

Science KS3 Curriculum Sequence

1. Intro to Science	2. Energy	3. Elements & Compounds	4. Cells
<ol style="list-style-type: none"> 1. What are the risks of working in a science lab? 2. What pieces of equipment are commonly used in a science lab? 3. How do we measure? 4. How do we safely use a Bunsen Burner in a science lab? 5. What is a variable and the common steps in an experiment? 6. How do we analyse data gathered from an experiment? 	<ol style="list-style-type: none"> 1. Where does energy come from and how is it transferred? 2. How can we represent energy transfers? How can we visualise energy transfers? 3. What is the difference between temperature and heat? 4. How do we calculate the efficiency of energy transfers? 5. What are Sankey diagrams? How/Why are Sankey diagrams useful? 6. What are fossil fuels? 7. What are the alternatives to fossil fuels? 	<ol style="list-style-type: none"> 1. How do you name elements? 2. How do you represent elements? 3. What are the properties of different elements? 4. How was the periodic table discovered? 5. How was the atom discovered? 6. What is the atom made of? 7. How do we represent the structure of the atom? 8. What is a compound? 9. What is a reaction and how do we represent one? 10. How do you make magnesium oxide? 11. How do you make magnesium chloride? 12. How do you make iron sulphide? 	<ol style="list-style-type: none"> 1. What are the 7 life processes? 2. What is a cell? How do they differ in plants and animals? 3. How do you view cells? 4. How do cells divide? 5. Do different cells have different functions? 6. How do cells work together in animals? 7. How do cells work together in plants?
5. Forces	6. Particles & Mixtures	7. Plant & Animal Reproduction	8. Electricity
<ol style="list-style-type: none"> 1. What is the difference between a contact and non-contact force? 2. What is friction? 3. What is speed, velocity, and acceleration? 4. What is a balanced and unbalanced force? 5. What is a resultant force? 6. What are Newton's 1st and 2nd Laws of Physics? 7. What are the rules of magnetism and magnetic fields? 	<ol style="list-style-type: none"> 1. What is the particle model of matter? 2. What is a change of state? 3. What happens when substances expand and contract? 4. What happens during evaporation & melting? 5. What is diffusion? 6. What happens when substances dissolve? 7. What is pressure? 8. What is a mixture? 9. How do you separate mixtures?. 	<ol style="list-style-type: none"> 1. How do plants reproduce? 2. How does the human body ready itself for reproduction? 3. How do human reproduce? 4. How does a foetus develop to be born as a child? 	<ol style="list-style-type: none"> 1. What are circuit symbols? 2. What is current? 3. What is potential difference and voltage? 4. What is the resistance across different lengths of wire? 5. What are series and parallel circuits? 6. What is static electricity? 7. How do plugs work

Science KS3 Curriculum Sequence

9. Chemical Reactions	10. Ecology	11. Earth	12. Space
<ol style="list-style-type: none"> 1. What is the difference between a physical and chemical change? 2. How do we represent chemical reactions using word equations? 3. How can we use energy changes to describe exothermic, endothermic and catalytic reactions? 4. What is required for a combustion reaction to occur? 5. What is an oxidation reaction? 6. What is a thermal decomposition reaction? 7. How do we compare the reactivity of metals? 8. What is a displacement reaction? 	<ol style="list-style-type: none"> 1. Why and how are living things classified? 2. What are the different systems for classifying organisms? 3. How are organisms adapted to their habitats? 4. How are animals adapted to their environment? 5. How are plants adapted to their environment? 6. How have species changed over long periods of time? 7. How is energy transferred through organisms in an environment? 8. Why do organisms compete? 9. What causes environmental change? 	<p>Earth:</p> <ol style="list-style-type: none"> 1. What is the structure of the Earth and how has our understanding of this changed over time? 2. What are igneous rocks and why do they have different sized crystals? 3. How are sedimentary rocks formed? (to include weathering and erosion) 4. How are metamorphic rocks formed? 5. Which processes link the different rocks? 6. What are the gases in Earth's atmosphere? How is carbon dioxide added to and removed from the atmosphere? 7. What is global warming and how are human activities contributing to this? 8. How are human activities affecting Earth's resources and what can we do to protect them? 	<p>Space:</p> <ol style="list-style-type: none"> 1. What is the solar system made up of? How have models of the solar system changed over time? 2. What is the relationship between weight, mass and gravity? Why does weight change throughout the solar system? 3. Why is the relationship between mass and weight known as a directly proportional relationship? 4. How do planets, satellites and comets stay in orbit? 5. How does the movement and rotation of Earth cause days, years and seasons? 6. What is a star? What is a galaxy? How far away are stars and other galaxies? 7. What is the universe? How have our ideas about the universe changed over time?
13. Food & Digestion	14. Waves	15. Bioenergetics & The Body	16. Acids, Alkalis and Metals
<ol style="list-style-type: none"> 1. How can we identify the main food groups? 2. How can we identify the main food groups using chemical tests? 3. What foods do our bodies need to stay healthy? 4. What foods provide the most energy? 5. What are the risks of an unbalanced diet? 6. Why are additives added to food? 7. How does our body use food? 8. What happens to food after it has been digested? 9. What substances speed up the breakdown of food? 10. What are the optimum conditions for the activity of digestive enzymes? 	<ol style="list-style-type: none"> 1. What are transverse and longitudinal waves? 2. What are the properties of waves? 3. How do you calculate the speed of a wave? 4. How do we detect waves? 5. What happens when waves meet a surface? 6. How do we see different colour? 	<ol style="list-style-type: none"> 1. What is respiration? 2. What are the main organs of the respiratory system? 3. How are the lungs adapted for gas exchange required for respiration? 4. What is in the blood and how is it carried throughout the body? 5. What are the main structures of the heart and how does it control circulation of blood? 6. What are the major bones of the skeletal system? 7. How do muscles work? 8. How was photosynthesis discovered? 9. How does the plant use glucose produced by photosynthesis? 10. How do you evidence photosynthesis in a leaf? 	<ol style="list-style-type: none"> 1. What are acids and where do we find them? 2. How do we tell acids from alkalis? 3. How do we measure the strength of acids and alkalis? 4. What happens when acids and alkalis react together? 5. What happens when acids react with metals? 6. What happens when acids react with metal carbonates?

Science KS3 Curriculum Sequence

17. Ecosystems & Variation

1. What is an ecosystem?
2. Why are organisms in an ecosystem different to each other?
3. How do organisms interact in an ecosystem?
4. How do you estimate the size of a population in an ecosystem?
5. How do you measure the distribution of a population in an ecosystem?
6. What is decomposition and why is it important in an ecosystem?
7. What is biodiversity and why is it important to maintain an ecosystem?

18. Forces, Pressure & Moments

1. What is a balanced/unbalanced force?
2. What is a moment?
3. How do you calculate speed?
4. What does a distance-time graph show?
5. What does a velocity time graph show?
6. What is terminal velocity?
7. What is pressure?
8. How does pressure act in a fluid?
9. How does pressure act in a gas?