Westfield Academy - Curriculum Information

In year 9 your child will begin to retrieval early KS3 topics and build upon them developing their understanding of more complex topics and make links between.

Science

Head of Department	Ms Zainab Khan & Mr Benjamin Waite
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Lessons per 2 week cycle	7 lessons
Specification/Board details/Key stage	KS3 – Springboard science curriculum

Term by term

Autumn 1	Autumn 2	Spring 1
Yr9 – Cell biology & cell differentiation	Yr9 – Particle model & Organisation	Yr9 – Atomic structure a periodic table & Energy
Spring 2	**Summer 1**	**Summer 2**
Yr9 – Energy changes	Yr9 – Bonding and structure & Chemical analysis	Yr9 – Forces & magnetism

Key Skills developed	**Biology**: Students learn about cells. They will develop their KS3 knowledge further looking at the three ways molecules move (diffusion, osmosis, active transport). Student will perform a microscopy investigation and they learn about exchange surfaces. They also learn how cells differentiate from stem cells and how this might be useful technology for medicine in the future. Students develop an appreciation of how the body is organised hierarchically, understand organ systems in terms of structure and function, explain enzymes and their role in digestion. They learn about the circulatory system and respiratory system. **Chemistry**: Students learn how to navigate the periodic table, draw atoms, complete electron arrangements, recall properties of elements, explain how compounds are bonded, how substances conduct electricity, Students study exothermic and endothermic reactions and

	perform a practical using the neutralisation reaction to investigate energy changes. Students also analysis chromatograms. They make conclusions and calculate rf values, Student also learn about purity and how it is tested. **Physics**: manipulate the density equation to find mass and volume, explain how to calculate density of irregular shaped objects, calculate the specific heat capacity, explain how substances change state Forces is the largest yr9 topic. Students learn the types of forces. Students then describe Newton's 1st, 2nd and 3rd laws of motion. Students describe the motion of objects using distance time graphs. They calculate the speed using this type of graph. Students also learn equations for momentum, and acceleration. Students then learn about the law of magnetism in detail and how to create electromagnets.
Useful Websites	Senecalearning.com BBCbitesize.co.uk
Reading/Literacy requirements /Key Words	In our curriculum we have in-house textbooks which students can take home for revision. Keywords or phrases are highlighted and/or underlined so students know what terminology they should be prioritising.
Homework requirements	Teacher will post weekly homework tasks using *seneca-learning* or *carousel-learning* websites
Personal Development Links	An example of how Science contributes to Personal Development is by encouraging our students to have a growth mindset and attempt all tasks to the best of their ability. We also have a number of schemes of learning linking to topics on the PD curriculum; one example is when we study organisation, we look life-style impacts of smoking, unhealthy diets and alcohol. In the infection and response topic we discuss viruses and how this linked to COVID and the development of the vaccine. We promote equality and diversity by exposing students to famous scientists of different genders and ethnicities throughout our curriculum.
Trips/Visits (If applicable)	