Fairfield High School Curriculum Overview – Year 7

Subject	**Science**	**Why do we study these units in Year 7?**
Lessons per fortnight	7	**The Year 7 Science programme begins with an introduction to core scientific skills, laboratory techniques, and essential Health & Safety practices.** Building on pupils' prior KS2 learning, we adopt a mastery approach to the KS3 National Science Curriculum. The course is delivered through nine units spanning Biology, Chemistry, and Physics, which lay the foundations for Year 8 study and prepare students for GCSE success from Year 9 onwards. The curriculum is further enriched with extra-curricular activities, science clubs, external workshops, and trips — all designed to increase pupils' Science Capital and inspire engagement with the subject.
Setting	Mixed ability teaching in tutor groups	

Students are encouraged to be Responsible Global Citizens through numerous links to the sustainable development goals embedded within the Year 7 programme of study. All science topics are linked to at least one goal and these are explored through their links to the science being explored.
We ensure all students experience high challenge in the sciences by differentiating lessons so that ideas can be extended by all students even those making greater than expected progress.
Literacy work this year includes the introduction of a wide range of scientific vocabulary. This is explored through various scientific texts and scientific talk.

Innovation and Creativity opportunities are included in lessons and via workshops delivered by local universities and employers throughout the year. All year 7 pupils are given the opportunity to develop practical skills, creating their own methods to test hypothesis and using creativity to consider how we solve real world problems.
Employability opportunities and skills are highlighted in lessons throughout the course and supplemented with workshops and trips offered across the year.

Term	Unit title	Knowledge and Understanding/content	Skills	Assessment
1	**Introduction to Laboratory Science**	1. Safety in the Lab 2. Bunsen Burners 3. Using Scientific equipment 4. Measuring 5. Investigating Variables 6. Observation	• Identify features of an investigation which are hazardous and ways to reduce the risks. • Collect data and draw conclusions • Interrogate sources and communicate ideas.	**Homework**: None as homework is not set in Science until October of Year 7.
1	**Cells**:-	1. MRS GREN 2. Animal Cells 3. Plant Cells 4. Microscopes 5. Specialised Cells 6. Cell division 7. Tissues and Organs 8. Organ Systems 9. Unicellular and Multicellular Organisms	• **Observing and recording** – using microscopes, diagrams, accurate notes. • **Comparing and classifying** – spotting similarities and differences clearly. • **Applying knowledge** – linking structures to their specific functions.	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**

2	**States of Matter and Separating Techniques.**	1. States of Matter 2. Changes of state 3. Diffusion 4. Solute, Solvent and Solutions 5. Solubility Investigation 6. Filtration 7. Evaporation 8. Distillation 9. Chromatography	• **Observation and recording** – noticing changes, writing accurate results. • **Practical techniques** – using equipment safely to separate substances. • **Data interpretation** – explaining patterns and drawing clear conclusions. •	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**
2	**Energy: -**	1. Energy Stores 2. Energy Transfers 3. Conservation of Energy 4. Energy Resource (non-renewable) 5. Energy Resources (renewable) 6. Energy and Power 7. Paying for Electricity 8. Generating Electricity 9. Work Done 10. Efficiency	• **Applying knowledge** – linking concepts to real-life situations. • **Using calculations** – working with energy, power, efficiency formulas. • **Evaluating evidence** – comparing resources, impacts, and effectiveness.	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**
3	**Reproduction:-**	1. Puberty 2. The Menstrual Cycle 3. Fertilisation 4. Foetal Development 5. Contraception 6. Infertility 7. Structure of a flower 8. Pollination 9. Seed Dispersal	•**Observation and recording** – describing changes and reproductive processes clearly. •**Comparing and classifying** – human vs plant reproduction, similarities/differences. •**Evaluating evidence** – considering impacts of reproduction and contraception.	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**

3/4	**Atoms and the Periodic Table**:-	1. Atoms and Elements 2. Compounds 3. The periodic Table 4. Trends in the Periodic Table 5. Metals and Non-Metals 6. Alkali Metals (Group 1) 7. Halogens (Group7) 8. Noble Gases (Group 0)	•**Observation and recording** – describing elements, compounds, periodic trends. •**Comparing and classifying** – grouping elements, spotting patterns and properties. •**Applying knowledge** – linking atomic structure to chemical behaviour.	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**
4	**Forces**:-	1. Intro to Forces 2. Balanced and unbalanced Forces 3. Weight, Mass and Gravity 4. Friction 5. Air Resistance 6. Hooke's Law Investigation 7. Speed 8. Speed Investigation 9. Representing Journeys using distance – time graphs 10. Moments 11. Pressure	•**Using calculations** – solving problems with force and motion formulas. •**Practical techniques** – planning, carrying out, and measuring accurately. •**Data interpretation** – analysing graphs, patterns, and experimental results.	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**.
4/5	**Acids and Alkalis**:- Energy costs	1. Chemical Symbols 2. Acids and Alkalis 3. The pH Scale 4. Neutralisation 5. Formative Assessment 6. Metals and Acids 7. Acids and Carbonates 8. Making Indicators	•**Observation and recording** – noting reactions, colour changes, pH. •**Practical techniques** – handling chemicals safely, using indicators correctly. •**Applying knowledge** – predicting reactions, explaining neutralisation outcomes.	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**

5	**Ecosystems and Environment**	1. Wooly Mammoth 2. Physical Adaptations 3. Behavioural Adaptations 4. Environmental Chanes 5. Endangered Species 6. Food Chains 7. Food Webs 8. Predator-Prey Relationships 9. Pyramids of Number and Biomass	• **Observation and recording** – describing adaptations and ecological relationships. • **Comparing and classifying** – grouping species, habitats, and adaptations. • **Interpreting data** – analysing food chains, webs, and pyramids.	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**
6	**Earth in Space**	1. Earth Structure 2. Igneous Rocks 3. Metamorphic Rocks 4. Sedimentary Rocks 5. The Rock Cycle 6. Structure of the Universe 7. The Solar System 8. Our Sun as a Star 9. Day & Night 10. Seasons	• **Observation and recording** – describing rocks, Earth, and space features. • **Comparing and classifying** – sorting rock types, celestial bodies, patterns. • **Applying knowledge** – explaining cycles, seasons, and cosmic phenomena.	**Homework**: Quizzes set on Educake and Revision task set on Teams. **Midpoint Assessment (formative only):** 10 multiple choice and 1 long answer question. **End of unit test.**