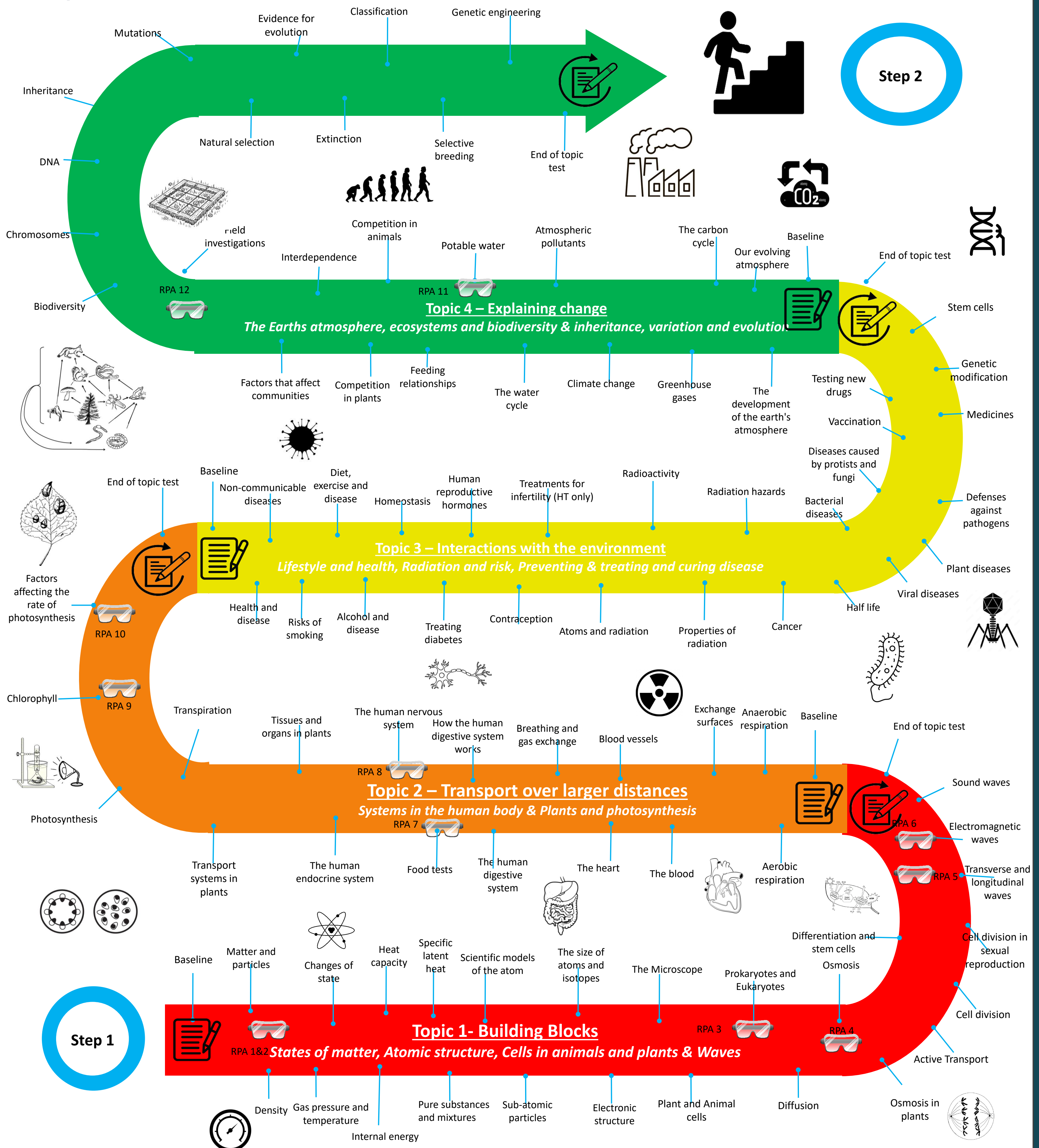




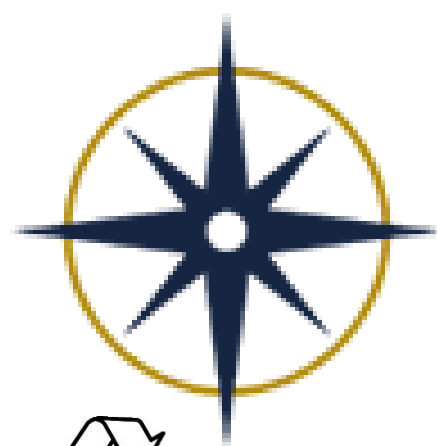
HARBOUR
VALE
SCHOOL

Key Stage 4 Learning Journey

GCSE Combined Science: Synergy



"Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less." – Marie Curie



HARBOUR
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Key Stage 4 Learning Journey

GCSE Combined Science: Synergy



Paper 1



Paper 2



Paper 3



Paper 4

End of topic test

Reduce reuse recycle

Life cycle assessments

Energy and efficiency

Heating and insulating buildings

Energy dissipation

Big energy issues

Energy and the environment

Solar power

Energy from wind and water

Energy demands

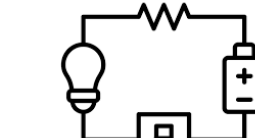
Cracking hydrocarbons



Hydrocarbons

End of topic test

Tests for gases



Alternating current

Electrical power and potential difference

Factors that affect reaction rates

Making more salts

Exothermic and endothermic reactions

Salts from insoluble bases

Salts from metals

Appliances and efficiency

Electrical currents and energy transfer

Gravitational potential

Energy and work

Resultant forces

Vectors

Concentrations of solutions

Chemical equations

Explaining trends

Group 1

Development of the periodic table

Baseline

Baseline

Baseline

Baseline

GCSE Exam Revision



Step 4

Topic 8 – Guiding spaceship earth to a sustainable future *Carbon chemistry & resources of materials and energy*

Extracting metals

Burning hydrocarbons

Fractional distillation

Baseline

Electrolysis with aqueous solutions

Changes at the electrodes

Reactivity series for metals

Dynamic equilibrium

Factors effecting enzyme action

Catalysts and Enzymes

The effect of catalysts

Activation energy

The effect of concentration and pressure

Neutralisation and the pH scale

RPA 19

RPA 18

RPA 17

Salts from insoluble bases

Salts from metals

Appliances and efficiency

Electrical currents and energy transfer

Gravitational potential

Energy and work

Resultant forces

Vectors

Concentrations of solutions

Chemical equations

Explaining trends

Group 1

Development of the periodic table

Baseline

Baseline

Baseline

Topic 7 – Movement and interactions

Forces and motion, electricity, acids and alkalis, the rate and extent of chemical change & atoms into ions and ions into atoms

Terminal velocity

Resultant forces

Acceleration RP

Momentum

Forces in springs

Springs RP

Potential difference and resistance

Series circuits

Alternating current

Electrical power and potential difference

Factors that affect reaction rates

Making more salts

Exothermic and endothermic reactions

Salts from insoluble bases

Salts from metals

Appliances and efficiency

Electrical currents and energy transfer

Gravitational potential

Energy and work

Resultant forces

Vectors

Concentrations of solutions

Chemical equations

Explaining trends

Group 1

Development of the periodic table

Baseline

Baseline

Baseline

Baseline

Topic 6 – Interactions over small and large distances

Forces and energy changes, structure & bonding, magnetism and electromagnetism

Forces

End of topic test

Giant metallic structures

Giant covalent structures

Covalent bonding

Ionic bonding

Gravitational potential

Energy and work

Resultant forces

Vectors

Concentrations of solutions

Chemical equations

Explaining trends

Group 1

Development of the periodic table

Baseline

Baseline

Baseline

Baseline

Topic 5 – Building blocks for understanding *The periodic table & chemical quantities*

Baseline

Electronic structures and the Periodic table

Group 7

Atoms, elements and compounds

Relative masses and moles

Forces between objects

End of topic test

Baseline

Baseline

Baseline

Baseline

Baseline

Baseline

Step 3

"A man who dares to waste one hour of time has not discovered the value of life" - Charles Darwin