

Curriculum Intent for Science

Our Science curriculum aims to deliver powerful knowledge and understanding that can change lives and is vital to the world's future prosperity. Students will develop their curiosity about the natural world, gain an insight into how science works and develop an appreciation of its relevance to their everyday lives.

The curriculum builds a strong, scientific understanding of key concepts whilst also incorporating the development of literacy and mathematical skills. Mathematical skills are developed by using a common approach in Maths and Science. Purposeful, safe practical work enhances students' knowledge of scientific ideas and engages them in the processes of science and how it is applied to their everyday lives. Core practicals in every KS3 topic develop 'working scientifically' skills and are used to prepare students for the skills and analysis they will need to access the more demanding aspects of KS4 practical work.

To enable our students to learn and remember more, we have produced a carefully sequenced spiral curriculum which revisits expected prior knowledge to develop deeper understanding. The curriculum sequence has been developed collaboratively by specialist subject teachers so that consistently high-quality lessons can be delivered by all teachers across the department.

The scientific requirements of the new GCSEs are to be integrated into KS3. Language and teaching approaches are consistent with those science topics, so they are familiar to students. At Todmorden High School, literacy is viewed as the key to all learners achieving their unique potential. Within the Science department, key scientific terms are explicitly taught to develop student understanding.



Curriculum Pathways – KS3

	Scientific Enquiry	Biology	Physics	Chemistry	Assessment	
Year 7	7E separating mixtures, 7K Forces	7A Cells, 7B Animal Reproduction	7J Electricity, 7G Particle Model	7I Energy, 7H Atoms	7C Muscles and Bones, 7L Sound	7F Acids and Alkalis, 7D Ecosystems
Year 8	8K Energy, 8G Metals	8A Food and Nutrition, 8I Fluids	8E Combustion, 8B Plant Reproduction	8J Light, 8C Breathing and Respiration	8D Unicellular	8F The Periodic Table
Year 9	Atomic Structure and Periodic Table, Motion Part 1	Key Concepts in Biology, Cells and Control	States of Matter and purifying, Genetics	Conservation of Energy	Bonding, Acids and Alkalis, Concentration	Waves, Light EM spectrum, Natural selection

Science KS3 HT1

	School Week No.	1	2	3	4	5	6	7	8	Half-Term
Year 7	Topic	Introduction, safety and expectations	7E separating mixtures (10)			7K Forces (9)			7A cells tissues and organs (11)	Half-Term
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)				SL Mixtures and Separation			SL Hooke's Law		Half-Term
	Home-Learning Due in		Carousel 1	Carousel 2	Carousel 3	Carousel 4	Carousel 5	Carousel 6	Carousel 7	Half-Term
Year 8	Topic	Introduction to Y8, Safety and Expectations	8k Energy Transfers (11)			8G Metals and their uses (9)			8A food and Nutrition	Half-Term
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)				SL Conduction			8G Metals reactivity		Half-Term
	Home-Learning Due in		Carousel 1	Carousel 2	Carousel 3	Carousel 4	Carousel 5	Carousel 6	Carousel 7	Half-Term
Year 9	Topic	Introduction to Y9, Safety and Expectations	CC_Topic 3-4 Key C_Atomic-Structure and Periodic Table (11)			CP Topic 2 Motion PART 1 Lessons 1 to 9 only (12 lessons incl ass)			Revision for Summative Ass 1; Atomic Structure and Motion,	Half-Term
	Assessments Scientific Literacy (SL) Calculation (Calc) Summative (Sum)				SL Periodic Table		SL CP1 Distance and Time Graphs	Calc Ass No 12 (Y9 version)	Summative Ass 1; Atomic Structure and Motion,	Half-Term
	Home-Learning Due in		Carousel 1	Carousel 2	Carousel 3	Carousel 4	Carousel 5	Carousel 6	Carousel 7	Half-Term

Science KS3 HT2

	School Week No.	9	10	11	12	13	14	15	Christmas
Year 7	Topic	7A cells tissues and organs (11)		7B Animal Sexual Reproduction (9)	Revision, TEST 1 Growth Actions (3)	7B Animal Sexual Reproduction (9)		7J Current electricity (8)	Christmas
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)		SL Cells		Summative Ass 1, Cells, Forces and Mixtures		SL 7B Reproduction		Christmas
	Home-Learning Due in	Carousel 8	Carousel 9	Carousel 10	Carousel 11	Carousel 12	Carousel 13	Carousel 14	Christmas
Year 8	Topic	8A food and Nutrition (10)		Revision, Summative Ass 1; Energy, Metals and Food, and Growth Actions	8 I Fluids (10)				Christmas
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)	SL Ham Sandwich score on SS		Summative Ass 1; Energy, Metals and Food, and Growth Actions		SC-Equations Pressure, Density	Data on SS	DC1 Friday 13.01.23	Christmas
	Home-Learning Due in	Carousel 8	Carousel 9	Carousel 10	Carousel 11	Carousel 12	Carousel 13	Carousel 14	Christmas
Year 9	Topic	CB1 Key Concepts in Biology (14)				CB2 Cells and Control (9)		Summative Ass 2 Biology topic 1 and 2 Key Concepts and Cells.	Christmas
	Assessments Scientific Literacy (SL) Calculation (Calc) Summative (Sum)				SL Osmosis on SS		SL Stem Cells on SS	Summative Ass 2 Biology topic 1 and 2 Key Concepts and Cells.	Christmas
	Home-Learning Due in	Carousel 8	Carousel 9	Carousel 10	Carousel 11	Carousel 12	Carousel 13	Carousel 14	Christmas

Science KS3 HT3

	School Week No.	16	17	18	19	20	21	Half-term
Year 7	Topic	7J Current electricity (8)		7G The particle Model (10)			Revision, Test 2 Growth Actions (3)	Half-term
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)	SL The Bakery model				SL Particle Model	Sum 2, Reproduction, Electricity and the Particle Model	Half-term
	Home-Learning Due in	Carousel 15	Carousel 16	Carousel 17	Carousel 18	Carousel 19	Carousel 20	Half-term
Year 8	Topic	8E Combustion (11)			Consolidation week	8B Plants and reproduction (10)		Half-term
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)			SL How Bunsens work.	Consolidation week		SL How plants reproduce.	Half-term
	Home-Learning Due in	Carousel 15	Carousel 16	Carousel 17	Carousel 18	Carousel 19	Carousel 20	Half-term
Year 9	Topic	CC1-2 States of matter and purifying (11)			CB3 genetics (10)			Half-term
	Assessments Scientific Literacy (SL) Calculation (Calc) Summative (Sum)		CC RF?	SL Changing States			SL DNA Extraction	Half-term
	Home-Learning Due in	Carousel 15	Carousel 16	Carousel 17	Carousel 18	Carousel 19	Carousel 20	Half-term

Science KS3 HT4

	School Week No.	22	23	24	25	26	27	Easter
Year 7	Topic	7 I Energy (10)			7H Atoms and Compounds (8)		7C Muscles and Bones (9)	Easter
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)		SL Generating electricity			SL Atoms and Compounds		Easter
	Home-Learning Due in	Carousel 21	Carousel 22	Carousel 23	Carousel 24	Carousel 25	Carousel 26	Easter
Year 8	Topic	8B Plants and reproduction (10)	Revision, Summative Ass 2 Fluids, Plants and Combustion, and Growth Actions	8J light (9)			8 c Breathing Vs Respiration (10)	Easter
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)		Summative 2 Fluids, Plant Reproduction and combustion.			SL 8J Colour perception		Easter
	Home-Learning Due in	Carousel 21	Carousel 22	Carousel 23	Carousel 24	Carousel 25	Carousel 26	Easter
Year 9	Topic	Consolidation week	CP3 Conservation of energy (13)			Consolidation week	Formal Assessment 3 (Motion, Energy, Atomic Structure, The Periodic Table, States of Matter, Biology Key Concepts and Cells)	Easter
	Assessments Scientific Literacy (SL) Calculation (Calc) Summative (Sum)		SL GPE KE swing (optional)	Calc Ass No2 Weight, work and Ep			Formal Assessment 3 (Motion, Energy, Atomic Structure, The Periodic Table, States of Matter, Biology Key Concepts and Cells)	Easter
	Home-Learning Due in	Carousel 21	Carousel 22	Carousel 23	Carousel 24	Carousel 25	Carousel 26	Easter

Science KS3 HT5

	School Week No.	28	29	30	31	32	Half-term
Year 7	Topic	Summative Ass 3, Cells, Reproduction, Particle Model,	7C Muscles and Bones (9)		7L Sound (7)		Half-term
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)	Summative Ass 3, Cells, Reproduction, Particle Model, Separating Mixtures		SL How Muscles work		SL Speed of sound	
	Home-Learning Due in	Carousel 27	Carousel 28	Carousel 29	Carousel 30	Carousel 31	
Year 8	Topic	8 c Breathing Vs Respiration (10)	Year 8 Formal Assessment Topics 1-6 energy, metals, food, fluids, plants and combustion.	8 c Breathing Vs Respiration (10) 8D Unicellular (11) PC Lessons			
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)		Year 8 Formal Assessment Topics 1-6 energy, metals, food, fluids, plants and combustion.	SL 8C Explaining breathing			
	Home-Learning Due in	Carousel 27	Carousel 28	Carousel 29	Carousel 30	Carousel 31	
Year 9	Topic	Recap atomic structure, PEN, CC5-6 Bonding L1 and 2 (ions)	CC8 Acids and alkalis (13)+ CONCENTRATION				Half-term
	Assessments Scientific Literacy (SL) Calculation (Calc) Summative (Sum)		SL CC8 Reactions of Acids	CC balancing equations, concentration, Mr,			
	Home-Learning Due in	Carousel 27	Carousel 28	Carousel 29	Carousel 30	Carousel 31	

Science KS3 HT6

	School Week No.	33	34	35	36	37	38	39	Summer
Year 7	Topic	Revision, Test 4 Growth Actions (3)	7F Acids and Alkalis (9)			7D Ecosystems (9)			Summer
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)	Summative Ass 4 Energy, Muscles and Bones, Atoms and Compounds			SL 7F Acid and Alkalis Using red cabbage		SL 7D Adaptations of an Owl		
	Home-Learning Due in	Carousel 32	Carousel 33	Carousel 34	Carousel 35	Carousel 36	Carousel 37		
Year 8	Topic	8D Unicellular (11) PC Lessons		Revision, Test 4 and Growth Actions	8F The Periodic Table (8)			Growth Actions, Recall booklet catch up. Practical Project (see AKE).	
	Assessments Scientific Literacy (SL) Calculation (SC) Summative (Sum)	DC2 15.06.23	SL 8D How humans and bacteria obtain oxygen.	Summative 4 Light Unicellular Breathing Vs respiration				Growth Actions, Recall booklet catch up. Practical Project (see AKE).	
	Home-Learning Due in	Carousel 32	Carousel 33	Carousel 34	Carousel 35	Carousel 36	Carousel 37		
Year 9	Topic	CP4 + 5 Waves, Light and the EM spectrum (13)				CB4 - Natural Selection and GM (9)			
	Assessments Scientific Literacy (SL) Calculation (Calc) Summative (Sum)	SL CP4+5 Longitudinal and Transverse waves	Calc Ass No 1 Waves				SL CB4 Natural Selection		
	Home-Learning Due in	Carousel 32	Carousel 33	Carousel 34	Carousel 35	Carousel 36	Carousel 37		