Combined Science Learning Journey Year 10

Understanding and Applying Scientific Skills

- 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
- Identify, describe, explain, apply, link
- Applying maths to the scientific concepts
- Risk Assessments
- Describe patterns

YEAR 11

Teacher 2

- Waves
  - Nature of waves
  - Properties of waves
  - Wave calculations
  - Reflection & refraction
- Organisation of an Ecosystem
  - Feeding relationships
  - Material recycling
- Biodiversity
  - Human populations
  - Water land and air pollution
  - Deforestation and global warming

Teacher 1

- Adaptations, Interdependence & Competition
  - Adaptations
  - Competition
  - Distribution of organisms
  - Abiotic and biotic factors
  - Communities
- Radioactivity
  - Half life
  - Inside the nucleus
  - Alpha, beta and gamma
  - Atoms and radiation
- Organic Chemistry
  - Cracking
  - Carbon as fuel and feedstock
  - Fractional Distillation
  - Crude oil
  - Hydrocarbons

Teacher 2

- The Rate and Extent of Chemical Change with Energy Changes recap
  - Equilibrium
  - Catalysts
  - Surface area
  - Temperature
  - Concentration
  - Factors affecting rate of reaction
  - Calculating rate of reaction
  - Bond making and breaking
  - Infertility treatments
- The Human Nervous System
  - Structure and function of the nervous system
  - Homeostasis
  - Reflex action
  - Negative feedback
  - Thermoregulation
  - Endocrine system
  - Diabetes
- Hormonal Coordination
  - Contraception
  - Hormones in human reproduction

Teacher 1

- Non-communicable Diseases
  - Cancer
  - Smoking and risk of disease
  - Alcohol and other carcinogens
  - Antibiotics and painkillers
  - Discovery and development of drugs
- Chemical Changes
  - Strong and weak acids
  - Electrolysis theory
  - Electrolysis practical
- Health and Disease
  - Vaccinations
  - Human defense responses
- Quantitative Chemistry
  - Concentrations
  - Limiting reactants
  - Moles
  - Relative molecular mass
  - Conservation of mass

Teacher 2

- Forces and Motion
  - Elasticity
  - Momentum
  - Force and braking
  - Weight and terminal velocity
  - Force and acceleration
  - Equations of motion
- Motion
  - Velocity and acceleration
  - Distance and velocity time graphs
  - Speed, distance, time
  - Metabolism

Teacher 1

- Photosynthesis
  - Photosynthesis
  - Using photosynthesis
  - Rate of photosynthesis
- Respiration
  - Aerobic respiration
  - Anaerobic respiration
  - Response to exercise
- Communicable Diseases
  - Bacterial diseases
  - Diseases caused by fungi and protists
  - Viral infections
- Chemical Changes
  - Reactivity series
  - Displacement
  - Salts from metals
  - Salts from bases
  - Netrralisation
- Electricity in the Home
  - AC/DC & electrical safety
  - Wiring a plug
  - Power
  - Transferring energy
  - Electricity in our homes
- Forces in Balance
  - Resolution of forces
  - Parallelogram of forces
  - Centre of mass
  - Resultant forces
  - Forces and quantities
  - Forces between objects
  - The heart
- Animal and Plant Tissues, Organs, and Systems
  - Vectors and scalars
  - Transport systems in plants
  - Transport systems in animals
  - Breathing and gas exchange
  - Blood vessels
  - Helping the heart

YEAR 10