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| Subject: Science Year 10 Curriculum Map 2022-2023 | | | |
| Terms | **Topics covered** and **core knowledge and skills** | Links to careers | Links to the Knowledge organiser and other additional resources |
| Term 1 | **Physics Fundamental 1**   * Energy as stores * Conservation of energy * Efficiency * Reducing unwanted energy * Internal energy * Specific heat capacity * Specific heat capacity * Magnetic poles * Magnetic fields * Earth as a compass & Magnetic materials * Electromagnetism * Electromagnetism Practical * Uses of electromagnets   **Biology Fundamental 2**   * Human defence * Growing Bacteria * Health issues * Communicable diseases * Non-Communicable diseases * Risk Factors * Bacterial diseases * Cancer * Classification * Communities * Levels of organisation * Adaptations * Quadrats * Quadrats * Abiotic & biotic factors * Evolution * Fossils * Extinction | [Careers using magnets](https://careertrend.com/list-7498014-jobs-use-electromagnets.html)  [Clinical scientists](https://www.prospects.ac.uk/job-profiles/clinical-scientist-immunology) | <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/PF1-KO.pdf>  <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/BF2-KO.pdf> |
| Term 2 | **Chemistry Fundamental 2**   * Hydrocarbons * Properties of hydrocarbons * Fractional Distillation * Alkenes * Cracking * Exothermic & endothermic reactions * Reaction profiles & activation energy * (HT) Strong & weak acids * Neutralisation reactions * RP Temperature change * RP Temperature change * Metals & acids * Naming salts * Soluble Salts * Making insoluble salts * RP Making salts * The reactivity series * Metal Extraction   **Physics Fundamental 2**   * Distance & Displacement * Speed * Velocity as vectors * Newtons first law * Resultant forces * Terminal velocity * Newtons second law * RP Acceleration * RP Acceleration * Newtons third law   **Biology Core 1**   * Human digestive system * Enzymes in the digestive system * Factors effecting enzymes * RP Effect of pH on Amylase * RP Testing for starch & glucose * RP Testing for protein & fats * Exchange surfaces * Blood & blood vessels * The structure of the heart. * Structure of the lungs * Aerobic & anaerobic respiration * Response to exercise * Human Nervous system * Human Nervous system * Human endocrine system * Hormones in reproduction * Hormones in reproduction | [Careers in Oil & gas](https://www.prospects.ac.uk/jobs-and-work-experience/job-sectors/energy-and-utilities/jobs-in-the-oil-and-gas-industryhttps:/www.prospects.ac.uk/jobs-and-work-experience/job-sectors/engineering-and-manufacturing/5-exciting-careers-in-engineering)  [Careers in physics](https://www.emaze.com/@ALIRFQOR)  [Cardiologist](https://www.healthcareers.nhs.uk/explore-roles/doctors/roles-doctors/medicine/cardiology) | <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/CF2-KO.pdf>  <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/CF1-KO.pdf>  <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/PF2.pdf>  <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/BC1.pdf> |
| Term 3 | **Chemistry Core 1**   * States of matter * Metals & non-metals * Covalent bonding * Simple covalent Structures * Giant covalent structures * Graphene & fullerenes * Ionic bonding * Ionic compounds * Properties of ionic substances * Metallic bonding * Properties of metals * Metals as conductors * Electrolysis * Using electrolysis to extract metals * RP Electrolysis of aqueous solutions * (HT) Oxidation, reduction and Half equations * Polymers   **Physics Core 1**   * Circuit fundamentals * Standard circuit symbols * Current * Potential difference * Electrical charge * Series circuits * Parallel circuits * Resistance * Ohms law * Ohmic conductors * Non-ohmic conductors * Power * National & global energy * Non-renewable energy * Renewable energy * Energy transfers in everyday life * Mains electricity * The national grid | [Electrical engineer](https://www.prospects.ac.uk/job-profiles/electrical-engineer)  [Chemistry Careers research scientist](https://www.prospects.ac.uk/job-profiles/research-scientist-physical-sciences) | <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/CC1.pdf>  <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/PC1.pdf> |