



## Marshall's Park Academy - Curriculum Overview

Subject: **Science**

Year Group: **8**

Curriculum/Subject Leader: **Mr Whitley**

Academic Year: **26/27**

The Science curriculum for Year 8 builds on Year 7, covering advanced topics in biology, chemistry, and physics. Students explore systems like the digestive and circulatory systems, chemical reactions, and forces and energy transfer. Emphasis is placed on mastering scientific skills and concepts.

At the **end of each half term**, students are assessed on the topics they have just studied, helping teachers track progress and address any gaps. A full **end-of-year assessment in the summer** reinforces learning across all units. Practical assessments are also built in throughout the year to develop confidence in scientific investigation and prepare students for Year 9.

| TERM 1                                                                                                                                                                                                      | TERM 2                                                                                                                                                                                           | TERM 3                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KNOWLEDGE                                                                                                                                                                                                   | KNOWLEDGE                                                                                                                                                                                        | KNOWLEDGE                                                                                                                                                                                              |
| <b>B2.1 Tissues and Organs</b><br>This unit explores the structure and function of tissues and organs in both humans and plants, and how they work together to maintain vital biological processes.         | <b>C2.2 Changing Substances</b><br>This unit explores chemical reactions, including physical and chemical changes, and how substances transform through processes like combustion and oxidation. | <b>C2.3 Earth Systems</b><br>Students study the Earth's structure, including the atmosphere, hydrosphere, and geosphere, and how these systems interact to support life and regulate global processes. |
| <b>C2.1 Acids and Alkalis</b><br>Students learn about the properties of acids and alkalis, the pH scale, and how neutralization reactions occur, including their real-world applications.                   | <b>P2.2 Magnetism</b><br>Students learn about the properties of magnets, magnetic fields, and electromagnetism, including practical applications such as motors and generators.                  | <b>P2.3 Electric Circuits - Resistance</b><br>This unit focuses on how electric circuits work, specifically exploring resistance, how it affects current flow, and factors that influence it.          |
| <b>P2.1 Movement and Pressure</b><br>This unit examines how forces affect movement, explores the relationship between pressure and fluids, and investigates their effects on objects in different contexts. | <b>B2.3 Life Diversity</b><br>This unit investigates the diversity of life on Earth, focusing on classification, adaptation, and the evolution of species across ecosystems.                     | <b>B2.4 Nutrition</b><br>Students learn about the components of a balanced diet, the role of nutrients in the body, and how different types of food contribute to health and energy.                   |
| <b>B2.2 Respiration and Photosynthesis</b><br>Students explore the processes of respiration and photosynthesis, focusing on how cells generate energy and how plants convert sunlight into chemical energy. |                                                                                                                                                                                                  |                                                                                                                                                                                                        |

### SKILLS:

**Understanding Key Concepts:** Master key ideas in biology, chemistry, and physics.

**Application of Knowledge:** Apply scientific understanding to solve new problems.

**Practical and Experimental Skills:** Conduct experiments safely and accurately using scientific equipment.

**Scientific Enquiry:** Plan and carry out investigations, analysing and interpreting data.

**Data Interpretation:** Draw conclusions from data, recognizing patterns and assessing reliability.

**Mathematical Application:** Use calculations, graphs, and units to solve scientific problems.  
**Scientific Literacy:** Communicate scientific ideas clearly using appropriate terminology.  
**Critical Thinking:** Analyse information and apply logical reasoning to solve scientific challenges.

| KEY ASSESSMENTS                                                                                                                                                     | KEY ASSESSMENTS                                                                                                                                                       | KEY ASSESSMENTS                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Autumn half term 1 assessment</b><br>B2.1 Tissues and Organs<br><br><b>Autumn half term 2 assessment</b><br>C2.1 Acids and Alkalis<br>P2.1 Movement and Pressure | <b>Spring half term 3 assessment</b><br>B2.2 Respiration and Photosynthesis<br><br><b>Spring half term 4 assessment</b><br>C2.2 Changing Substances<br>P2.2 Magnetism | <b>Summer half term 5 assessment</b><br>B2.3 Life Diversity<br>C2.3 Earth Systems<br><br><b>Summer end of year assessment (half term 6)</b><br>All units from year 8 including<br>P2.3 Electric Circuits - Resistance |

Extended reading suggestions and links to external resources:

<http://www.physics4kids.com/>

<http://www.biology4kids.com/> <http://www.chem4kids.com/>

<https://www.bbc.com/bitesize/subjects/zng4d2p>

Revision guide suggestion: [KS3 Science Complete Revision & Practice – Higher \(includes Online Edition, Videos & Quizzes\) | CGP Books](#)

The Skeleton Inside You by Philip Balestrino

Lost in the Solar System (The Magic School Bus, #4) by Joanna Cole