

Subject: Science

Vision - The Science department at Dean Trust Wigan have a clear vision for the learners in our care. We aim to inspire and deliver lessons which promote awe and wonder. High expectations are consistent in each classroom and this allows for learners to critically question the world around them. Learners are challenged to consistently improve and in doing so, become the best scientists that they can be.

How is this achieved? - They do this by enhancing their skills early in the curriculum. A strong promotion of practical work during KS3 prepares learners for the challenges and demands of KS4 Science. A clear skill pathway has been created (see below) which helps learners to develop and build on their skills gained during the previous year. Specific lesson time has been allocated in the curriculum to account for this. All learners experience a broad and balanced curriculum. They are taught each of the 3 disciplines at KS3 and cover all of the requirements in the PoS (outlined in the national curriculum guidance). This ensures that they are, again, effectively prepared for the rigours of KS4. Schemes of work have been adapted to meet the needs of our learners. Senior leaders within the department have created new curriculum sequencing documentation which comprises of 'powerful knowledge' questions. The questions consist of all of the key concepts which a student needs to know in order to effectively answer the powerful knowledge. This has been very successful in allowing for the differentiation of all learners and therefore ensures that each pupils' individual needs are met. The curriculum is right for them. Staff are encouraged to deliver the key concepts in a way that they see fit for the learners in their care. This allows for staff autonomy and ensures that staff precision plan for the learners in their care.

Year 9 allows pupils to link knowledge gained during KS3 and begin to link it to the wider spectrum of KS4 Science. Pupils study key concepts during this time. This again builds on previous knowledge gained during year 7 and 8, but also increases the depth of each learner's understanding. These key concepts are essential in terms of progressing and teachers are encouraged to focus on these until all learners have a good understanding. Reshaping and remodelling is a key departmental policy to ensure all learners have the necessary skills to meet the demands of the GCSE course.

Skill pathway for Science learners at Dean Trust Wigan

| Year 7 | Year 8 | Year 9 |
|---|---|---|
| <ul style="list-style-type: none">• Introduction to science booklet.• Weekly skill lesson (created by DTW science teachers to meet the needs of our learners). | <ul style="list-style-type: none">• Learners again have a weekly skill lesson which builds on what is taught in Year 7.• Learners work from a KS3 Science lab book (18 required practicals). | <ul style="list-style-type: none">• Learners build on the skills gained at in Year 7 and 8 – they have a 'double' Science lesson built into the timetable which allows them to experience each Edexcel required practical in great depth. |

| | 1 st Half-term | 2 nd Half-term | 3 rd Half-term | 4 th Half-term | 5 th Half-term | 6 th Half-term |
|--------|---------------------------------|--|----------------------------------|---------------------------|---------------------------|---------------------------|
| Year 7 | Skills introduction | Cells | Diet and drugs | | Reproduction | |
| | | Acids and alkalis | Atoms and periodic table | | Reactions | |
| | | Forces | Electricity | | Space | |
| Year 8 | Photosynthesis and circulation | | Genetics | | Ecology | |
| | Matter | | Materials | | The Earth | |
| | Energy | | Waves | | Radiation (Created unit) | |
| Year 9 | Key concepts in biology (cells) | Key concepts in chemistry (atoms, isotopes, bonding) | Key concepts in physics (forces) | Cells and control | Matter | Conservation of energy |