

Learning Journey

Atomic structure.

C1

Building on knowledge of
Atoms, elements, compounds,
reactions, filtration,
chromatography.



State the difference between atoms, elements and compounds.

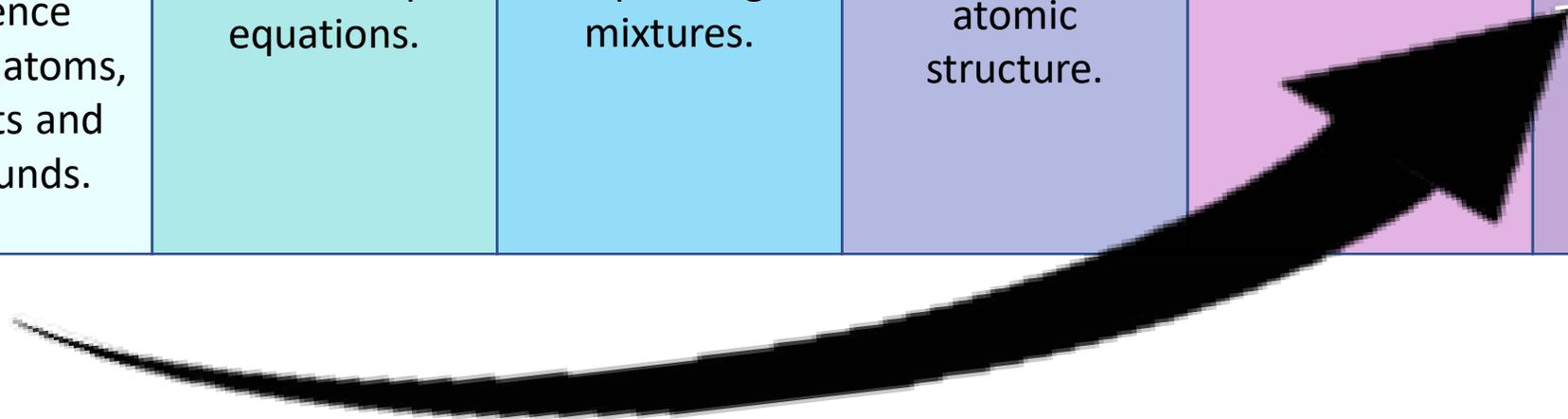
Balance simple equations.

Describe methods of separating mixtures.

Show that scientific theories, over time, lead to the discovery of the atomic structure.

Describe the structure of the atom, the subatomic particles, charge and mass.

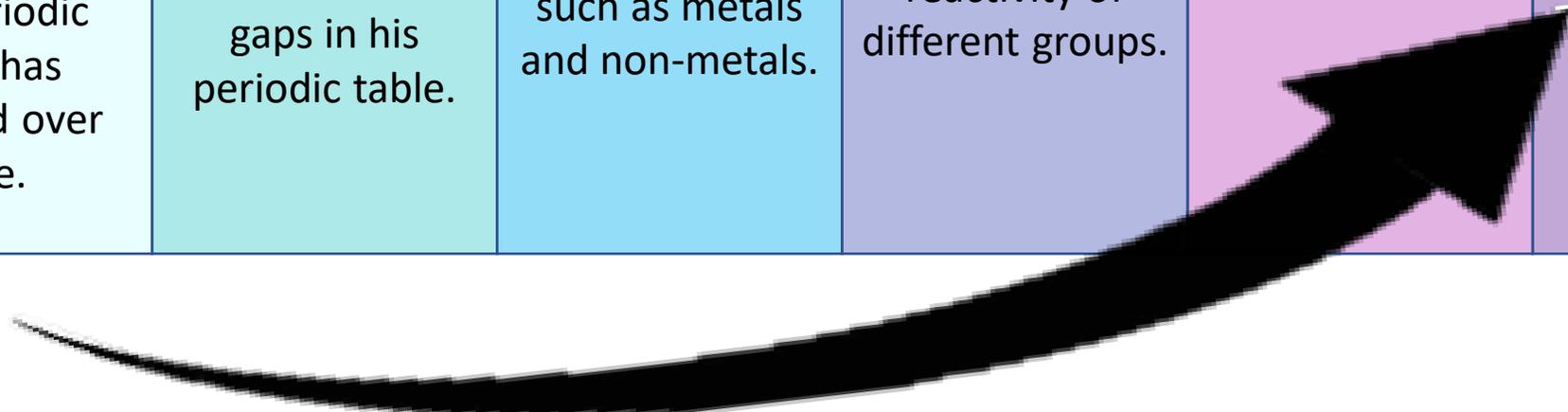
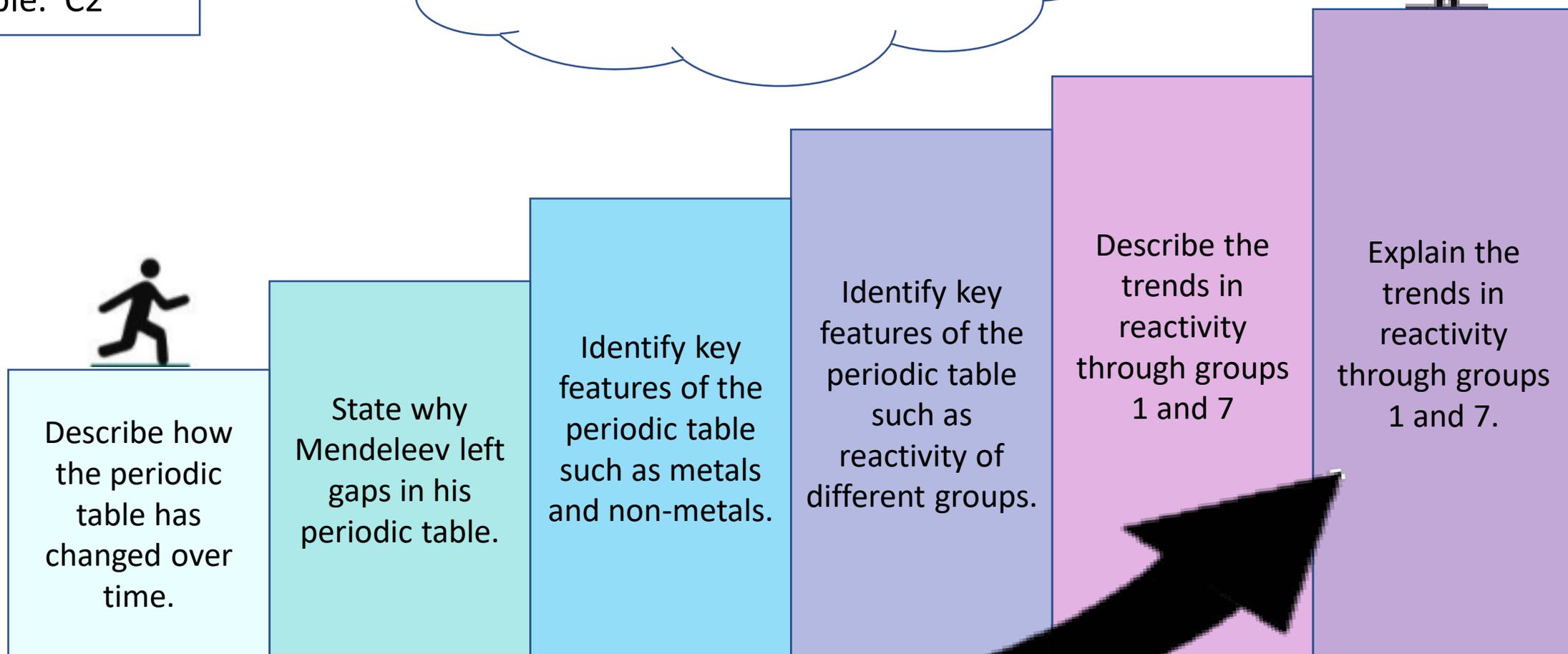
State what is meant by the term ion and isotope and how electrons are configured in shells.



Learning Journey

The development of the periodic table. C2

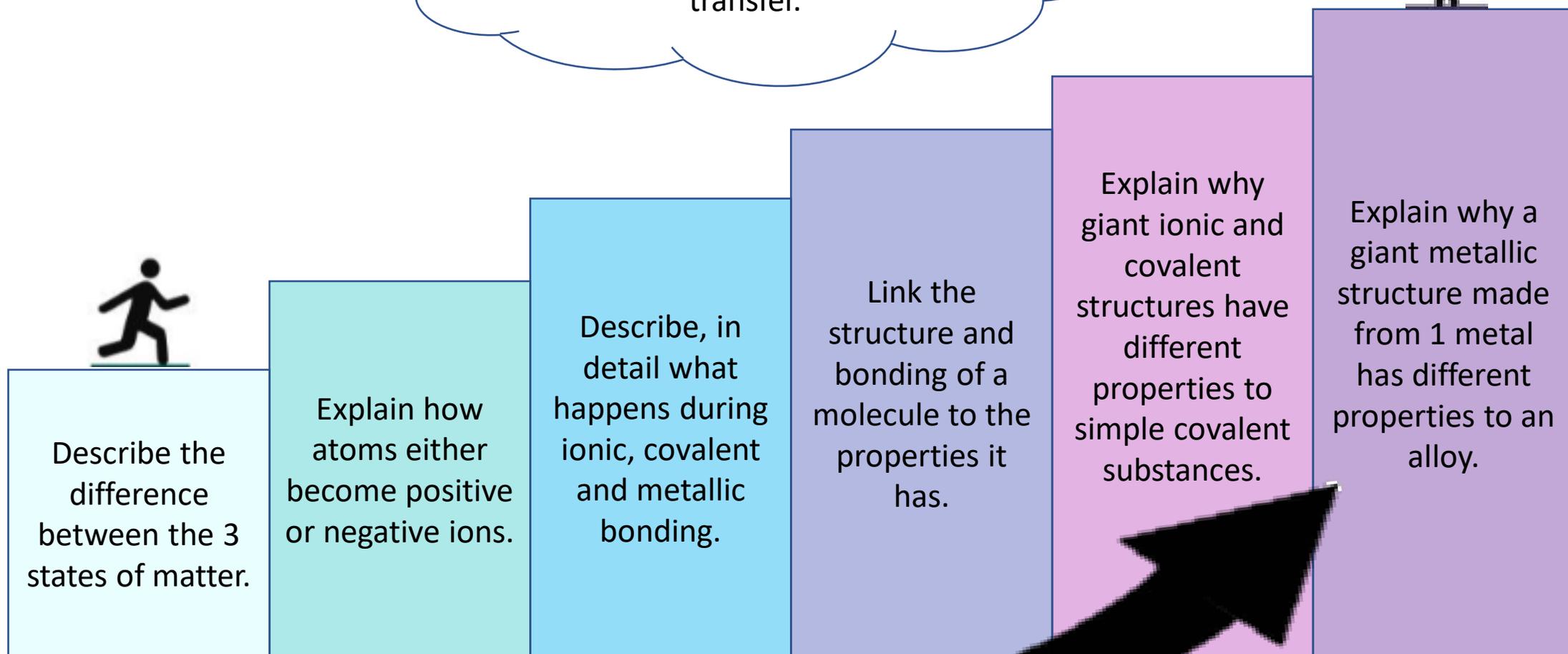
Building on knowledge of Periodic table, metals, non-metals, reactivity.



Learning Journey

Structure and bonding. C3

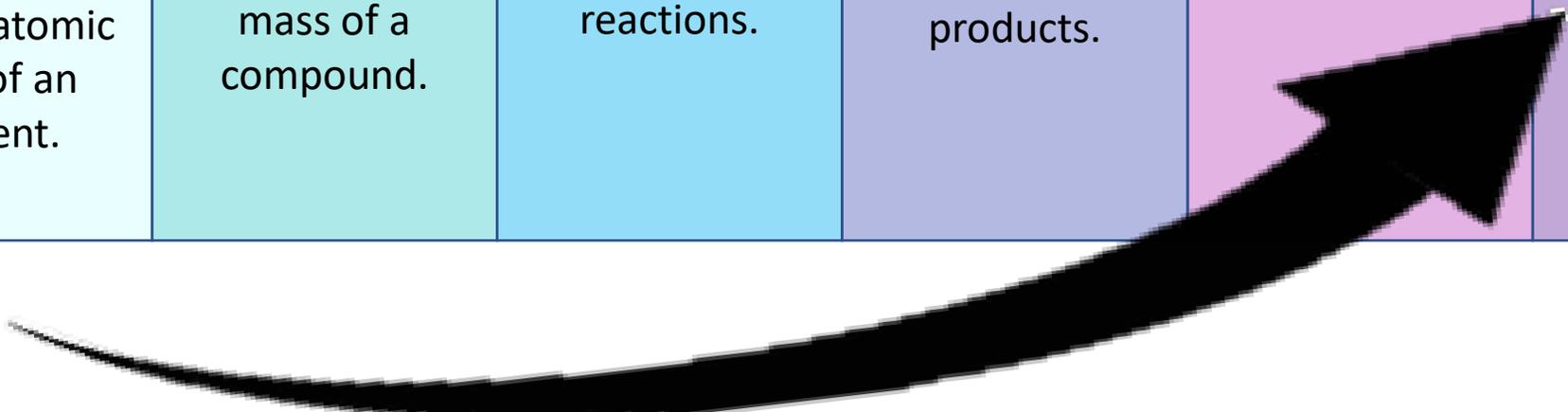
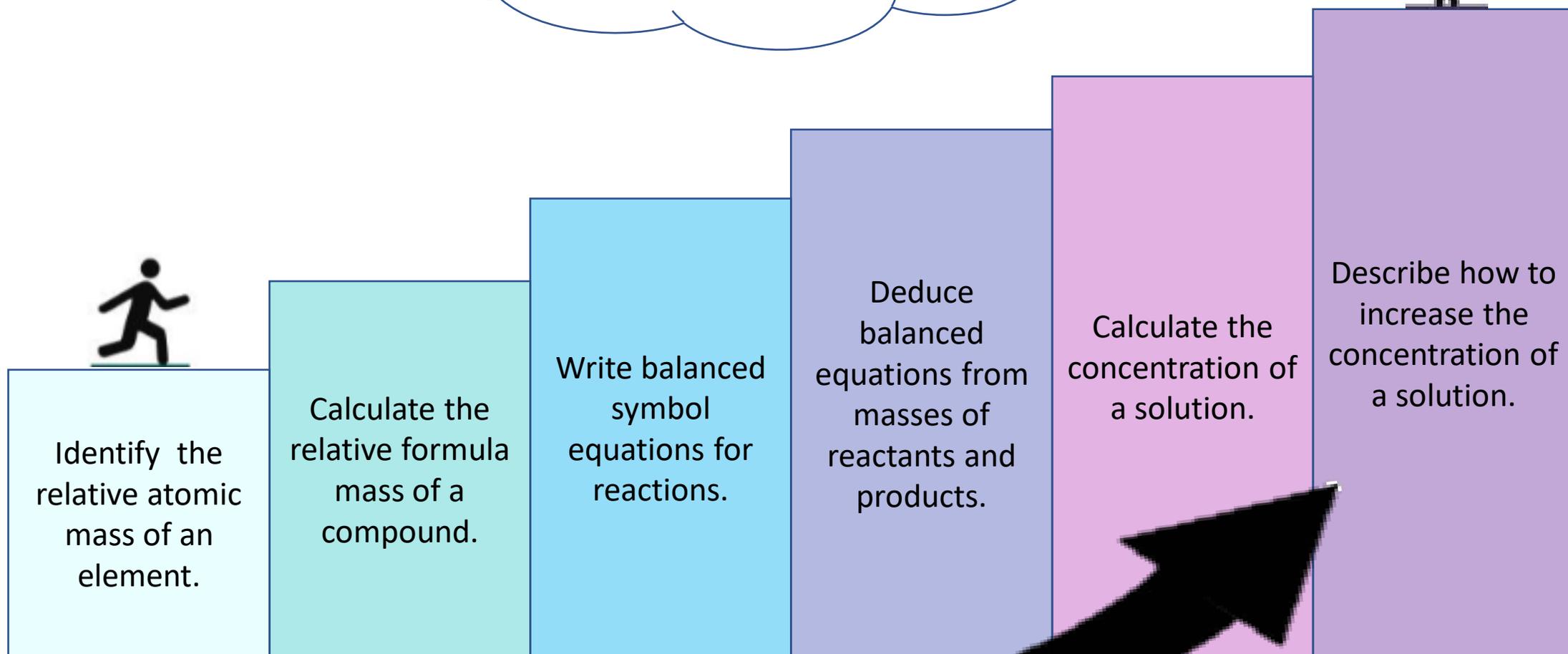
Building on knowledge of States of matter, chemical bonds, atoms, ions, electron transfer.



Learning Journey

Chemical calculations C4

Building on knowledge of Concentrations, word and symbol equations, balancing equations.



Learning Journey

Chemical changes

C5

Building on knowledge of
The reactivity series,
displacement reactions, acids
and alkalis, pH, making salts,
strong and weak acids.



Deduce the reactivity of a metal based on observations.

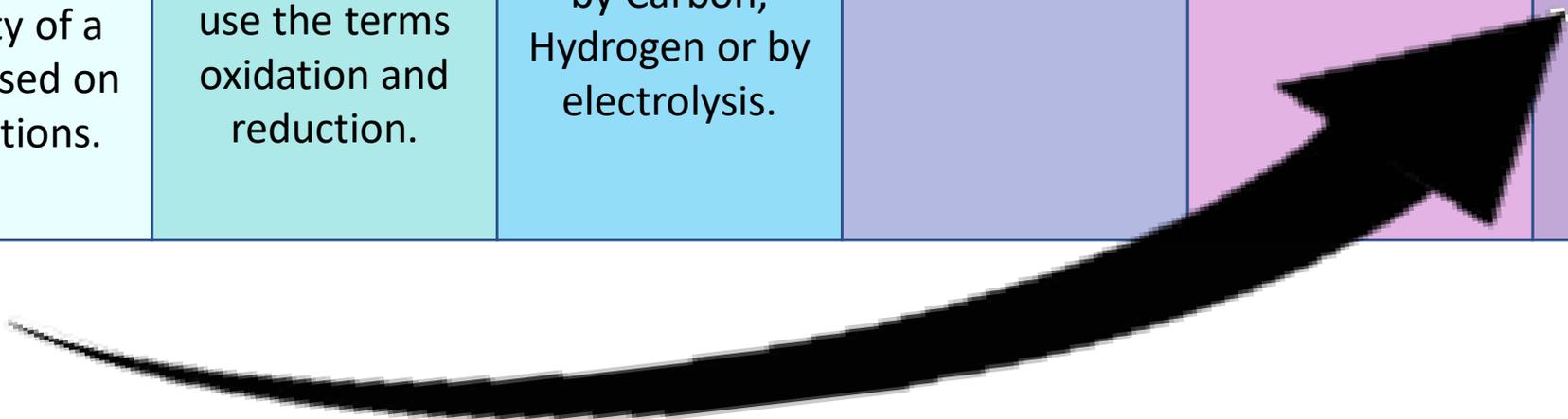
Describe displacement reactions and use the terms oxidation and reduction.

Explain why some metals can be extracted using reduction by Carbon, Hydrogen or by electrolysis.

Determine the salts formed during various reactions.

Use the pH scale to identify acids and alkalis.

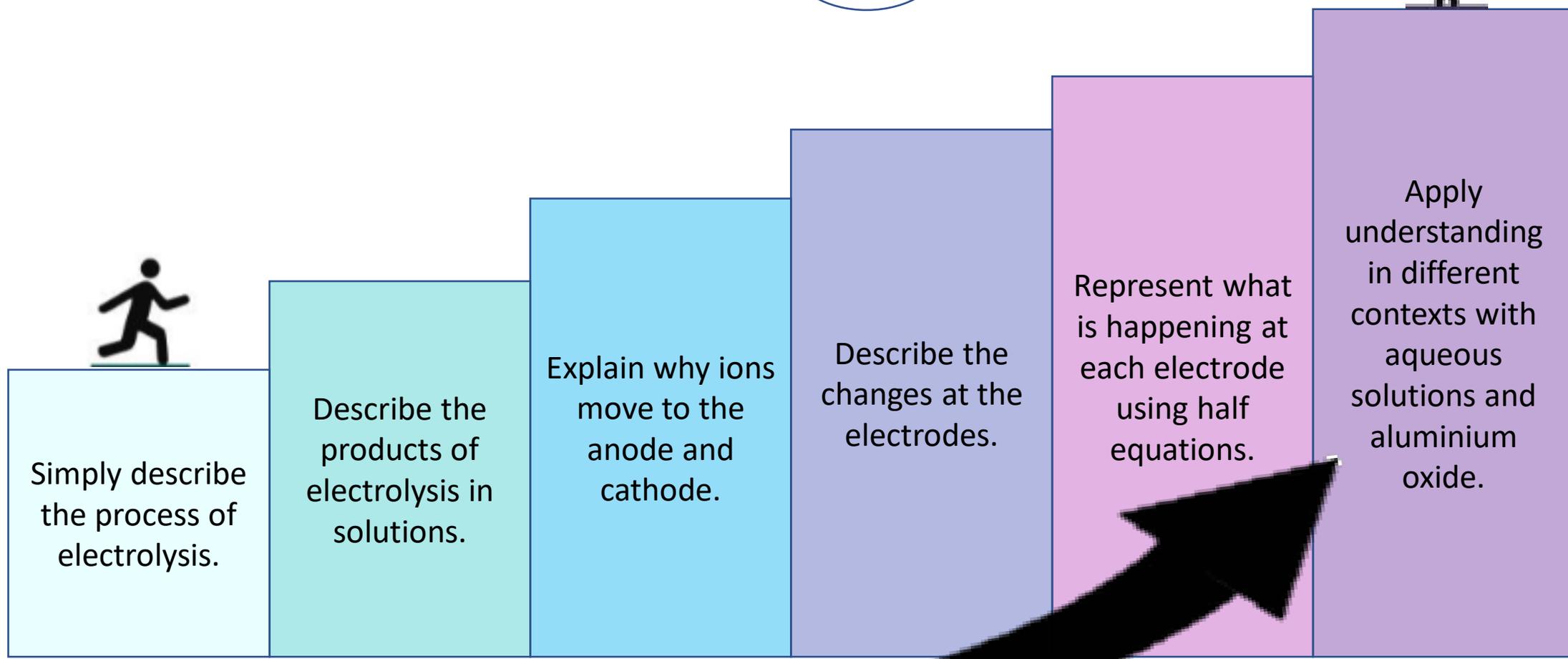
Explain the difference between strong and weak acids.



Learning Journey

Electrolysis C6

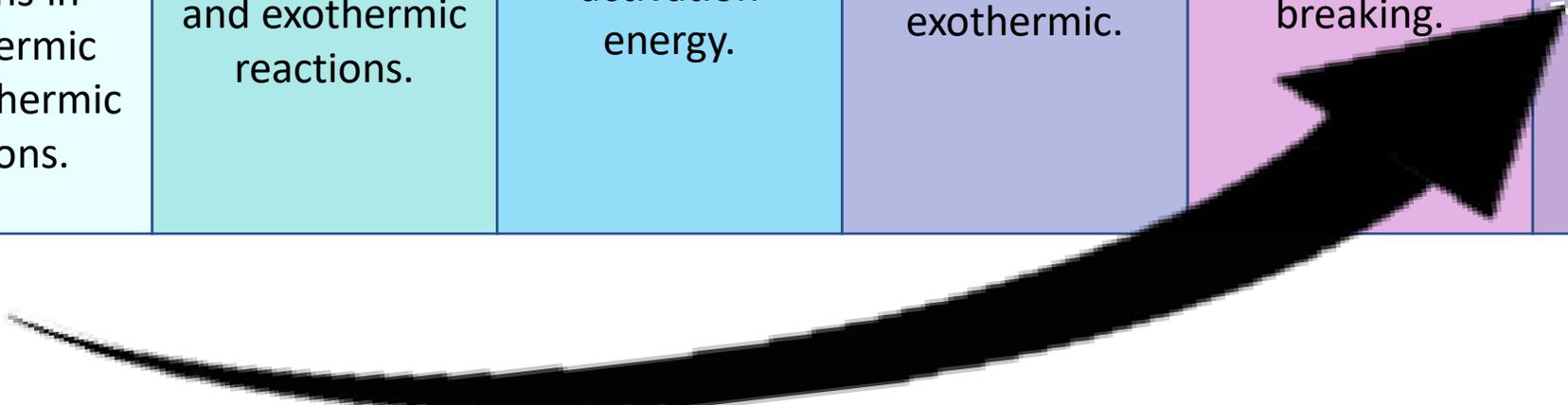
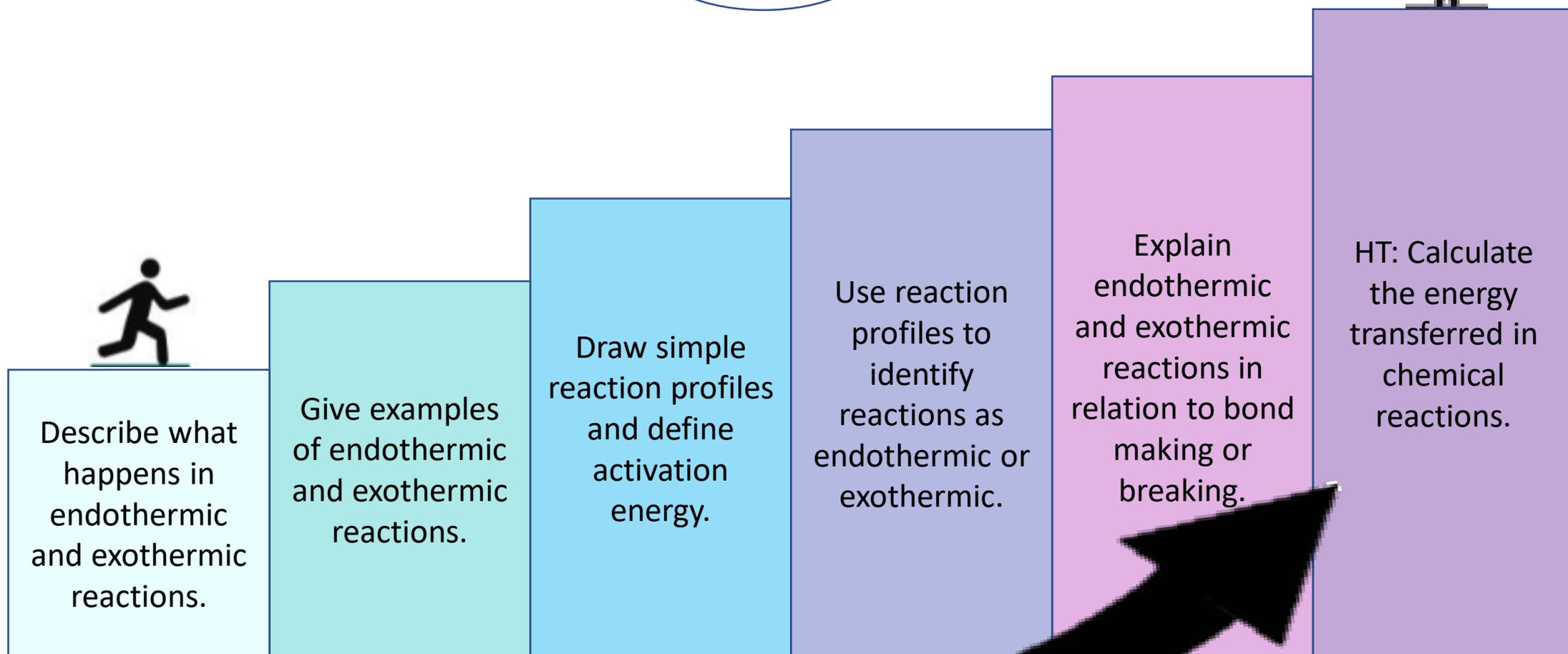
Building on knowledge of ions, ionic compounds, charges



Learning Journey

Energy changes C7

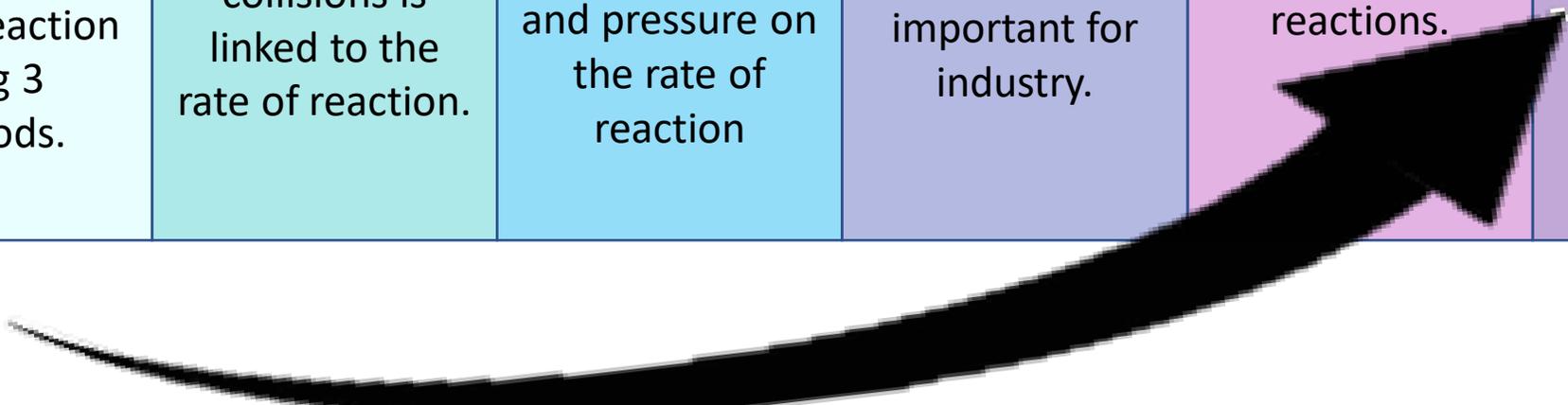
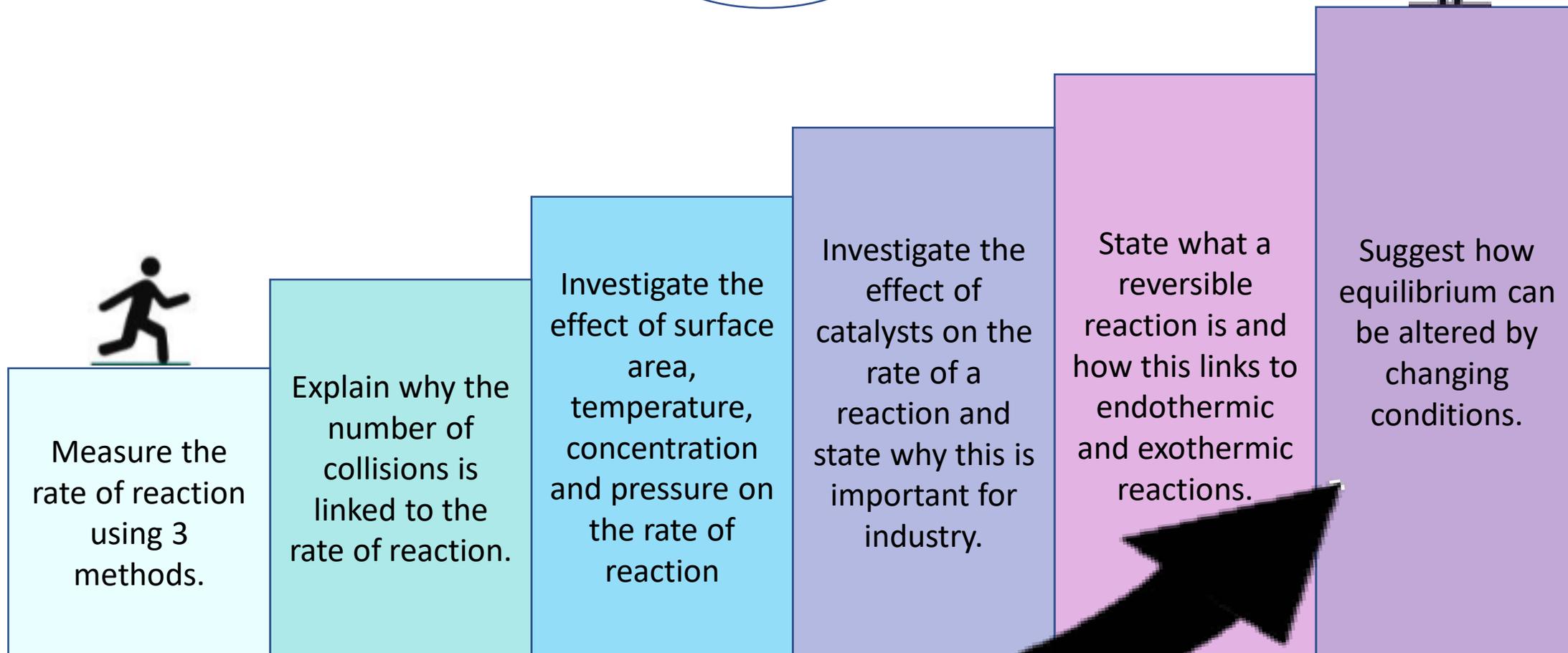
Building on knowledge of Reactions, temperature, conservation of energy, energy changes, bond energies.



Learning Journey

Rate of reaction C8

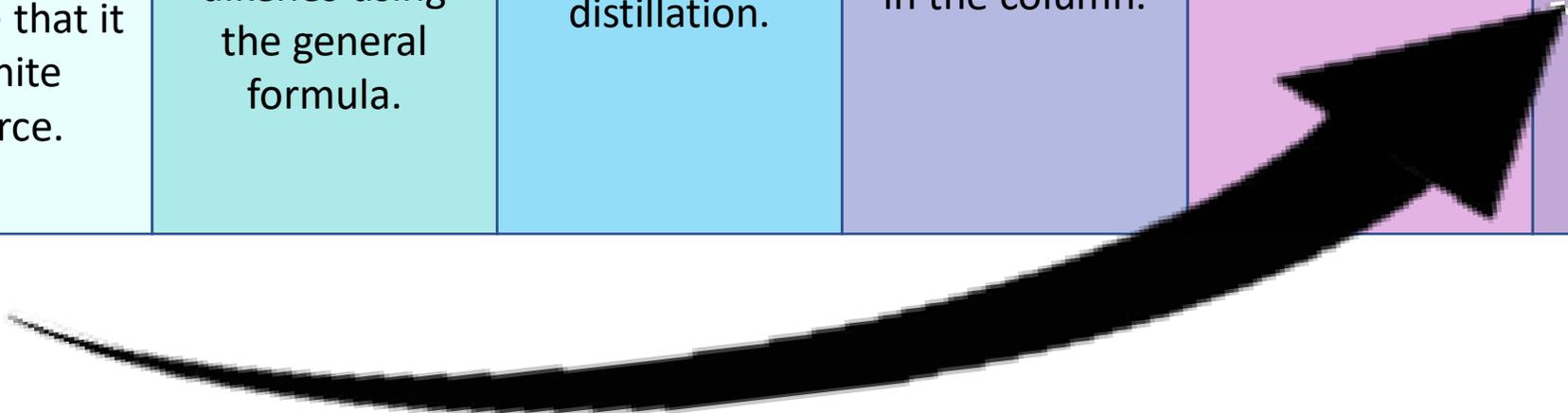
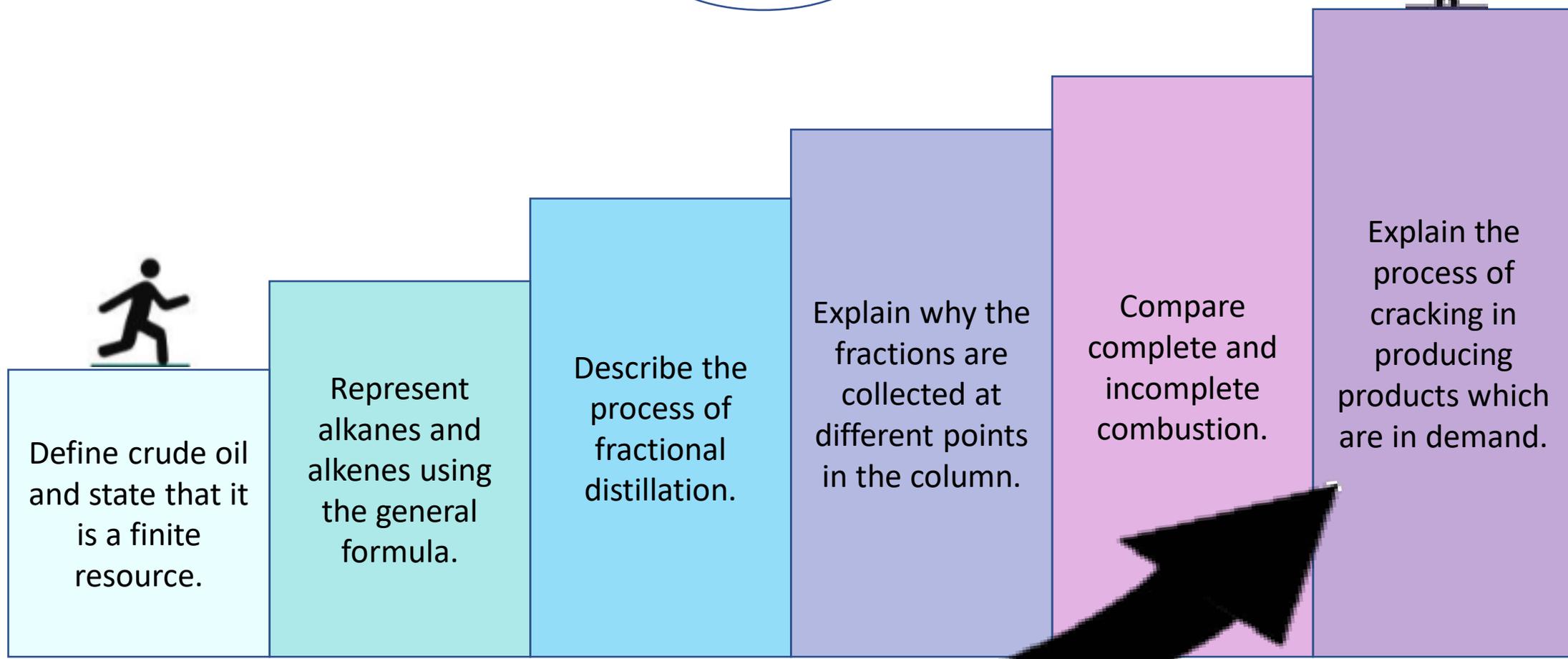
Building on knowledge of Reactions, measuring gas produced, concentration of acids.



Learning Journey

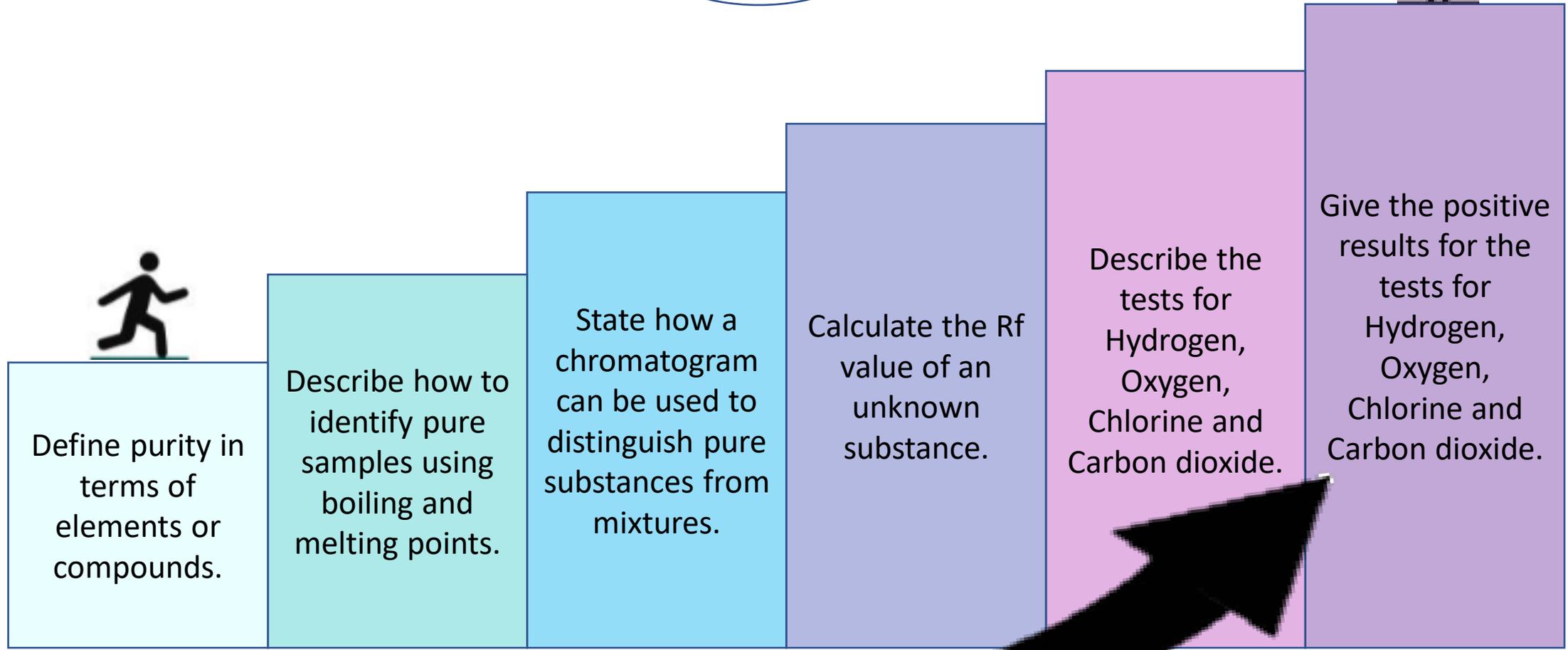
Crude oil and fuels
C9

Building on knowledge of Fossil fuels, catalysts, fuels, combustion reactions.



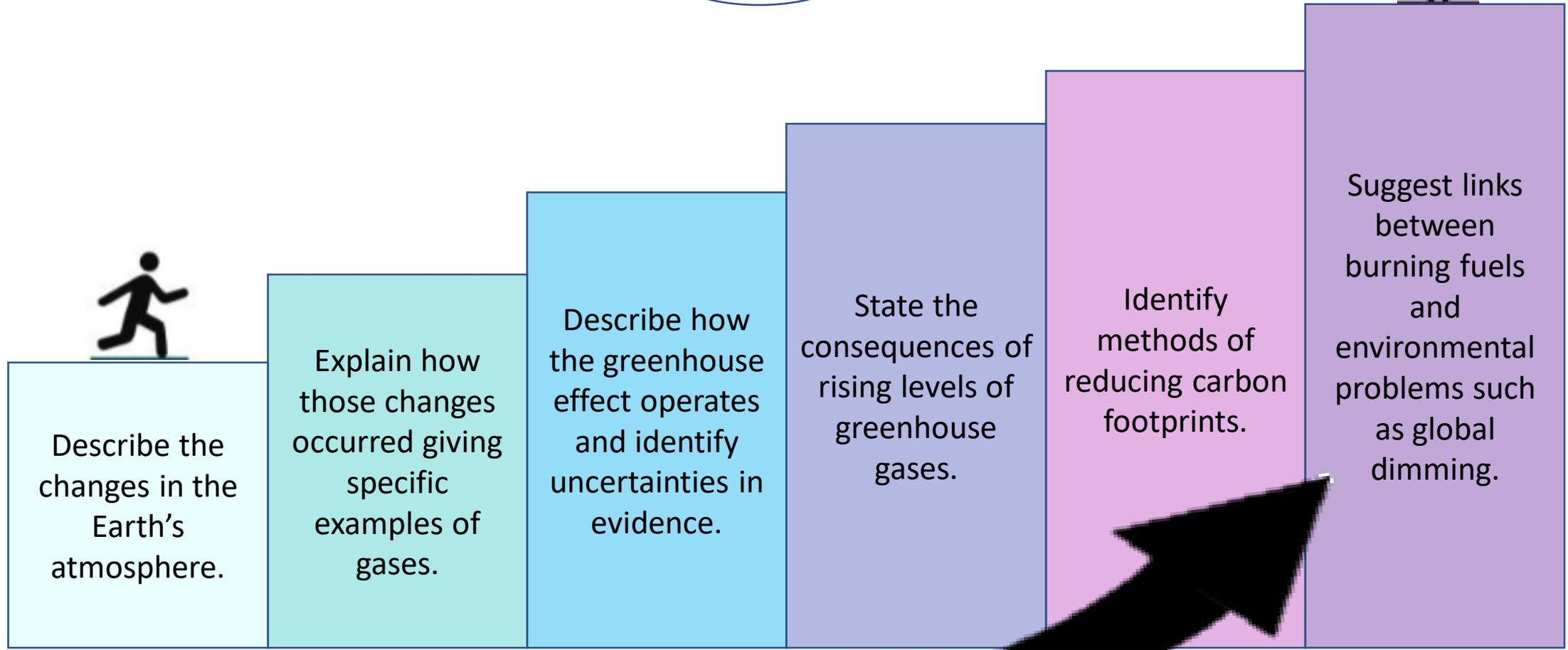
Learning Journey
Chemical analysis
C10

Building on knowledge of
Testing for CO₂ and Hydrogen
gas, chromatography,



Learning Journey
The Earth's atmosphere C11

Building on knowledge of Global warming, photosynthesis, the carbon cycle, climate change.



Learning Journey
The Earth's
Atmosphere C12

Building on knowledge of
Metals and non-metals from
the Earth's crust, recycling,
electrolysis.

