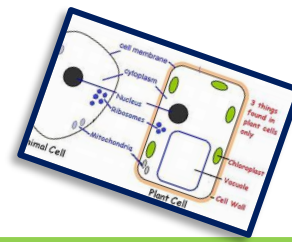


Prior and Prerequisite learning:

B1 – Cells Biology

At KS3 you have learnt about animal, plant and specialised cells along with their functions. You should be able to identify parts of a cell and describe the functions

Cells

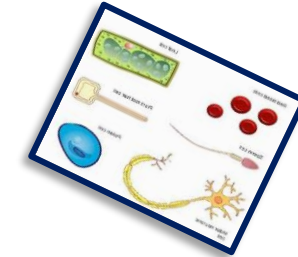


Microscopy

Magnification



Specialised Cells



Mitosis

Stem Cells

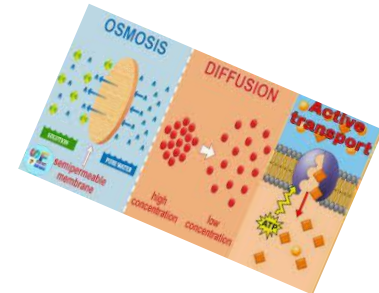
Why are we learning this?

We all start life as a single cell but grow and adapt to become the amazing complex humans we are today, made up of billions of specialised cells. You will learn the basics of how this happens. You will gain a knowledge of how we can look at cells in more detail and the processes by which cells exchange substances.

Active Transport

Osmosis

Diffusion



Exchanging substances

Next steps:

You will be learning about how cells can be organised into different systems in the B2 Organisation topic.



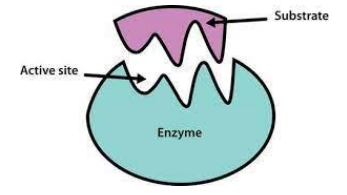
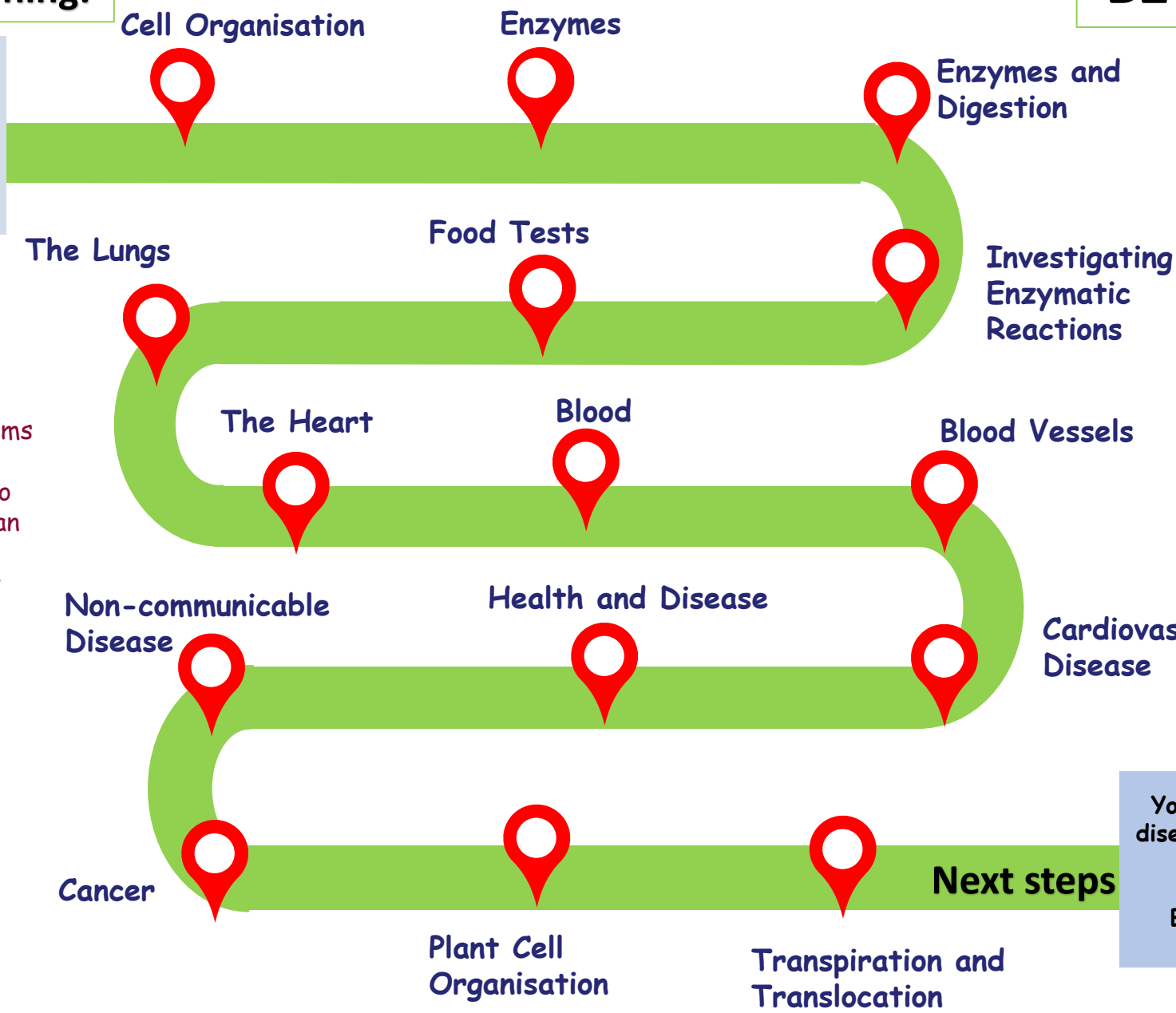
B2 Organisation

Prior and Prerequisite learning:

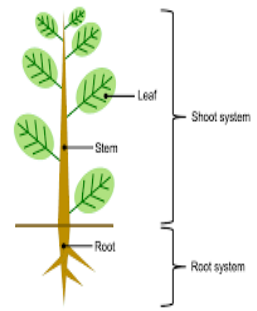
At KS3 you have learnt about health and disease and what we can do to be healthy. You should be able to identify body systems and describe how they work.

Why are we learning this?

It is important to have an understanding of how our body systems work and how we can look after our bodies to be healthy. We also need to have an understanding how plant organ systems work. It is also important to recognise how non communicable diseases and the effects in society.



You will be learning about how diseases develop and how we can protect ourselves against disease in the B3 Infection and Immunity topic.



Prior and Prerequisite learning:

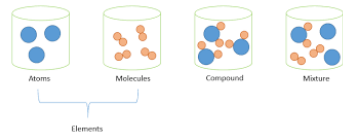
From KS3 you should be able to recognise a simple model of an atom and be able to identify atoms in chemical reactions and describe some real life examples.

Why are we learning this?

Everything around us is made from atoms and it is these that interact to form elements, compounds and mixtures. You need to have an understanding of the history of their discovery, how atoms are represented in different chemical reactions and how they can be separated. The periodic table is an important tool used in Chemistry; we need to know how it was devised along the current periodic table used today.



Atoms, Elements and Compounds



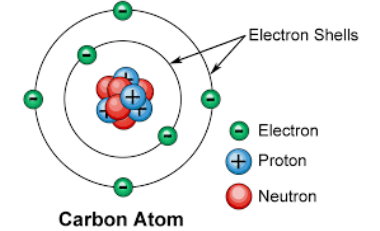
Compounds and Mixtures

C1 – Atomic Structure and the Periodic Table

Separation Techniques

Chromatography

Chemical Equations



Distillation

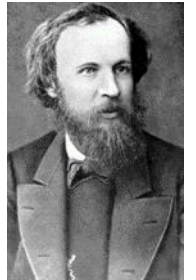
The History of an Atom

Electronic Structure

Metals and Non-Metals

The Modern Periodic Table

Development of the Periodic Table



Group I Elements

Group 7 Elements

Group 0 Elements

Next steps:

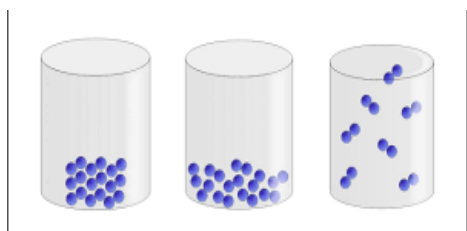
You will be taking knowledge from this topic and applying it to different types of bonding and different states of matter in C2 Bonding, Structure and Properties of Matter

Prior and Prerequisite learning:

From KS3 you should be able to describe the particle model and discuss changes of state with real life examples. You should be able to identify the main parts of an atom.

Why are we learning this?

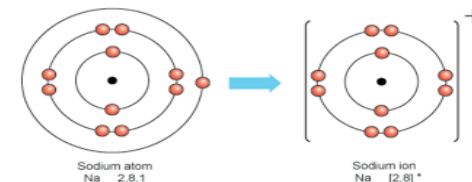
Everything around us is made from atoms. Atoms can bond in three ways to form different structures. You need to have an understanding of how these structures can be used in the real world.



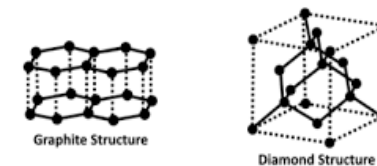
C2 – Bonding, Structure and Properties of Matter



Ionic Compounds



Structures of Carbon



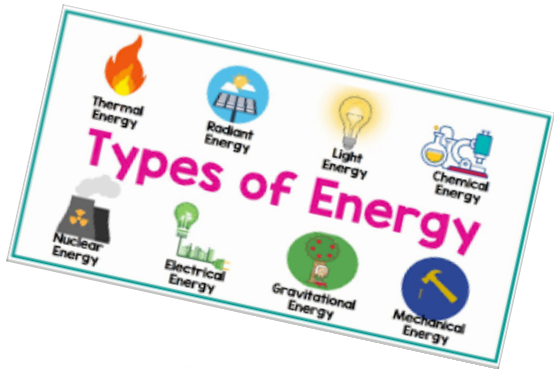
You will be taking knowledge from this topic to explore further the idea of mass and concentration in chemical reactions in C3 Quantitative Chemistry

Prior and Prerequisite learning:

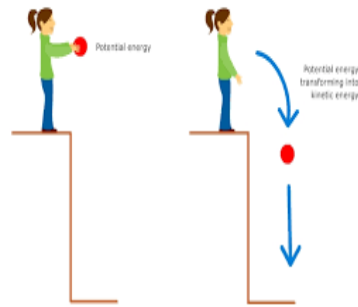
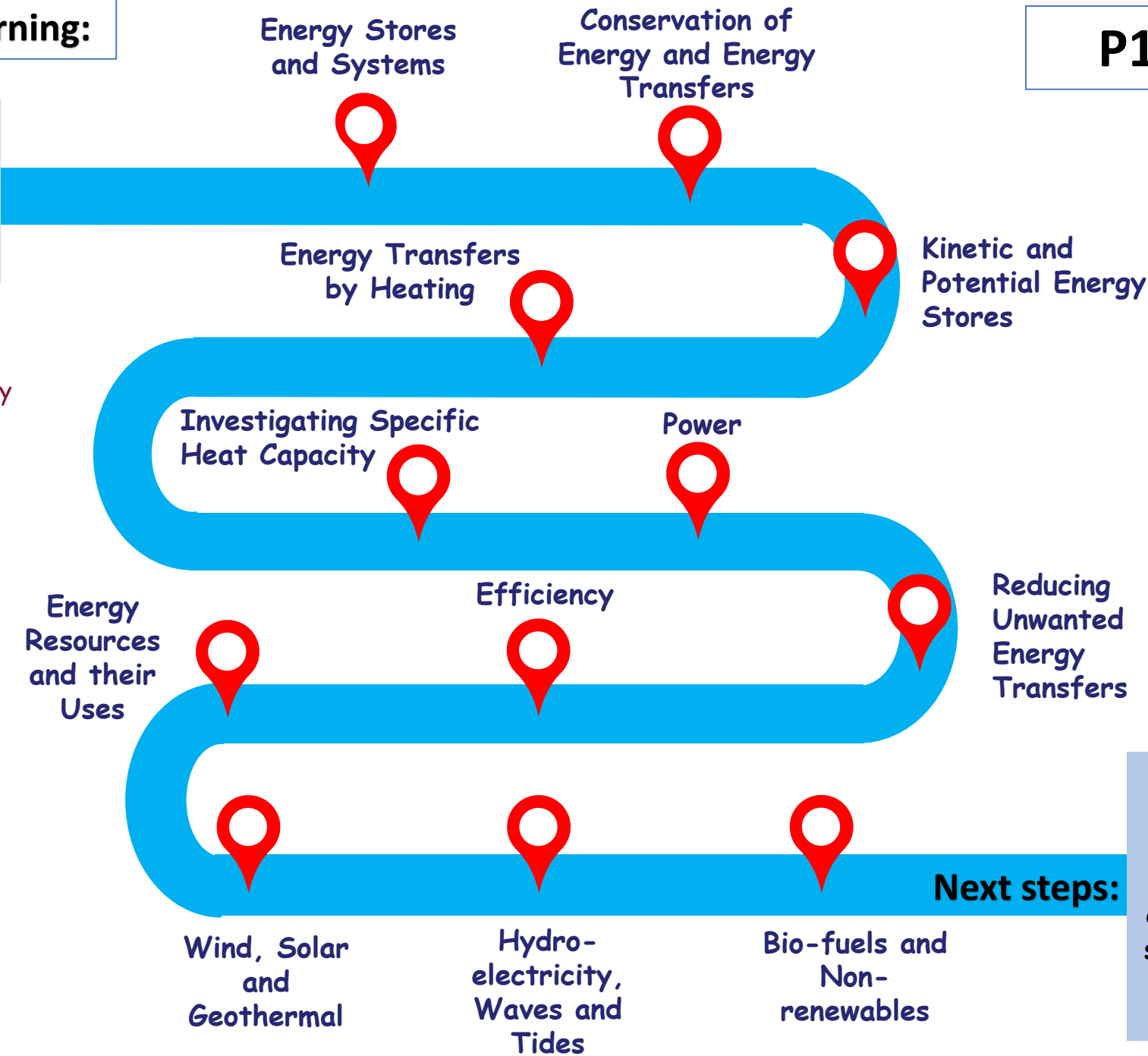
From KS3 you should be able to identify and describe examples of different energy types with examples. You should be aware of the term "conservation of energy" in terms of energy transfer.

Why are we learning this?

Energy is fundamental to our everyday lives in terms of movement, home appliances and even eating. It is important we understand how energy can be transferred, how we can be "environmentally friendly" by being energy efficient and save money.



P1 – Energy



You will be taking knowledge from this topic and applying it to energy in different states of matter in P3 Particle Model of Matter

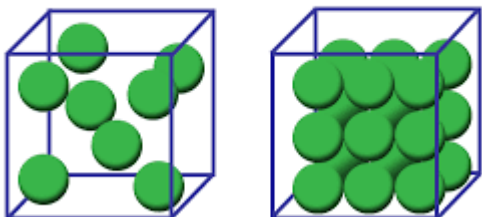
Prior and Prerequisite learning:

From KS3 you should be able to identify and describe different states of matter with particle diagrams and the movement of gas particles.

Why are we learning this?

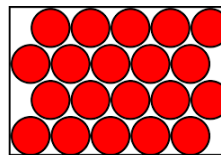
Everything around us is made up of particles. Understanding the movement of these particles and their internal make up improves our understanding of materials and their properties.

Density



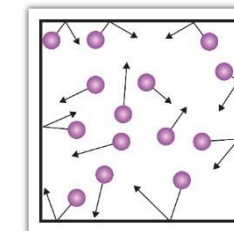
TheEngineeringMindset.com

The Particle Model



Solid

Motion in Gases

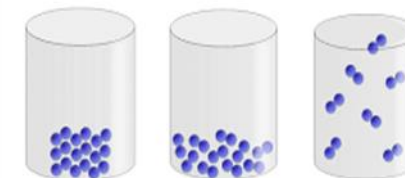


P3 – Particle Model of Matter

Density of Materials

Internal Energy

Changes of State



Next steps:

You will be taking knowledge from this topic and applying it to energy movement in P2 Electricity

Specific Latent Heat