

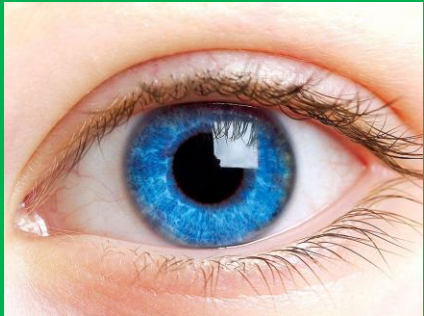
CURRICULUM ROAD MAP – Emerald Pathway

YEAR 7

TERM 1

Topic: Light
Skills: Develop an understanding of light, how we see, looking at the eye

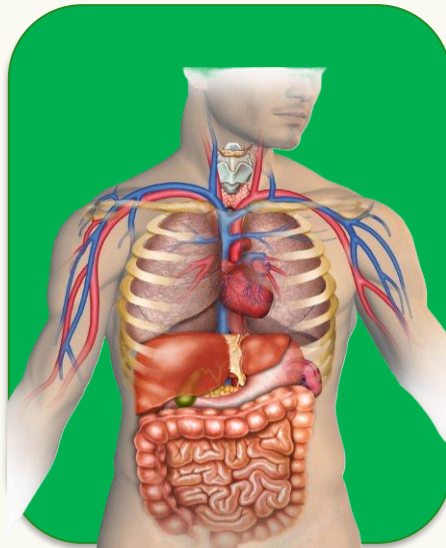
Key Vocab:
Light
Reflection
Pupil
Lens
Retina



TERM 2

Topic: Human body
Skills: understanding of how different systems in the human body work together, including organs and their functions, to keep us alive and functioning properly

Key Vocab:
Organ
Organ system
Skeleton
Muscles
Blood



TERM 3

Topic: STEM activities- light
Skills: Practical understanding of how light travels and reflects

Key Vocab:
Light source
Refraction
Reflection
Shadow
Transparent



TERM 4

Topic: Solar system
Skills: learning how the solar system is organised, including the planets, their movements, and how they orbit the Sun.

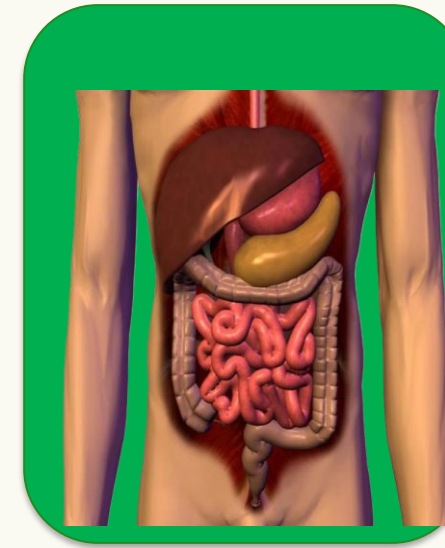
Key Vocab:
Planet
Orbit
Gravity
Satellite



TERM 5

Topic: Human digestive system
Skills: learn how the digestive system breaks down food into nutrients that the body can absorb and use for energy and growth

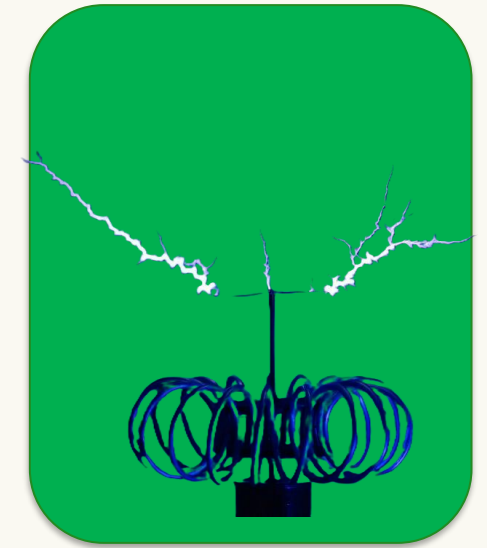
Key Vocab:
Digestion
Oesophagus
Stomach
Intestine
Nutrients



TERM 6

Topic: Electricity
Skills: learn how circuits work, how to use components safely and how electrical energy can be transferred

Key Vocab:
Circuit
Current
Battery
Conductor
Insulator



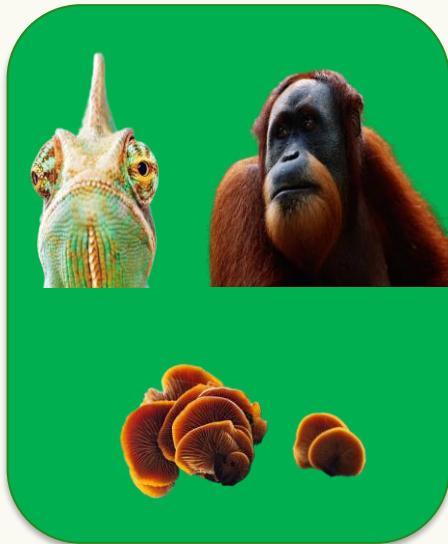
CURRICULUM ROAD MAP – Emerald Pathway

YEAR 8

TERM 1

Topic: Classification/Forces
Skills: Classify organisms and characteristics, identify push and pull forces.

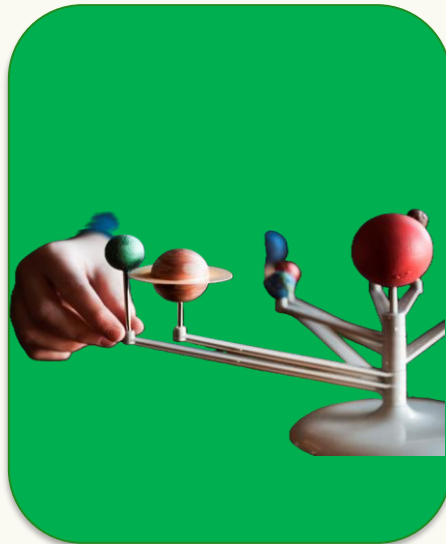
Key Vocabulary
Species
Vertebrate
Invertebrate
Force
Gravity
Friction



TERM 2

Topic: Solar System
Skills: Explain the movement of planets around the Sun.

Key Vocabulary
Solar System
Planet
Orbit
Sun
Moon
Galaxy



TERM 3

Topic: Famous Scientists
Skills: Explore key scientists, how their discoveries have changed scientific understanding.

Key Vocabulary
Discovery
Evidence
Theory
Innovation
Investigation
Observation



TERM 4

Topic: Light
Skills: Describe how light travels and explain reflection and refraction.

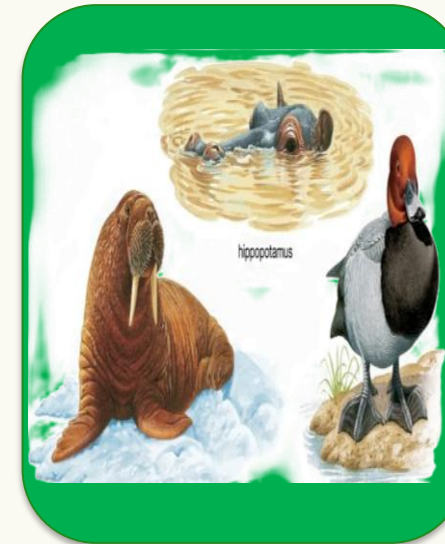
Key Vocabulary
Reflection
Refraction
Transparent
Opaque
Shadow
Ray



TERM 5

Topic: Adaptation/Inheritance
Skills: Explain how inherited characteristics are passed from parents to offspring.

Key Vocabulary
Adaptation
Inheritance
Variation
Gene
Trait
Offspring



TERM 6

Topic: Plant and Animal Adaptation
Skills: Identify adaptations in plants, animals. Compare organisms living in different habitats.

Key Vocabulary
Habitat
Adaptation
Camouflage
Predator
Prey
Species



CURRICULUM ROAD MAP – Emerald Pathway

YEAR 9

TERM 1

Topic: Respiration and Earth's Atmosphere
Skills: Explain the process of respiration, describe the composition of Earth's atmosphere.

Key Vocab:
Oxygen
Carbon Dioxide
Atmosphere
Climate
Greenhouse Gas



TERM 2

Topic: Electricity and Changes of State
Skills: Construct simple circuits and explain the flow of electricity. Describe changes of state using the particle model.

Key Vocab:
Melting
Boiling
Evaporation
Condensation
Circuit
Current



TERM 3

Topic: Light and How the Eye Works
Skills: Describe how light enters the eye and explain how images are formed. Investigate the structure and function of the human eye.

Key Vocab:
Eye
Retina
Pupil
Lens
Cornea
Iris
Light
Vision



TERM 4

Topic: States of Matter
Skills: Describe the arrangement and movement of particles in solids, liquids and gases. Investigate changes of state and explain them using particle theory.

Key Vocab:
Particle
Solid
Liquid
Gas
Melting
Freezing



TERM 5

Topic: Pollution
Skills: Identify different types of pollution and explain their impact on ecosystems and human health. Investigate ways to reduce environmental damage.

Key Vocab:
Pollution
Environment
Waste
Recycling
Air Pollution
Water Pollution
Sustainability



TERM 6

Topic: Adaptation and Fossils
Skills: Explain how fossils provide evidence for evolution and describe how organisms adapt over time. Investigate the process of natural selection.

Key Vocab:
Fossil
Evolution
Natural Selection
Extinction
Adaptation
Inheritance
Species



CURRICULUM ROAD MAP – Options- BTECH Applied Science- Level 1/2

YEAR 10

TERM 1

Topic: Cell and Microscopy
Skills: Use a microscope safely to observe cells, explain the functions of specialised cells.

Key Vocabulary
Magnification
Cell
Chloroplast
Nucleus
Sperm cell



TERM 2

Topic: Human Body Systems
Skills: Identify the main human body system and parts, explain the function of the endocrine/nervous system.

Key Vocabulary:
Blood vessel
Immunity
Diseases
White blood cells
Platelet
Plasma



TERM 3

Topic: Blood and Health
Skills: Identify the components of blood and explain their functions. Investigate how blood supports transport, immunity and overall health.

Key Vocabulary:
Blood vessel
Immunity
Diseases
White blood cells
Platelet
Plasma



TERM 4

Topic: Matter and Physical Properties
Skills: Describe the particle model. Investigate changes of state, measure physical properties of materials.

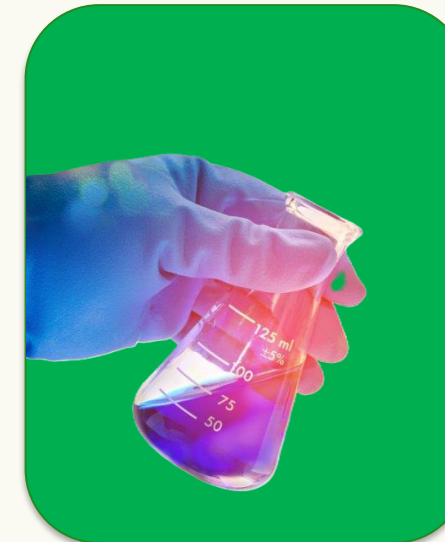
Key Vocabulary:
Conductivity
Melting
Boiling
Density
Solubility
Viscosity



TERM 5

Topic: Elements and Chemical Reactions
Skills: Identify elements, compounds, mixtures. Investigate indicators and interpret experimental results.

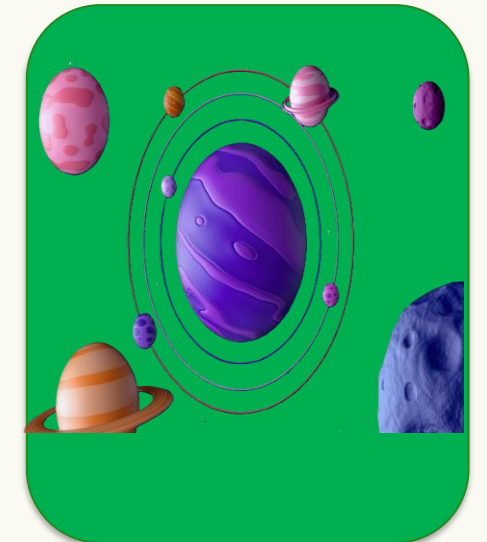
Key Vocabulary:
Element
Compound
Reactant
Product
Acid
Alkali



TERM 6

Topic: Energy and Our Universe
Skills: Explain energy transfer. Describe features of the Solar System.

Key Vocabulary:
Energy Transfer
Renewable/Non-renewable
Solar System
Planet



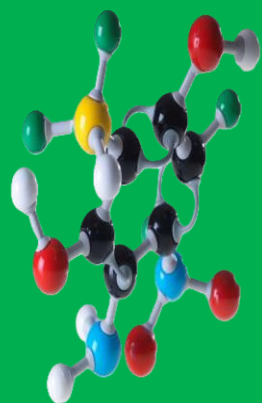
CURRICULUM ROAD MAP – Options- BTECH Applied Science- Level 1/2

YEAR 11

TERM 1

Topic: Atoms
Skills: Identify structure of atoms, describe the arrangement of protons, neutrons and electrons, learn how atoms gains and loses ions.

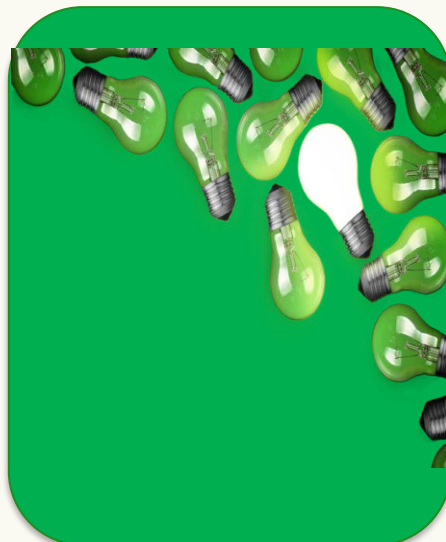
Key Vocab:
Atom
Proto
Neutron
Electron
Ion
Elements



TERM 2

Topic: Electricity and sustainability.
Skills: Construct simple circuits, identify circuits components. Explain how electricity is generated, importance of sustainable energy.

Key Vocab:
Voltage
Current
Circuit
Electricity
Resistance



TERM 3

Topic: Ecology and the environment.
Skills: Investigate ecosystems. Explaining how human activities impact biodiversity and sustainability.

Key Vocab:
Ecosystems
Habitat
Pollution
Food web/chain
Conservation



TERM 4

Topic: Bonding and Chemical reactions
Skills: Describe how atoms bond to form compounds, identify types of reactions, can carry out simple chemical reaction experiment.

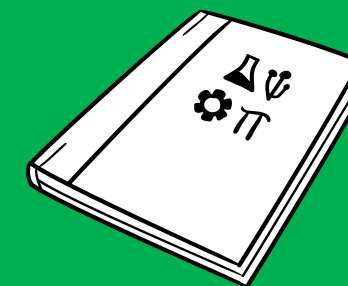
Key Vocab:
Ionic
Compound
Covalent
Reactant
Product



TERM 5

Topic: Revision
Skills: Recall and apply scientific knowledge from across the units. Use examination techniques and practical evidence to answer questions

Key Vocab:
Analyse
Methodology
Evidence
Evaluate
Interpret
Conclusion



TERM 6

Topic: Preparation for post 16