



Pearson

BTEC Applied Science Learning Journey



- Understanding variables
- Drawing graphs and analysing graphical data
- Writing methods
- Analysis of secondary data
- Assessing impact of scientific concepts
- Modelling scientific concepts
- Understanding relationships between science and society
- Drawing conclusions
- IDEAL Identify, describe, explain, link
- Applying maths to the scientific concepts
- Risk Assessment
- Describe patterns

Optional module

- Planning and investigating specific heat capacity
- Planning and investigating thermistors
- Electrical symbols
- Units of energy
- Fuels and their hazards
- Factors that affect plant growth
- Factors affecting diffusion

Power and energy usage

Resistance

Planning and investigating energy in food

Sampling

Diffusion

Factors that affect enzyme activity

YEAR 13

Unit 3 – Science investigation skills

Planning an investigation

Recording data

Data statistics

Evaluating an investigation

Protein structure

Biological Catalysts

Enzymes

Developing a hypothesis

Risk assessment

Displaying data

Analysis of data

Using secondary evidence

Enzymes

Unit 2 – Practical scientific procedures and techniques

Coursework A - Titration and colorimetry

Coursework A - Preparation

Total internal reflection and critical angle

Stationary wave resonance

Wave equations

Emission spectra and identifying gases

Transverse and longitudinal waves

Features of waves

Neurotransmitters

Synaptic transmission

Action potential

Coursework C - Preparation

Coursework B - Calorimetry

Coursework B - Preparation

Waves in communication

Diffraction and superpositions

Graphical features of waves

Types of neurone

Neurotransmitters

Synaptic transmission

Action potential

Ionisation energy

Electronegativity

Physical properties of metals

Animal cell ultrastructure

Prokaryote ultrastructure and gram staining

Magnification and microscopy

Endothelial tissue

Muscle tissue

Types of neurone

Neurotransmitters

Synaptic transmission

Action potential

S, p and d block elements

Period 1, 2, 3 and 4

Reacting quantities

Concentration

Electron affinity

Percentage yields

Trends in melting and boiling points

Oxidation and reduction

Plant cell ultrastructure

Specialised cells

Epithelial tissue

Fast and slow-twitch muscle fibres

Sliding filament theory

ECG traces

Moles, molar masses and molarity

Hydrogen bonding

Dipole-Dipole

Positive metal ions

Metallic bonding

Bond length and strength

Covalent bonding

Formation of ions

Electrostatic forces

Aufbau principle

Unit 1 - Principles and applications of science 1

YEAR 12

Atomic mass and atomic number

Balancing equations

Van der waals

Intermolecular forces

Delocalised electrons

Tetrahedral basis of organic chemistry

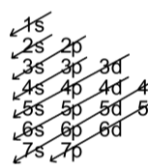
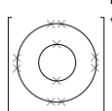
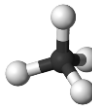
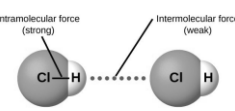
Dative covalent bonding

Cations and anions

Ionic bonding

Bohr theory

Electronic structure



PERIODIC TABLE OF THE ELEMENTS

2	Atomic number (Proton number)
He	Element
4.003	Atomic mass in amu