



St John's CE Middle School

Key Performance Indicators

Pupils who are working at age related expectations at the end of the year will have a secure knowledge of these Key Performance Indicators.

KS3 Year 8 Science

Biology

Health & Lifestyle
Explain the role of each nutrient in the body
Explain how each part of the digestive system works in sequence, including adaptations of the small intestine for its function and how enzymes affect the rate of digestion
Explain the effects of drugs, alcohol and smoking on people's lifestyles
Ecosystem Processes
Know the reactants and products of photosynthesis including both the word and symbol equations
Label the structures of the leaf and link these to their function. This includes the role of the chloroplast
Explain deficiency symptoms in plants
Know the reactants and products of aerobic and anaerobic respiration and explain the differences between the two types
Explain the link between food chains and energy
Explain why toxic materials have greater effect on top predators in a food chain
Explain why different organisms within the same ecosystem have different niches
Adaptions and Inheritance
Describe how organisms are adapted to their environment
Explain trends and draw detailed conclusions about predator-prey relationships
Explain how characteristics are inherited through and coded for by genes
Explain how natural selection leads to evolution and some factors that may have led to extinction

Chemistry

The Periodic Table
Describe patterns in the properties of Group 1, 7 and 0 elements
Separation Techniques
Identify the appropriate separation technique for different mixtures
Explain what a solubility graph shows
Compare evaporation and distillation
Metals and Acids
Use formula equations to show what happens when metals react in different acids
Explain the reactivity of metals according to how they react with oxygen
Link a metal's reaction with its place in the reactivity series
Explain why given displacement reactions are predicted to occur or not occur
The Earth
Give a detailed explanation of the sedimentary rock cycle
Link properties of igneous and metamorphic rocks to their methods of formation
Give a detailed description and explanation of a rock's journey through the rock cycle

Physics

Electricity & Magnetism
Explain, in terms of electrons, why something becomes charged
Set up simple circuits (series & parallel) and measure current and potential difference within them. Write conclusions based on their results
Calculate resistance of a circuit and plot accurate results on a line graph
Explain how an electromagnet works
Energy
Compare energy transfers to energy conservation
Explain, in terms of particles, how energy is transferred
Explain in detail the processes involved during heat transfers, why certain materials are good insulators and why some objects radiate more energy
Explain how conservation of energy applies in one example
Motion & Pressure
Calculate speed from a distance-time graph
Calculate pressure
Use calculations to explain situations involving moments