

# Year 9 Science

## Topics you will cover

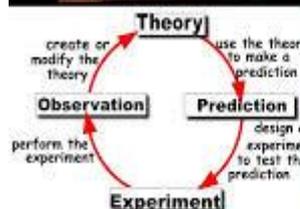
Advanced cell structures and mechanisms within the cell, immunology, atomic structure and the arrangement of the periodic tables, how forces affect objects and waves.

### The big Science questions you should be able to answer

1. What are the jobs of organelles inside cells?
2. What are stem cells and what is their importance?
3. What is the difference between a prokaryotic and eukaryotic cell?
4. I can describe the structure of atoms and how our ideas about them changed over time.
5. I can distinguish between elements and compounds, use symbols to represent them and write formulae and equations.
6. I can combine and separate force vectors.
7. I can explain why a hammer falls faster than a feather.
8. I can explain how the shape of a material is affected by the forces acting on it.
9. I can explain what electric current and potential difference are.

### The scientific concepts you should be able to use

1. I can use more than one scientific model to explain complex phenomena
2. I can explain how scientific discoveries can influence economic, ethical and social change.
3. I can explain how information may be manipulated in order to influence choices made by people and society.
4. I can identify sources of error and take account of them when carrying out practical work.
5. I can identify quantitative relationships from either external evidence or practical work.



### The scientific words you should be able to describe

Organelles	Prokaryotic	Eukaryotic	Stem cells	Mitochondria	Ribosomes
Differentiation	Specialised cells	Microscopy	Pathogens	Infectious disease	White blood cells
Antibodies	Antitoxins	Phagocytosis	Vaccination	Disinfectants	Antibiotics
Painkillers	Atom	Element	Compound	Mixture	Formula
Nucleus	Proton	Neutron	Electron	Molecule	Atomic number
Atomic mass	Isotope	Period	Group	Properties	Ions
Noble gas	Reactivity	Salt	Alkali metal	Halogen	Transition metal
Scalar	Vector	Resolve	Centre of mass	Velocity	Acceleration
Tension	Extension	Spring constant	Field	g	Compression
Transverse	Longitudinal	Wavelength	Frequency	Amplitude	Spectrum
Radiowaves	Microwaves	Infra-red	Visible light	Ultraviolet	X rays
Gamma rays					

