Year 8

<table>
<tr><th colspan="2">Autumn Term
How do we use chemical reactions?
What do forces do?
How am I made?
What is stuff made of?</th><th colspan="2">Spring Term
What is stuff made of?
Where do I come from?
What is space weather?</th><th colspan="2">Summer Term
Why is my body important?
How Science works</th></tr>
<tr><td colspan="2">Key knowledge:
Classifying chemicals
Chemical formula
Word and symbol equations
Speed, acceleration
Contact and non-contact forces
Newton's first and second law
Hooke's law
Pressure and density
Eukaryotic and prokaryotic cells
Microscopes
Mitosis and Meiosis
Puberty
Menstrual cycle
Fertilisation
Pregnancy and birth
Elements, compounds and mixtures
Periodic table</td><td colspan="2">Key knowledge:
Conservation of mass
Balancing chemical equations
Group 1 metals
The halogens
Noble gases
Variation
Chromosomes and variation
Genetics
Mendel
Selective breeding
Natural selection and evolution
Extinction
Space
Seasons
Mass and weight
Satellites
Magnetism
Electromagnetism</td><td colspan="2">Key Knowledge:
Components of the blood
The Heart
Heart rates and exercise
Anaerobic and aerobic respiration
Effect of drugs
Mental health
Human illnesses
Antibiotics and vaccines
How Science works - Practical investigation skills</td></tr>
<tr><td>Pupils will be able to:
Classify chemicals and write word and symbol equations, calculate speed, acceleration, pressure and density problems, investigate Hooke's law, know the difference between eukaryotic cells and prokaryotic cells, discuss puberty and fertilisation.

.</td><td>Key Vocabulary:
Elements, compounds, mixture, molecules, pure, resultant force, directly proportional, density, eukaryotic, prokaryotic, multicellular, gametes</td><td>Pupils will be able to:
Calculate conservation of mass and balance symbol equations, identify elements from the periodic table by their groups, discuss genetics and variation and how this leads to natural selection and selective breeding, understand evolution and extinction, observe why seasons occur, calculate mass and weight calculations and discuss how magnets and electromagnet work.</td><td>Key Vocabulary:
conservation of mass, variation, selective breeding, natural selection, evolution, gene, DNA, chromosome, discontinuous and continuous data, mass, weight, magnet.</td><td>Pupils will be able to:
Discuss the parts of the body in relation to the circulatory system, skeletal system and blood. Understand the difference between anaerobic and aerobic respiration, discuss human illnesses and evaluate vaccines and antibiotics. know what independent, dependent and control variables are, write a method, follow a method and design a results table.</td><td>Key Vocabulary:
Artery, aorta, capillary, atrium, ventricle, anaerobic, aerobic, respiration, platelets, pathogens, illness and disease, independent, dependent and control variable, method, risk.</td></tr>
<tr><td colspan="2">Assessment:
1. Explaining what happens during a chemical reaction and word equations.
2. VESNU and Hooke's law
3. Cells, microscopes and fertilisation</td><td colspan="2">Assessment:
5. Elements compounds and mixtures, chemical formulae, conservation of mass and the periodic table.
6. Variation, genetics and natural selection
7. Space, seasons and magnetism</td><td colspan="2">Assessment:
9. The heart, respiration and exercise and illnesses.</td></tr>
<tr><td colspan="2">Enrichment Opportunities
https://www.bbc.co.uk/bitesize/subjects/z4882hv
Science club</td><td colspan="2">Enrichment Opportunities
https://www.bbc.co.uk/bitesize/articles/zssccmn
Science week
STEM challenge</td><td colspan="2">Enrichment Opportunities
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