

## Curriculum Intent Statement

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|---|---------|
| <b>Faculty</b>  | Science |
| <b>Subject</b>  | Science |
| <p>Science is fundamental to our lives in terms of driving society forwards through new discoveries and gaining a better understanding of local and global issues. Being science literate provides our students with the backbone needed for a range of current and future careers.</p> <p>The Science curriculum at The Wells Academy is forward thinking and designed to challenge students to develop their analytical skills, enabling them to investigate, interpret and describe events occurring in their lives, even challenging explanations.</p> <p>Within the curriculum students discuss current world issues and systems, as well as debate the ethics of science, past and future. They learn the importance of mental and physical wellbeing and the effect on human health ensuring they make informed lifestyle choices.</p> <p>The Wells Academy has a five-year science curriculum model underpinned by ten fundamental ideas. These fundamental ideas are revisited through sequenced learning with growing complexity, preparing our students for GCSE and beyond.</p> <p><b>Matter:</b> All matter is made up of small particles that have mass. Their structure provides different properties.</p> <p><b>Energy:</b> The total amount of energy is always the same but is transferred from one energy store to another during an event.</p> <p><b>Organisms:</b> All living organisms comprise of one or many cells and have a finite lifespan. Organisms require a supply of energy and materials.</p> <p><b>Earth &amp; Space:</b> The composition of the Earth, it's atmosphere and the processes that shape its structure and climate are ever changing. Earth is one planet in our solar system which is part of one of billions of galaxies in the Universe.</p> <p><b>Forces &amp; motion:</b> Objects in contact with each other affect each other. Objects can affect other objects at a distance. Changing the movement of an object requires a force to act on it.</p> <p><b>Genetics &amp; Evolution:</b> Genetic information is passed down from one generation to the next. The diversity of organisms is due to evolution. Organisms that cannot adapt sufficiently to a changing environment become extinct.</p> <p><b>Reactions:</b> During chemical reactions, atoms are rearranged and new substances with different properties are formed.</p> <p><b>Organisms &amp; the environment:</b> Green plants and some bacteria use energy from the sun to generate complex food molecules. Animals obtain energy by breaking down complex food molecules. Organisms depend on or compete with one another within their environment.</p> <p><b>Waves:</b> Waves transfer energy from one object to another even when the objects are not touching. They interact in a predictable way and enable us to communicate.</p> |         |

Electricity & Magnetism: The movement of electrons controls many everyday events. We can use these processes through technology to carry out many functions.

Throughout their studies students have opportunities to take part in many practical lessons to support their wider scientific skills. Lessons are planned so that students can make links across STEM subjects through cross curricular learning.

Students follow the GCSE Combined Science pathway allowing them to master the ten fundamental ideas across the Biology, Chemistry and Physics disciplines whilst gaining two GCSE qualifications. This prepares students a number of Post 16 routes include A levels or Vocational based Science courses.

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|-----------------------------------|---|---------------|--|----------------|----------------|
| <b>Curriculum Time / Weeks</b>    | <b>Year 7</b>   | <b>Year 8</b> | <b>Year 9</b>  | <b>Year 10</b> | <b>Year 11</b> |
|                                   | 3   | 3             | 5  | 5              | 6              |
| <b>KS4 Qualifications</b>         | AQA Combined Science (Trilogy) GCSE   |               |  |                |                |
| <b>Useful Learning Resources</b>  | <a href="http://www.freesciencelessons.co.uk">www.freesciencelessons.co.uk</a><br><a href="https://www.thenational.academy/science-lessons-for-key-stage-3-students-oak-national-academy">Science lessons for Key Stage 3 students - Oak National Academy (thenational.academy)</a><br><a href="https://www.thenational.academy/programmes-for-combined-science-key-stage-4-students-oak-national-academy">Programmes for Combined Science Key Stage 4 students - Oak National Academy (thenational.academy)</a><br><a href="https://www.bbc.com/bitesize/gcse/science/combined-science">GCSE Combined Science - BBC Bitesize</a> |               |  |                |                |
| <b>Staff teaching the subject</b> | <b>Role</b>   |               | <b>Email</b>   |                |                |
| Mrs Diane Mason                   | Assistant Principal   |               | <a href="mailto:dmason@thewellsacademy.org">dmason@thewellsacademy.org</a>                   |                |                |
| Mr Aiden Lawlor                   | Senior Assistant Principal  |               | <a href="mailto:alawlor@thewellsacademy.org">alawlor@thewellsacademy.org</a>                 |                |                |
| Miss Sam Bailey                   | Assistant Principal   |               | <a href="mailto:sbailey@thewellsacademy.org">sbailey@thewellsacademy.org</a>                 |                |                |
| Mrs Kate Lomax                    | Teaching and Learning Lead  |               | <a href="mailto:klomax@thewellsacademy.org">klomax@thewellsacademy.org</a>                   |                |                |
| Ms Iffy Ogwu-Nosakhare            | Science Teacher   |               | <a href="mailto:logwu-Nosakhare@thewellsacademy.org">logwu-Nosakhare@thewellsacademy.org</a> |                |                |
| Miss Olivia Lewis                 | Science Teacher   |               | <a href="mailto:Olewis@thewellsacademy.org">Olewis@thewellsacademy.org</a>                   |                |                |
| Mrs Sara Flynn                    | Science Teacher   |               | <a href="mailto:Sflynn@thewellsacademy.org">Sflynn@thewellsacademy.org</a>                   |                |                |