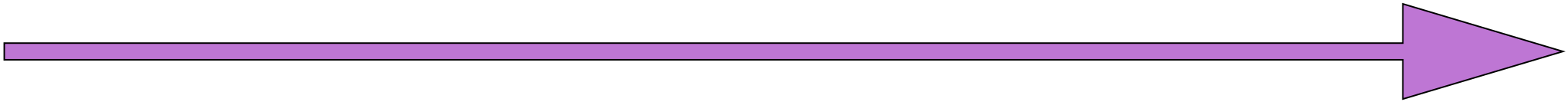
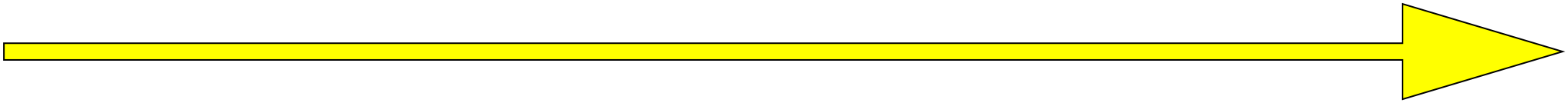
Year 7



Introduction to Science	Particles	Energy	Cells	Chemical and Physical Reactions	Electricity
Scientific apparatus Hazards and risks Method writing Purity and mixtures Separating mixtures	Particle model Changes of state Introduction to graphs Density Pressure Atoms, elements and compounds Chemical formula	Energy stores & transfers Energy in food Power Dissipation Efficiency Energy resources Electricity generation	Microscopes Animal and plant cells Aerobic respiration Photosynthesis Specialised cells The skeleton Cellular organization Gas exchange Unicellular organisms	Physical reactions Dissolving Chemical reactions Combustion pH and indicators Reactions of acids Exothermic & endothermic Conservation of mass	Circuit components Circuit symbols Series circuits

Year 8



Space	Light and sound	Organisms and ecosystems	Periodic table	Forces	Organisms and organ systems
The Sun Night and day Seasons The Moon The solar system Galaxies & the universe Weight and mass	Reflection Refraction The eye Colours Sound The ear	Food chains and webs Quadrat sampling Plant organs Plant reproduction Human reproduction Puberty Menstrual cycle Gestation	Chemical properties Physical properties Periodic table pH scale Oxides and oxidation Thermal decomposition Displacement Catalysts	Speed Forces Newton's laws Machines Moments Pressure	Balanced diet Food tests Digestive system Enzymes Probiotic bacteria The lungs The heart Blood Exercise Anaerobic respiration Fermentation

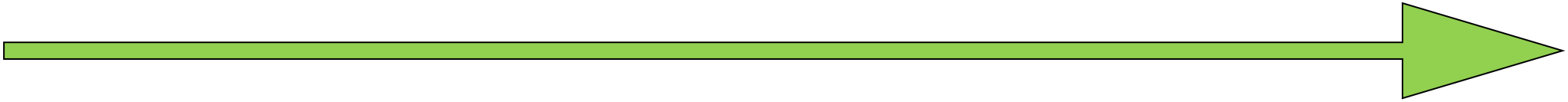
Year 9

Earth chemistry	Electricity, magnetism and electromagnetism	Genes and inheritance	Atoms and the periodic table	Energy	Cell biology
Structure of Earth Rocks and rock cycle Earth's resources Carbon cycle Ores Other materials	Electrical components Current Potential difference Series and parallel circuits Resistance Static electricity Magnetism Magnetic fields Electromagnets	DNA, genes, chromosomes Variation Inheritance Simple genetic crosses Natural selection Evolution Extinction Biodiversity	Atomic models Atomic structure Ions Isotopes Periodic table Groups of the periodic table Separation techniques	Stores and transfers Calculating GPE Calculating KE Calculating EPE Hooke's law Work done Power Dissipation/efficiency Energy resources	Cell structures Prokaryotes Microscopy Stem cells Cell differentiation and specialization DNA, genes, chromosomes Cell cycle and mitosis Diffusion in organisms and the factors affecting it

Year 10 Biology

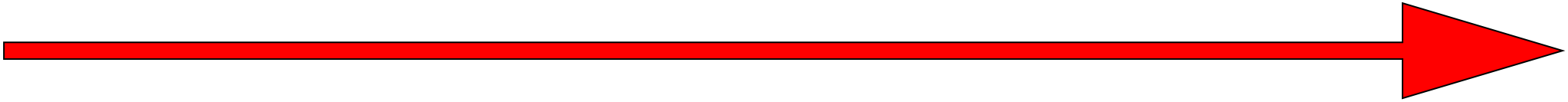
Organisation and Bioenergetics	Infection and Response	Homeostasis and response
Principles of organization Tissues, organs and systems Digestive system Heart and blood vessels Blood Heart disease Cancer Risk factors Plant tissues and organs Photosynthesis – rate and limiting reactants Uses of glucose in plants Aerobic respiration Anaerobic respiration Response to exercise Metabolism	Communicable (infectious) diseases Viral diseases Bacterial diseases Fungal diseases Protist diseases Human defenses to infection Vaccination Antibiotics and painkillers Drug development	Homeostasis Nervous system Endocrine system Control of blood glucose concentration Hormones in human reproduction Contraception Uses of hormones in fertility treatment Feedback systems

Year 11 Biology



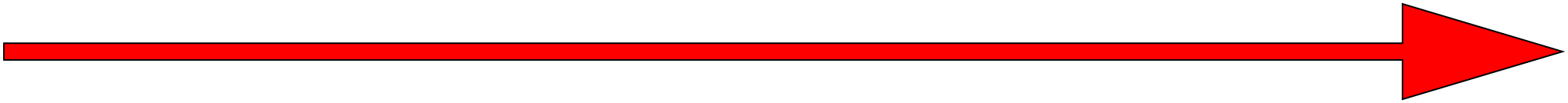
Ecology	Genetic variation and evolution
Adaptations, interdependence and competition Communities Abiotic factors Biotic factors Adaptations Levels of organization Nutrient cycles Biodiversity Waste management Land use Deforestation Global warming Maintaining biodiversity	Sexual and asexual reproduction Meiosis DNA and the genome Genetic inheritance Inherited disorders Sex determination Variation Evolution Selective breeding Genetic engineering Evidence for evolution Fossils Extinction Antibiotic resistant bacteria Classification of living organisms

Year 10 Chemistry



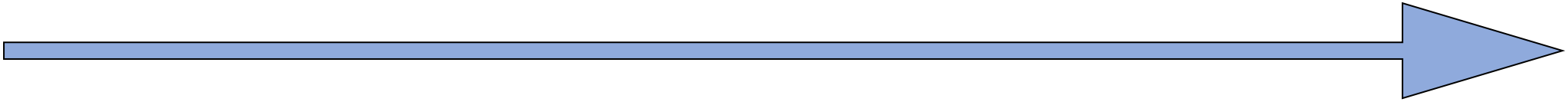
Structure and bonding	Energy changes	Quantitative chemistry	Chemical changes
Chemical bonds Ionic bonding Ionic compounds Covalent bonding Metallic bonding State symbols Properties of ionic compounds Properties of simple molecules Giant covalent structures Properties of metals and alloys Diamond and graphite Graphene and fullerenes	Exothermic and endothermic reactions Analysing results Reaction profiles Calculating energy/enthalpy changes	Conservation of mass Balanced equations Relative formula mass Chemical measurements Moles Amounts of substance Using moles to balance equations Limiting reactants Concentration of solutions	Reactivity of metals Metal oxides Reactivity series Extraction of metals and reduction Oxidation and reduction in terms of electrons Reactions of acids with metals Neutralisation of acids Soluble salts The pH scale Strong and weak acids Electrolysis of molten compounds Electrolysis to extract metals Electrolysis of aqueous solutions Half equations

Year 11 Chemistry



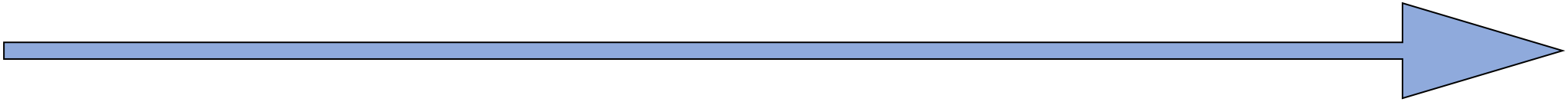
Rate and extent of chemical reactions	Organic chemistry	Chemical analysis	Atmospheric chemistry	Earth's resources
Rate of reaction Factors affecting rate Collision theory Activation energy Catalysts Reversible reactions Energy changes Equilibrium Le Chatelier's Principle	Crude oil Hydrocarbons and alkanes Fractional distillation Properties of hydrocarbons Cracking and alkenes	Pure substances Formulations Chromatography Tests for common gases	Composition of the atmosphere Evolution of the atmosphere Greenhouse gases Human contribution to greenhouse gases Global climate change Carbon footprint Atmospheric pollutants and their effects	Earth's resources Sustainable development Potable water Waste water treatment Alternative methods of extracting metals Life cycle assessment Reducing the use of resources

Year 10 Physics



Electricity	Particle model of matter	Atomic structure and radiation	Forces
Standard circuit symbol diagrams Electrical charge Electrical current V=IR Resistors Series and parallel circuits DC and AC Mains electricity Electrical power Energy transfers in appliances National grid	Density Changes of state Internal energy Specific heat capacity Specific latent heat Particle motion in gases/pressure	Structure of an atom Isotopes Development of the atomic model Radioactive decay and nuclear radiation Nuclear equations Half life Contamination and irradiation	Scalar and vector quantities Contact and non-contact forces Gravity and weight Resultant forces Work done and energy transfer Elasticity Distance and displacement Speed and velocity Distance-time graphs Acceleration Newton's laws of motion Stopping distance Momentum

Year 11 Physics



Waves and the electromagnetic spectrum	Magnetism and electromagnetism	Space (separate science only)
Transverse and longitudinal waves Properties of waves Types of electromagnetic (EM) waves Properties of EM waves Uses and applications of EM waves	Poles of a magnet Magnetic fields The motor effect Electromagnetism Fleming's left-hand rule Electric motors	Solar system Life cycle of a star Orbital motion Natural and artificial satellites Red shift