



MME Combined Science Equivalency Specification

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MME Biology Equivalency Specification Contents

Assessment of Scientific Thinking, Practical Procedures and Analytical Skills

1. Scientific thinking
2. Practical Procedures
3. Analysis and Evaluation

Biology

1. Cell Biology

- i) Cells
- ii) Microscopy
- iii) Cell Differentiation and Specialisations
- iv) Chromosomes and Mitosis
- v) Stem Cells and Cloning
- vi) Diffusion
- vii) Osmosis
- viii) Active Transport

2. Organisation

- i) Cell Organisation
- ii) Enzymes and Digestion
- iii) Circulatory System – The Heart and Blood Vessels
- iv) Circulatory System – Blood
- v) Cardiovascular, Heart and Non-communicable Disease
- vi) Risk Factors and Non-communicable Disease
- vii) Cancer

3. Inheritance, Variance and Evolution

- i) DNS and the Genome
- ii) Reproductions
- iii) Meiosis
- iv) Genetic Inheritance
- v) X and Y Chromosomes
- vi) Variation
- vii) Evolution

4. Ecology

- i) Community
- ii) Abiotic and Biotic Factors
- iii) Adaptions
- iv) Food Chains
- v) Global Warming
- vi) Deforestation and Land Use

vii) Maintaining Ecosystems and Biodiversity

Chemistry

Atomic Structure and the Periodic Table

- i) Atoms
- ii) Elements, Compounds and Chemical Equations
- iii) Mixtures, Chromatographs and Separation Techniques
- iv) The History of the Atom
- v) Relative Atomic Mass
- vi) Electronic Structure
- vii) Development of the Periodic Table
- viii) Metals and non-metals
- ix) Group 1 Elements
- x) Group 7 Elements
- xi) Group 0 Elements

2. Bonding, Structure, and properties of matter

- i) Formation of ions
- ii) Ionic Bonding
- iii) Ionic Compounds
- iv) Covalent Bonding
- v) Simple Molecular Substances
- vi) Polymers and Giant Covalent Structures
- vii) Allotropes of Carbon
- viii) Metallic Bonding
- ix) States of Matter and changing States

3. Acids and Bases

- i) Acids and Bases
- ii) Strong Acids and Weak Acids
- iii) Reactions of Acids

4. Organic Chemistry

- i) Hydrocarbons
- ii) Fractional Distillation
- iii) Uses and cracking of Crude Oil and Alkenes

5. Chemistry of the Atmosphere

- i) The Evolution of the Atmosphere
- ii) Greenhouse Gases and Climate Change
- iii) Carbon Footprint
- iv) Air Pollution

Physics

Energy

- i) Energy Stores and Systems
- ii) Kinetic and Potential energy
- iii) Specific Heat Capacity
- iv) Conservation of energy and Power
- v) Reducing Unwanted Energy Transfers
- vi) Efficiency
- vii) Energy, Resources and their uses

Particle model of matter

- i) Density of Materials
- ii) Internal Energy and Changes of State
- iii) Specific Latent Heat
- iv) Particle Motion in gases

Atomic Structure

- i) Developing the Model of the Atom
- ii) Isotopes and nuclear Radiation
- iii) Nuclear Equations
- iv) Half-life
- v) Background Radiation, Contamination and Risk

Forces

- i) Scaler and Vector Quantities
- ii) Contact and No-contact forces
- iii) Weight, Mass and Gravity
- iv) Resultant Forces
- v) Work Done
- vi) Calculating Forces
- vii) Forces and elasticity

Waves

- i) Transverse and Longitudinal waves
- ii) Properties of waves
- iii) Electromagnetic Waves and Radiation
- iv) EM waves and their Uses

For a more detailed specification please call 020 3633 5145 or email revise@mathsmadeeasy.co.uk