



Dear Parents and Guardians,

I would like to welcome you to the Science Department's monthly curriculum guide. We are very excited about the weeks ahead as students continue exploring scientific concepts and skills before their end of term checkpoint.

**What have we been up to in Science?**

This month, we get to hear from Miss Aisha and all the wonderful and exciting work she has been doing with her students:

“Hello, I'm Miss Aisha, the newest member of the science department! I've been astounded by the creativity of our students; from Grade 7 boys producing their own 3D models of atoms to Grade 6 researching and presenting information about dietary diseases. I've been impressed by their hard work and determination in creating such beautiful and scientifically accurate pieces of work. This month, Grade 8 boys conducted a practical; dissecting a sheep heart. At first some of the boys were apprehensive about the task, but their team spirit and perseverance paid off and they confidently identified the internal structures and functions without a shaky hand in the room. I can confidently say that they would all make brilliant surgeons!” Miss Aisha



**Curriculum Content**

**Grade 6:**

Topics	Keywords
Understanding deficiency diseases. Understanding the human digestive system. Investigating the start of digestion. Understanding the roles of the digestive organs.	Deficiency disease, vitamin, scurvy, rickets, anaemia. Digestion, digestive system, physical and chemical digestion, enzyme, saliva, oesophagus, stomach, pancreas, small intestine, large intestine, faeces.
Understanding how we breathe. Evaluating gas exchange in humans. Investigating diffusion. Exploring the effects of disease and lifestyle.	Lungs, diaphragm, pressure, alveoli, respiration, capillary, particle, concentration, smoking, disease, permeable membrane.
Recognising materials, substances and elements. Separating mixtures, dissolving and evaporating.	Compound, element, symbol, molecule, pure, filter, mixture, filtration, insoluble, soluble, crystallisation, crystal.
Exploring chromatography. Using chromatography.	Mixture, separate, paper chromatography, dye, forensic, reliable.

## Grade 7:

Topics	Keywords
Exploring energy Transfers. Understanding potential energy and kinetic energy.	Joule, energy transfer diagram, Sankey diagram, gravity, gravitational energy, kinetic energy.
Fuel - link with renewable and non-renewable energy.	Work Done, fuel, oxygen, combustion, hydrocarbon, fossil fuel, renewable and non - renewable.
Exploring Sound. Describing sound. Hearing Sounds and understanding factors affecting hearing.	Vibrate, frequency, wavelength, and amplitude. pinnar, ear canal, ear drum, ossicles, cochlea, auditory nerve.

## Grade 8:

Topic	Keywords
Health Issues and plant systems	Diet, photosynthesis, palisade, stomata.
Pathogens and defence mechanisms	Pathogen, fungi, virus, bacteria and protists, disease, infection, AIDS, HIV, malaria, white blood cells, memory cells, antigen, phagocytosis.
Vaccinations and antibiotics	MRSA, resistance, immunity, medicine, vaccination, pandemic, epidemic.
Aseptic Techniques and antibiotic bacteria growth. Developing New medicines.	Inhibition zone, bacterial growth, placebo, control group, double blind trial.
Photosynthesis. Respiration.	Carbon dioxide, oxygen, chloroplast, chlorophyll, glucose, starch, stomata.

## Grade 9:

Grade 9 are currently following the Edexcel IGCSE science course. They will be sitting their mid-term assessment in the week beginning from the 30<sup>th</sup> of October. It will include all content they have covered since the start of the academic year, I recommend students do as much exam question practise as possible – past papers can be found on the Edexcel website link below. All keywords in the grade 9 curriculum can be found in the specification document, which is also referenced at the end the Curriculum Guide.

The topics they will be covering this month are:

- Nervous System
- The Eye
- States of Matter
- Atoms
- Atomic Structure
- Relative formula masses and molar volumes of gases
- Chemical formula masses and molar volumes of gases
- Chemical Formulae and Chemical Equations
- Covalent Substances
- Ionic Compounds.

## How Can You Help?

You can help your children by assisting them in learning the meanings and spellings of the keywords they learn in class, as listed in the tables above. You can get them to create posters and spider diagrams, and help them to answer exam style questions, which can be found in the resources listed below. Please remind your child to revise keywords they have learnt in lesson every day at home to remain confident.

**Here are some useful websites:**

**Grades 6 – 8 (KS3)**

BBC KS3 Bitesize <http://www.bbc.co.uk/bitesize/ks3/science/>

Skool.co.uk <http://inteleducationresources.intel.co.uk/parents.aspx?id=321>

**Grade 9 (KS4)**

BBC KS4 Biteize <http://www.bbc.co.uk/education/levels/z98jmp3>

Specification and Past Paper Material: <http://qualifications.pearson.com/en/qualifications/edexcel-international-gcses-and-edexcel-certificates/international-gcse-science-2011.coursematerials.html#filterQuery=Pearson-UK:Category%2FExam-materials>

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Thank you in advance for your support in the education of your child. Please do not hesitate to contact me for any further information.

Yours Faithfully,

Miss Deega