

# Long Term Plan - Science

## School Pedagogy:

Launchpad Tuition has a child centred pedagogy. The school adopts an inclusive, transformative pedagogy as we believe that a child's 'capacity to learn can change and be changed for the better because of what happens and what people do in the present' (*Hart et al. 2004, P166*). Learning is about shared communication between staff and pupils. Implementation of our curriculum intent is underpinned by Rosenshine's 10 Principles of Instruction (*Rosenshine, 2012*). All learning sessions include the following elements: reference to curriculum intent, recap of knowledge and skills, assessment for learning and pupil voice.

## Subject Specific Pedagogy:

Pupils start each lesson with a review of learning in their last lesson or key ideas from the topic. To aid development of schemata, a visual map of the topic is used each lesson to show where the current learning fits into the overall learning journey. New material is presented in small chunks with a focus on what, how and why questions to check understanding. Modelling is used to support pupils to practice new skills. Pupils are given ample opportunities to practice those new skills with regular feedback from their teacher. Scaffolding resources are available to support independent practice. Pupils review prior learning at the end of each topic to demonstrate explicit links between their learning. Tier 2 and Tier 3 vocabulary is taught within lessons.

## Subject Intent:

The intent of the Science departments at Alternative Provision, is to provide a curriculum which enables every student to explore and discover the world around them, confidently and safely, so that they have a deeper understanding of the world we live in.

Scientific understanding is central to our existence on Earth. We live on a planet filled with life, movement, and technology, and we seek to understand our world and the universe beyond. The more complex our world becomes, and the more we look to improve our lives, the greater our need for scientific literacy. Our goal is to develop scientifically literate individuals by teaching them to think critically in school and as lifelong learners.

We set out to instil a never-ending curiosity about the world and to develop the skills necessary to investigate questions. We seek to challenge students to recognise problems, ask and explore questions, formulate ideas, handle data with accuracy, reach conclusions, and express their findings clearly. We believe students learn best by doing, so we regularly enable exciting, practical hands on, minds on experiences that encourage curiosity and questioning and develop the ability to communicate ideas.

# KS3 Science – Years 8 & 9

## Statement of intent

Due to the way students arrive at Launchpad and the nature of the students likely to be referred to a place, the KS3 curriculum has been designed to be much more flexible than a traditional high school KS3 curriculum.

Some students will return to mainstream education from Launchpad and for them we seek to maintain some continuity to ease their transition back. Some students will remain at Launchpad for their KS4 education – for Science this is a single GCSE in Biology.

This short course seeks to provide a compromise between the two; covering the breadth of the Science National Curriculum at a depth accessible to all students without exacerbating the pre-existing anxieties which are common in our usual intake.

<b>Autumn Term</b>		19	C3 Pure and impure substances
1	B1 Cells & organisation	20	
2		21	P3 Waves
3	P1 Energy	22	
4		23	B6 Health
5	C1 Particle Model	24	
6		25	B7 Photosynthesis / respiration
7	B2 Skeletal & muscular	26	
8		<b>Summer Term</b>	
9	B3 Nutrition & digestion	27	C4 Periodic table
10		28	
11	C2 Atoms, elements, compounds	29	P4 Electricity & magnetism
12		30	
13	P2 Forces	31	B8 Ecosystems
14		32	
<b>Spring Term</b>		33	C5 Earth & atmosphere
15	B4 Gas exchange	34	
16		35	P5 Space
17	B5 Reproduction	36	
18		37	B9 Genes & evolution
		38	

<b>Key</b>	Biology
	Chemistry
	Physics

# GCSE Biology - Years 10 & 11

Specification: OCR GCSE Gateway Biology (J247)

Curriculum time available: 4 lessons per week, 64 weeks = 256 hours maximum\*

\*This time will be reduced due to public holidays, sporadic absences of students, students transferring during the course...

In addition, the number of weeks in each term may be redistributed depending on where the half term and end of term breaks fall each academic year.

Y10 Autumn	Y10 Spring	Y10 Summer
14 weeks	12 weeks	12 weeks
Y11 Autumn	Y11 Spring	
14 weeks	12 weeks	

A great deal of extra time is allocated due to the special nature of the students here – many of whom have significant gaps in learning, lack of continuity, and low confidence due to both the previous and their own barriers to learning.

Extra time allows the reteaching and revision of key ideas and prior learning every lesson to address these issues.

Topic	OCR Suggested Teaching Time / hours	Allocated time / hours	Number of weeks
1 – Cell Level Systems	21	40	10
2 – Scaling Up	15	36	9
3 – Organism Level Systems	24	44	11
4 – Ecosystems	9	20	5
5 – Genes, Inheritance & Selection	18	28	7
6 – Global Challenges	33	52	13
Revision / buffer due to absence / catchup		36	9
Total	120	256	64

<b>AUTUMN</b>		<b>AUTUMN</b>	
1	1 – Cell Level Systems	1	5 – Genes, Inheritance & Selection b
2 Cells/M-scopes quiz		2	
3		3	
4 Enzymes quiz		4 EOT Quiz	
5		5	6 – Global Challenges a
6 Respiration quiz		6 Environment quiz	
7		7	
8Photosynthesis quiz		8	
9		9 Food security quiz	
10 EOT Quiz		10	
11	11		
12 Transport quiz	12 Comm. Dis. quiz		
13	13		
14 Differentiation quiz	14		
<b>SPRING</b>		<b>SPRING</b>	
15	2 – Scaling Up b	15 Noncom. Dis. quiz	6 – Global Challenges b
16 Circulatory quiz		16	
17		17 EOT Quiz	
18		18	Revision / buffer
19 EOT Quiz	19		
20	3 – Organism Level Systems a	20	
21 Nervous sys quiz		21	
22		22	
23		23	
24 Endocrine sys quiz		24	
25		25	
26		26	
<b>SUMMER</b>		<b>SUMMER</b>	
27	3 – Organism Level Systems b	27	Revision / exams
28 Homeostasis quiz		28	
29		29	
30 EOT Quiz	30		
31	4 – Ecosystems	31	
32		32	
33		33	
34		34	
35 EOT quiz		35	
36	5 – Genes, Inheritance & Selection a	36	
37		37	
38 Inheritance quiz		38	