

Programme of Study - Science

We want our students to be knowledgeable, curious learners who are able to apply their learning to the real world. We want our students to be able to use scientific language confidently, plan and run investigations to test scientific theories and be able to critically analyse data and evidence provided to them. Our curriculum prepares our learners to better understand the world they live in and make informed and wise choices. The Oasis Science Curriculum prepares students with the fundamental knowledge needed to pursue a range of careers from medicine, to engineering, from astrophysics to careers in geo science.

Year 11



Oasis Academy Brislington: Curriculum

Year 11						
Rationale/ narrative	For their final year at Oasis Brislington, our goal is for students to leave us with the confidence and skills they need to succeed as young scientists, should they wish to pursue further study in Science or not. The programme of study in Year 11 covers the final topic for each of Biology, Chemistry and Physics before allowing some time to revisit knowledge they have learnt in Year 9 and 10, exploring it in more detail and practicing ways in which it can be applied.					
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Topic	Evolution and Systems	Organic Chemistry & polymers	Topic: Application of forces	Revision	Exams	
Content	Natural selection and evolution Evolutionary trees Selective breeding Genetic engineering and modification The nervous system Reflex arcs RP: Investigating human reaction time Homeostasis Thermoregulation (Triple only) Mini Quiz The Endocrine system Negative feedback loops (Triple only) Controlling glucose Controlling water (Triple only) Diabetes	Crude Oil Alkanes Alkenes Bromine Test Fractional Distillation The Fractions Cracking 1 Cracking 2 Ceramics (D only) Polymers (D only) Thermosetting and thermosoftening (D only) Glass (D only) Reducing our human impact (D only) Organic Compound diagrams (Triple only) Alkene reactions 1 (Triple only) Alkene reactions 2 (Triple only) The Alcohols (Triple only)	Magnets Magnetic fields Electromagnets The Motor Effect (Flemings' left hand rule) Magnetic Flux Density (Triple only) Generating electricity Radio waves (Triple only) Sound waves (Triple only) Uses of sound waves (Triple only) Applications of the motor effect and generator effect (Triple only) National Grid and Transformers (Triple only) Transformer structure (Triple only) Transformer power equation (Triple only)			

	Hormones and the Menstrual cycle Contraception Embryo screening IVF (Triple only) Comparing nervous and hormonal responses	Alcohol reactions (Triple only) Fermentation (Triple only) Carboxylic acid reactions (Triple only) Carboxylic acid and water (Triple only) Esters (Triple only) Addition Polymerisation (Triple only) Condensation Polymerisation (Triple only) Amino Acids and Polymerisation (Triple only) Polymers in food (Triple only)				
Skills	Comparing two different processes Spotting anomalies and reasons for them Spotting errors (random, systematic, zero errors) Reasons for random, systematic and zero errors) Issues and improvements of method Histogram Frequency Table	Testing for different chemicals. Writing balanced symbol equations Describing different steps in a process	Analysing graphs Using a manual or digital scale Significant figures and rounding Calculate gradients Selecting appropriate apparatus Significant figures and rounding			
Assessment	End of topic assessment	PPE1	End of topic assessment			
Links:	Knowledge Organisers Homework	Knowledge Organisers Homework	Knowledge Organisers Homework			