	Mid-year assessments	Mid-year assessments	Reproduction	Reproduction	Reproduction	Reproduction	Atoms & Elements	Atoms & Elements	Atoms & Elements
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6	Assessment	Assessment					
	Ecology	Ecology	Ecology	Acids & Alkalis	Acids & Alkalis	Acids & Alkalis	Revision	Revision and assessment	Revision and assessment	Waves	Waves	Waves	Waves	

## Year 8 Science

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Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2						
	Orientation	Orientation	The Body	The Body	The Body	Metal Reactions	Metal Reactions	Metal Reactions	Forces & Motion	Forces & Motion	Forces & Motion	Health & Disease	Health & Disease	Health & Disease
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
		Term 3												
	Health & Disease	Chemical Reactions	Chemical Reactions	Chemical Reactions	Electricity & Magnetism	Mid-year assessments	Mid-year assessments	Electricity & Magnetism	Electricity & Magnetism	Variation and Inheritance	Variation and Inheritance	Variation and Inheritance	Environmental Chemistry	Environmental Chemistry
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6	Assessment	Assessment					
	Environmental Chemistry	Plants and Photosynthesis	Plants and Photosynthesis	Plants and Photosynthesis	Plants and Photosynthesis	Revision	Revision	Revision and assessment	Revision and assessment	Pressure density and moments	Pressure density and moments	Pressure density and moments	Pressure density and moments	

## Year 9 Science (Biology – 1 teacher, 2 x lessons per week)

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Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2						
	Orientation	Orientation	B1: Cell biology	B1: Cell biology	B1: Cell biology	B1: Cell biology	B1: Cell biology	B1: Cell biology	B1: Cell biology	B1: Cell biology	B1: Cell biology	B2: Organisation	B2: Organisation	B2: Organisation
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
		Term 3												
	B2: Organisation	B2: Organisation	B2: Organisation	B2: Organisation	B2: Organisation	Mid-year assessments	Mid-year assessments	B2: Organisation	B2: Organisation	B2: Organisation	B2: Organisation	B2: Organisation	B3: Infection and response	B3: Infection and response
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6	Assessment	Assessment					
	B3: Infection and response	B3: Infection and response	B3: Infection and response	B1 and B2 revision	B1 and B2 revision	B3 and other revision	B3 and other revision	Revision and assessment	Revision and assessment	C9: Chemistry of the atmosphere	C9: Chemistry of the atmosphere	C9: Chemistry of the atmosphere	C9: Chemistry of the atmosphere	

## Year 9 Science (Chemistry & Physics – 1 teacher, 2 x lessons per week)

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2						
	Orientation	Orientation	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	P1: Energy	P1: Energy	P1: Energy	P1: Energy	P1: Energy
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
		Term 3												
	P1: Energy	P1: Energy	C2: Bonding	C2: Bonding	C2: Bonding	Mid-year assessments	Mid-year assessments	C2: Bonding	C2: Bonding	C2: Bonding	C2: Bonding	C2: Bonding	C2: Bonding	P3: Particle model
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6	Assessment	Assessment					
	P3: Particle model	P3: Particle model	P3: Particle model	C1 and C2 revision	C1 and C2 revision	P1 and P3 revision	P1 and P3 revision	Revision and assessment	Revision and assessment	C9: Chemistry of the atmosphere	C9: Chemistry of the atmosphere	C9: Chemistry of the atmosphere	C9: Chemistry of the atmosphere	



## Year 10 Science (Biology)

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2						
	Orientation	Orientation	B1 Cells	B1 Cells	B1 Cells	B1 Cells	B1 Cells	B1 Cells	B1 Cells	B2 Organisation	B2 Organisation	B2 Organisation	B2 Organisation	B2 Organisation
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
		Term 3												
	B2 Organisation	B2 Organisation	B2 Organisation	Mid-year assessments	Mid-year assessments	B2 Organisation	B2 Organisation	B2 Organisation	B3 infection & response	B3 infection & response	B3 infection & response	B3 infection & response	B4 Bioenergetics	B4 Bioenergetics
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6	Assessment	Assessment					
	B4 Bioenergetics	B4 Bioenergetics	B4 Bioenergetics	B4 Bioenergetics	B4 Bioenergetics	B4 Bioenergetics	Paper 1 revision	Paper 1 revision	Paper 1 revision	B5 Homeostasis & response	B5 Homeostasis & response	B5 Homeostasis & response	B5 Homeostasis & response	

## Year 10 Science (Chemistry)

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2						
	Orientation	Orientation	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C1: Atomic structure	C2: Bonding, structure, and the properties of matter
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
		Term 3												
	C2: Bonding, structure, and the properties of matter	C2: Bonding, structure, and the properties of matter	C2: Bonding, structure, and the properties of matter	Mid-year assessments	Mid-year assessments	C2: Bonding, structure, and the properties of matter	C2: Bonding, structure, and the properties of matter	C2: Bonding, structure, and the properties of matter	C2: Bonding, structure, and the properties of matter	C2: Bonding, structure, and the properties of matter	C2: Bonding, structure, and the properties of matter	C3: Quantitative chemistry	C3: Quantitative chemistry	C3: Quantitative chemistry
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6	Assessment	Assessment					
	C4: Chemical changes	C4: Chemical changes	C4: Chemical changes	C4: Chemical changes	C4: Chemical changes	C4: Chemical changes	Paper 1 revision	Paper 1 revision	Paper 1 revision	C4: Chemical changes	C4: Chemical changes	C4: Chemical changes	C4: Chemical changes	

## Year 10 Science (Physics)

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1							Term 2						
	Orientation	Orientation	P1: Physics	P1: Physics	P1: Physics	P1: Physics	P1: Physics	P1: Physics	P2: Electricity	P2: Electricity	P2: Electricity	P2: Electricity	P2: Electricity	P2: Electricity
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
		Term 3												
	P2: Electricity	P2: Electricity	P2: Electricity	Mid-year assessments	Mid-year assessments	P2: Electricity	P2: Electricity	P2: Electricity	P3: Particle model of matter	P3: Particle model of matter	P3: Particle model of matter	P3: Particle model of matter	P4: Atomic structure	P4: Atomic structure
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6	Assessment	Assessment					
	P4: Atomic structure	P4: Atomic structure	P4: Atomic structure	P4: Atomic structure	P4: Atomic structure	P4: Atomic structure	Paper 1 revision	Paper 1 revision	Paper 1 revision	P5: Forces	P5: Forces	P5: Forces	P5: Forces	









# Year 12 Biology

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1								Term 2					
	Orientation	2.1 Molecular biology 1 Cell biology	2.1 Molecular biology 1 Cell biology	2.1 Molecular biology 1 Cell biology	2.1 Molecular biology 1 Cell biology	2.1 Molecular biology 1 Cell biology	2.1 Molecular biology 1 Cell biology	2.5 Enzymes and metabolism 1 Cell biology	2.5 Enzymes and metabolism 1 Cell biology	2.5 Enzymes and metabolism 1 Cell biology	2.5 Enzymes and metabolism 1 Cell biology	2.6 Nucleic acids 1 Cell biology	2.6 Nucleic acids 6.1 Digestion	2.6 Nucleic acids 6.1 Digestion
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
			Term 3							Term 4				
	2.6 Nucleic acids 6.1 Digestion	2.6 Nucleic acids 6.1 Digestion	2.6 Nucleic acids 6.1 Digestion	2,8 Cellular respiration and photosynthesis 6.3 Infectious diseases	2,8 Cellular respiration and photosynthesis 6.3 Infectious diseases	2,8 Cellular respiration and photosynthesis 6.3 Infectious diseases	2,8 Cellular respiration and photosynthesis 6.3 Infectious diseases	2,8 Cellular respiration and photosynthesis 6.3 Infectious diseases	2,8 Cellular respiration and photosynthesis 6.3 Infectious diseases	2,8 Cellular respiration and photosynthesis 6.3 Infectious diseases	Year 12 assessments	Year 12 assessments	2.8 6.4 Human and animal physiology	3.1 Genes 6.4 Human and animal physiology
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6							
	3.1 Genes 6.4 Human and animal physiology	3.3 Inheritance 6.4 Human and animal physiology	3.3 Inheritance 6.4 Human and animal physiology	3.3 Inheritance 6.4 Human and animal physiology	3.3 Inheritance 6.4 Human and animal physiology	3.3 Inheritance 6.4 Human and animal physiology	3.3 Inheritance 6.4 Human and animal physiology	3.3 Inheritance 6.4 Human and animal physiology	Year 12 assessments	Year 12 assessments	3.3 Inheritance 6.4 Human and animal physiology	3.3 Inheritance 6.4 Human and animal physiology	IA/Group 4 project	IA/Group 4 project



# Year 13 Biology

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1								Term 2					
	Orientation	3.5 Biotechnology 6.5 Human and animal physiology	3.5 Biotechnology 6.5 Human and animal physiology	3.5 Biotechnology 6.5 Human and animal physiology	3.5 Biotechnology 6.5 Human and animal physiology	3.5 Biotechnology 6.5 Human and animal physiology	3.5 Biotechnology 6.5 Human and animal physiology	3.5 Biotechnology 6.5 Human and animal physiology	5.1 Evolution 6.5 Human and animal physiology	5.1 Evolution 6.5 Human and animal physiology	PPE 1 exams	PPE 1 exams	5.1 Evolution 9.1 Plant biology	5.1 Evolution 9.1 Plant biology
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
			Term 3							Term 4				
	Ecology 9.1 Plant biology	Ecology 9.1 Plant biology	Ecology 9.1 Plant biology	Ecology 9.1 Plant biology	Ecology 9.1 Plant biology	IA feedback, review and final submission	IA feedback, review and final submission	Course review and examination skills	Course review and examination skills	Course review and examination skills	Course review and examination skills	Course review and examination skills	Course review and examination skills	Course review and examination skills
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6							
	Course review and examination skills	Course review and examination skills	IB Exam Season	IB Exam Season	IB Exam Season	IB Exam Season	IB Exam Season							

# Year 13 Chemistry

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1								Term 2					
	Orientation	Organic chemistry Acids and bases	Organic chemistry Acids and bases	Organic chemistry Acids and bases	Organic chemistry Acids and bases	Organic chemistry Acids and bases	Organic chemistry Acids and bases	Organic chemistry Acids and bases	Organic chemistry Acids and bases	Organic chemistry Acids and bases	PPE 1 exams	PPE 1 exams	Measurement and data processing	Measurement and data processing
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
			Term 3							Term 4				
	IA	IA	IA	IA	Equilibrium Redox	Equilibrium Redox	Equilibrium Redox	Equilibrium Redox	Equilibrium Redox	HL Periodicity Redox	HL Energetics Redox	HL Energetics Redox	Revision	Revision
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6							
	Revision	Revision	IB Exam Season	IB Exam Season	IB Exam Season	IB Exam Season	IB Exam Season							

## Year 13 Physics

Dixons Broadgreen

Long Term Plan 2021/2022

	Week 0	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13
Cycle 1	W/C 30/08	W/C 06/09	W/C 13/09	W/C 20/09	W/C 27/09	W/C 04/10	W/C 11/10	W/C 18/10	W/C 01/11	W/C 08/11	W/C 15/11	W/C 22/11	W/C 29/11	W/C 06/12
	Term 1								Term 2					
	Orientation	4.1 Oscillations 7.1 Discrete energy and radioactivity	4.1 Oscillations 7.1 Discrete energy and radioactivity	4.1 Oscillations 7.1 Discrete energy and radioactivity	4.1 Oscillations 7.1 Discrete energy and radioactivity	4.1 Oscillations 7.1 Discrete energy and radioactivity	4.2 Travelling waves 7.1 Discrete energy and radioactivity	4.2 Travelling waves 7.1 Discrete energy and radioactivity	4.2 Travelling waves 7.2 Nuclear reactions	4.2 Travelling waves 7.2 Nuclear reactions	PPE 1 exams	PPE 1 exams	4.3 Wave characteristics 7.2 Nuclear reactions	IA completion 7.2 Nuclear reactions
Cycle 2	W/C 13/12	W/C 20/12	W/C 03/01	W/C 10/01	W/C 17/01	W/C 24/01	W/C 31/01	W/C 07/02	W/C 14/02	W/C 28/02	W/C 07/03	W/C 14/03	W/C 21/03	W/C 28/03
			Term 3							Term 4				
	IA completion 7.2 Nuclear reactions	IA completion 7.3 Structure of matter	9.1 SHM 7.3 Structure of matter	9.1 SHM 7.3 Structure of matter	9.5 Doppler effect 7.3 Structure of matter	Revision 9.2 single slit diffraction	Revision 9.2 single slit diffraction	Revision 9.3 Interference	Revision 9.3 Interference	Revision	Revision	Revision	Revision	Revision
Cycle 3	W/C 04/04	W/C 25/04	W/C 02/05	W/C 09/05	W/C 16/05	W/C 23/05	W/C 06/06	W/C 13/06	W/C 20/06	W/C 27/06	W/C 04/07	W/C 11/07	W/C 18/07	
		Term 5					Term 6							
	Revision	Revision	IB Exam Season	IB Exam Season	IB Exam Season	IB Exam Season	IB Exam Season							