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| Subject: Science Year 9 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 | **Wireless technology*** Describe what waves are and give examples.
* Name the two types of waves.
* Label parts of a transverse and longitudinal wave.
* Describe the motion of particles in a transverse and longitudinal waves.
* Define the terms frequency, wavelength and amplitude.
* Recall and use the wave equation.
* Describe how sound travels.
* Describe how light travels.
* Name the parts of the electromagnetic spectrum in order.
* Describe how to calculate the speed sound in air.
* Describe how to make measurements of frequency and wavelength in a ripple tank.
* Describe the law of reflection.
* Describe what happens to light when it reaches a boundary.

**Addiction support worker*** Students can describe various roles working within the addiction support worker industry.
* Students can state what a drug is. BB Sport Science Year 8
* Students can describe the different types of drugs and state examples. BB Sport Science Year 8
* Students can describe the law around the possession of illegal drugs.
* Students can link their learning to careers within addiction support work.
* Students can describe the risks associated with excessive alcohol consumption.
* Students can state risk factors for smoking and explain issues with smoking when pregnant.
* Students can explain how smoking causes CHD. BB Sport Science Year 8
* Students can give their opinion on Pablo Escobar.
* Students can describe what drug misuse and addiction are and state where locally support can be achieved.
* Students can give the uses of painkillers and antibiotics.
* Students can describe the problems with overusing antibiotics.
* Students can explain the process of clinical trials.
* Students can describe the impact drugs can have on relationships and society.
 | [Wireless technology](https://learn.org/articles/Careers_in_Wireless_Communications_Your_Questions_Answered.html)[Addiction support worker career](https://nationalcareers.service.gov.uk/job-profiles/substance-misuse-outreach-worker) | <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/Waves-KO.pdf><https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/Addiction-Support-worker-KO.pdf> |
| Term 2 | **Science Skills Year 9*** How to construct a risk assessment.
* The difference between a hazard, risk and control.
* The contents of an experimental plan.
* Different ways data can be presented.
* How to calculate an accurate mean
* How to interpret tables and graphs.
* State what a graph should contain.
* Be able to plot graphs.
* Calculate the gradient of a graph.
* Construct simple evaluations.
* Identify if results are repeatable and reproducible.
* Explain how to overcome errors.
* Write simple word equations
* Balance simple symbol equations.
* Convert in and out of standard form.
* Work out % increase and decrease.

**Particle Science** | [Careers in medicine](https://www.prospects.ac.uk/careers-advice/what-can-i-do-with-my-degree/medicine) | <https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/Year-9-Into-to-sci-KO.pdf><https://maritime.rivoagency.com/admin/wp-content/uploads/sites/20/2022/10/Particles-KO.pdf> |
| Term 3 | **Biology Fundamental 1*** Organisation
* Plant tissue
* Animal & plant cells
* Eukaryotic & Prokaryotic cells
* Microscopy
* Microscopy Required Practical
* Diffusion
* Specialised cells
* Cell differentiation
* Cell division
* Sex determination
* Reproduction
* Contraception

**Chemistry Fundamental 1*** Gas tests
* Pure substances
* Formulations
* Chromatography
* RP Chromatography
* Atoms, Elements & compounds
* Mixtures
* The Atom
* Drawing Electron structure
* The periodic table
* Group 0
* Group 1
* Group 7
 | [Careers in chemistry](https://www.strath.ac.uk/science/chemistry/studywithus/careersinchemistry/https%3A/www.prospects.ac.uk/careers-advice/what-can-i-do-with-my-degree/food-science)[Careers in Cell biology](https://www.mnstate.edu/academics/majors/cellular-molecular-biology/careers-outcomes/) |  |