

KS3 topics by term

Y1

This year is about settling into Sands and Science, having fun and not being fearful, and feeling confident about trying new things and asking questions.

Autumn

Cells - what are they, how are they organised, how do they work, and how do we draw them?

Atoms - what are they, what do they consist of, what are their symbols? Solids, liquids, gases.

Forces - what are they, how do they affect things, and how can we represent them?

Spring

Bones and muscles - how do they work, what do they do, and how does a joint work?

Pure and impure substances - what makes something pure, what is dissolving, how do we separate mixtures, and how can we identify pure substances?

Physical changes - conservation of mass, melting, freezing, boiling, sublimation, density, and how do all these interact?

Summer

Nutrition and digestion - what are nutrients and how much do we need, and how does our digestive system get them from what we eat?

Chemical reactions - what are they, how do they work, the pH scale, and what is a catalyst?

Magnetism - what is it, the Earth's magnetic field, motors and generators.

Y2

This year is about getting better at taking notes and following instructions with a bit less help, and starting to improve the maths skills needed for science, but should still be plenty of fun.

Autumn

Gas exchange systems - how our lungs work, health effects of smoking, asthma, stomata.

Earth and atmosphere - structure of the Earth, it's changing atmosphere, and rock formation.

Energy - what types are they, can they be changed, and how can we use machines to help us?

Spring

Drugs - how can they impact positively or negatively on our health

Energetics - energy during changes of state, exo/endothemic reactions

Pressure - what is pressure in gases and liquids, and what can change pressure?

Summer

Ecosystems - what are they and how do they work?

Periodic table (the basics) - how is it arranged?

Sound waves - how does it travel, what is frequency, and how does a speaker work?

Y3

This year is about building up the skills needed for next year when the group starts their GCSEs. This will include being able to follow instructions mostly without help, drawing more detailed graphs and charts, processing data to a higher level, taking good notes, getting homework in on time, and generally being more organised.

Autumn

Reproduction, genetics and evolution - how do animals and plants reproduce, how do genes affect us, and how do those genes lead to evolution?

Periodic table (more advanced) - what do the numbers mean, and it's patterns

Maths skills - processing data, drawing graphs and charts

Spring

Cellular respiration - how do cells use nutrients to provide energy, what are the waste products?

Materials - metals and the reactivity series, extracting metals, and what are ceramics/polymers/composites

Motion - describing the relationship between speed, time and distance

Summer

Photosynthesis - how do plants use the sun, what does it make, and how is it useful?

The Sun - what is it and how does it work?

Waves - more detail on waves, what is light, colour, reflection and refraction?

Working scientifically - how to do experiments at GCSE level