St George's School
SCIENCE Department
Year 9 Curriculum Map

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
THE BIG IDEAS & KNOWLEDGE *Overview of topics or key questions*	Adaptation, Interdependence and competition The importance of communities Organisms in their environment (including a required practical) Distribution and abundance Competition in animals and competition in plants Adaptations	Organising and Biodiversity in an ecosystem Food chains and webs Nitrogen, carbon and water cycles Explosion of the human population Pollution - land,water and air Deforestation Peat destruction Global warming Conservation	Cell structure Microscopes Animal and plant cell structure (including a required practical) Eukaryotic and prokaryotic cell structure Specialisation in animal and plant cells	Transport in cells Diffusion Osmosis in animal and plant cells (including a required practical)	Transport in cells (continued) Active transport Surface area to volume ratio Exchange surfaces	Summer project - based around science investigation skills
SKILLS & STRATEGIES *Procedural knowledge, literacy and numeracy skills*	Extract and interpret information from charts, graphs and tables. Recording first-hand observations Knowledge of key fact	Interpret and explain the processes in/from diagrams Describing, explaining and evaluation. Data interpretation from tables and graphs Linking causes to effects Knowledge of key fact	Knowledge of key fact Numerical and logic skills Practical skills Recognise, draw and interpret biological images.	Knowledge of key fact Numerical and logic skills Practical skills Recognise, draw and interpret biological images.	Knowledge of key fact Numerical and logic skills	Practical skills Interpretation of data in tables and graphs Research skill

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
FEEDBACK *Noteworthy tasks and assessments*	End of Topic Test Assessed homework	End of Topic Test Assessed homework	End of Topic Test Assessed homework	End of Topic Test Assessed homework	End of Topic Test Assessed homework	End of Year Test
BREADTH *Opportunities, trips, wider reading, cultural capital*	Looking at how plants and animals are adapted to their environment. Nature walks and trips to zoos / safari parks.	Look at the world around us and how we are recycling materials to protect the environment. Link learning of the carbon cycle with carbon footprint learning in chemistry.	Use a microscope at home if available to look at biological molecules at the cellular level. Research the history of the microscope.	Experiment with how gases and solutions and water move. Measuring the mass of vegetables after they have been in water.	Observe plants and how they change through the season.	
KEY VOCABULARY *Important words and phrases*	Interdepence Communities Abundance Sample size Range Transect Quantitative Competition Adaptations Extremophiles Predators prey	Biodiversity Ecosystems Acid rain Deforestation	Resolution Eukaryotic Prokaryotic Bacteria Phloem Xylem	Diffusion Osmosis Active transport Partially permeable membrane Isotonic Hypertonic Hypotonic Turgor Alveoli Stomata	Photosynthesis Glucose Endothermic Exothermic Limiting factors	