## ROAD MAP TO

# **THE COMBINED SCIENCE CURRICULUM**

Future careers in the NHS



Atomic structure

Elements and compounds Separating mixtures, Development of the periodic table. The development of the modelof Size and mass of atoms, Groups 1, 7, 0 and transition metals

#### Being a lab scientist

Resultant forces

Speed and velocity

Stopping distances

Acceleration

The distance -time relationship

Fundamentals in Reactions of acids with metals Neutralisation of acids and salt Chemistry: production, Soluble salts, Laboratory techniques, Particle Being a Formula 1 engineer theory, Atoms, elements and Scalar and vector quantities compounds Reactions of Contact and non-contact forces metals, Types of reactions Distance and displacement

Being a doctor Eukaryotes and prokaryotes Animal and plant cells Culturing microorganisms, Communicable diseases Types of pathogens

Fundamentals in Biology: Respiration, Photosynthesis Food webs/chains,

Interdependence Fundamentals in Physics: Forces, Newton's Laws acceleration, Speed Distance-time graphs, Using formulae

Ecosystems and processes Photosynthesis, chemosynthesis, aerobic and anaerobic Respiration and food chains

Adaptation and inheritance adaptation: Variation, inheritance, natural selection and extinction

#### Options

Zone 10

### Motion and Pressure

Speed, distance and velocity time graphs Liquids and gases Turning forces

Body Systems: Levels of organisation Gas exchange Skeleton, joints and muscles

Sports science unit with PE



Trends in metals, non-metals and groups1,2 7 and 0. Chemical symbols and atomic structure of common elements

smoking.

#### Health and Lifestyle **Electricity and** Healthy eating, digestion magnetism drugs, alcohol and Electricity series and parallel

circuits, current and charge, resistance, magnets and The periodic table electromagnets Energy

Forces:

Drag

Cells:

Microscope

Unicellular organisms

Hooke's Law

Food and fuels, kinetic theory, energy transfer (conduction, convection and radiation). power and work done

### Separation techniques

**YEAR** 

Mixtures Solutions Evaporation Distillation Chromatography

## Metals and acids

Metals and their reactions with acids, oxygen and water, displacement Reactions, extracting metals and the properties and uses of ceramics, polymers and

composites

## The Earth Structure of the Earth, sedimentary, igneous and metamorphic rock, the rock cycle,

the carbon cycle, climate change and recycling

**Reproduction:** Adolescence Reproductive systems Fertilisation and implantation

Development of a fetus The menstrual cycle Flowers and pollination Fertilisation and germination Seed dispersal

Comets The Solar System The Earth's orbit The Moon and eclipses

Space: The night sky

Satellites

**Reactions:** Chemical reactions Equations Oxidation Thermal decomposition Exothermic and endothern

Acids & Alkalis: Concentration Indicators and pH Neutralistion Making salts

#### Elements, Mixtures and Compounds: Atoms Reactions: Comparing elements

Introduction to and compunds Chemical reactions Introduction to the Chemical equations Periodic Table Introducing oxidation Chemical formulae and thermal decomposition Sound: Conservation of mass Different types of waves Exothermic and Sound and Pitch endothermic Structure of the ear Echoes and ultrasound Acids & Alkalis Indicators and pH Light: Reflection Neutralistion

Refraction

Making salts

## Measuring forces

Particles:

Balanced and unbalanced

Plant and animal cells Specialised cells

Introduction module: Asking scientific questions