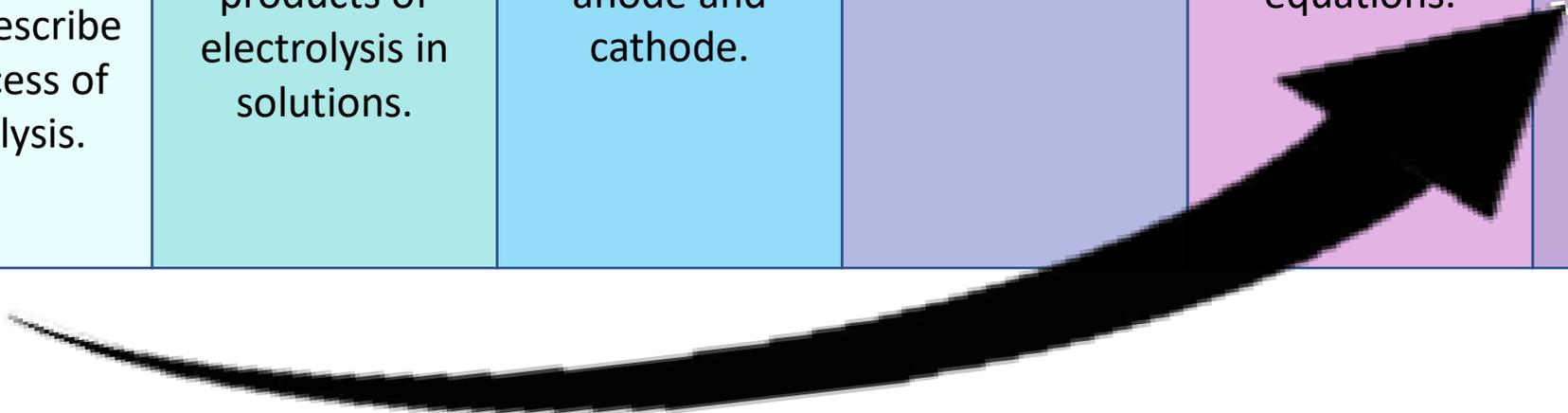
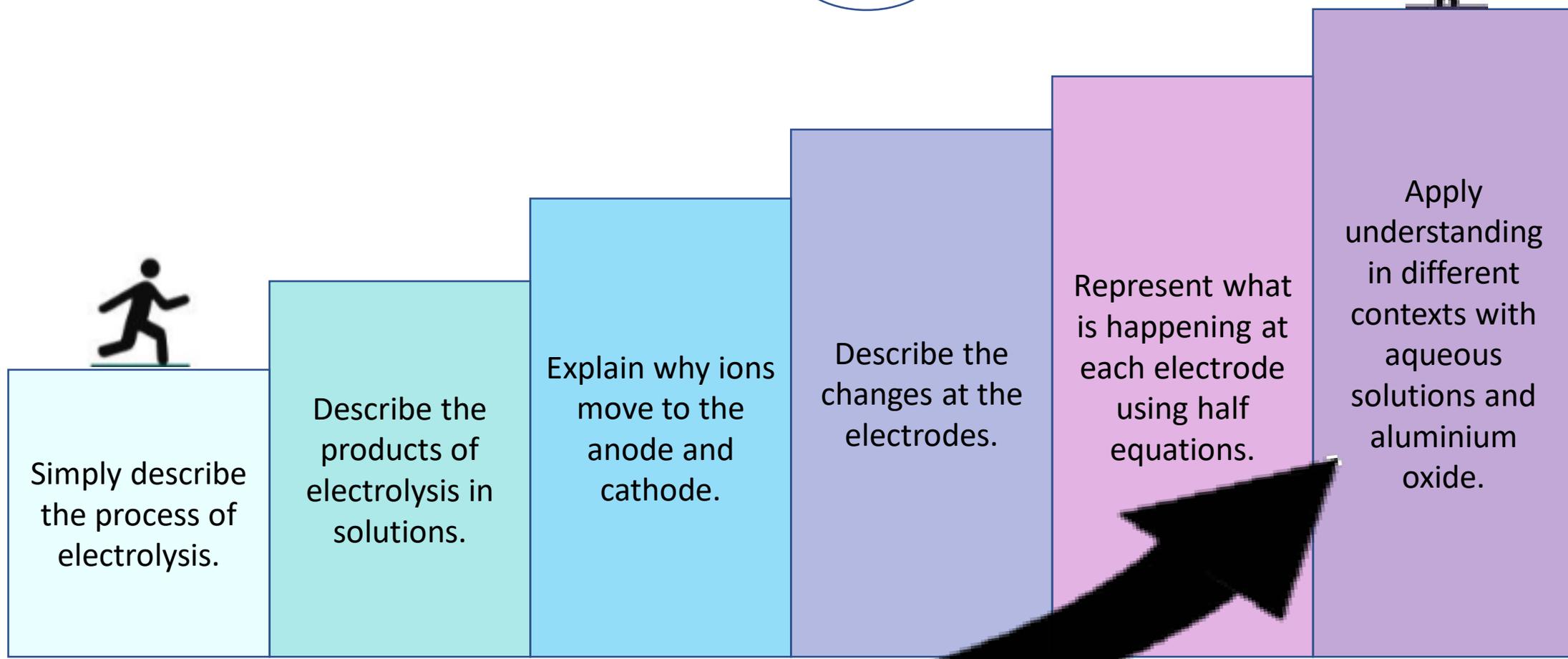


**Learning Journey**  
Electrolysis C6

Building on  
knowledge of  
Ions, ionic  
compounds, charges



**Learning Journey**

1. Forces

Building on knowledge of Push and Pull, gravity, faster and slower, measuring time.



Describe what forces so and how to measure them using a Newton meter.

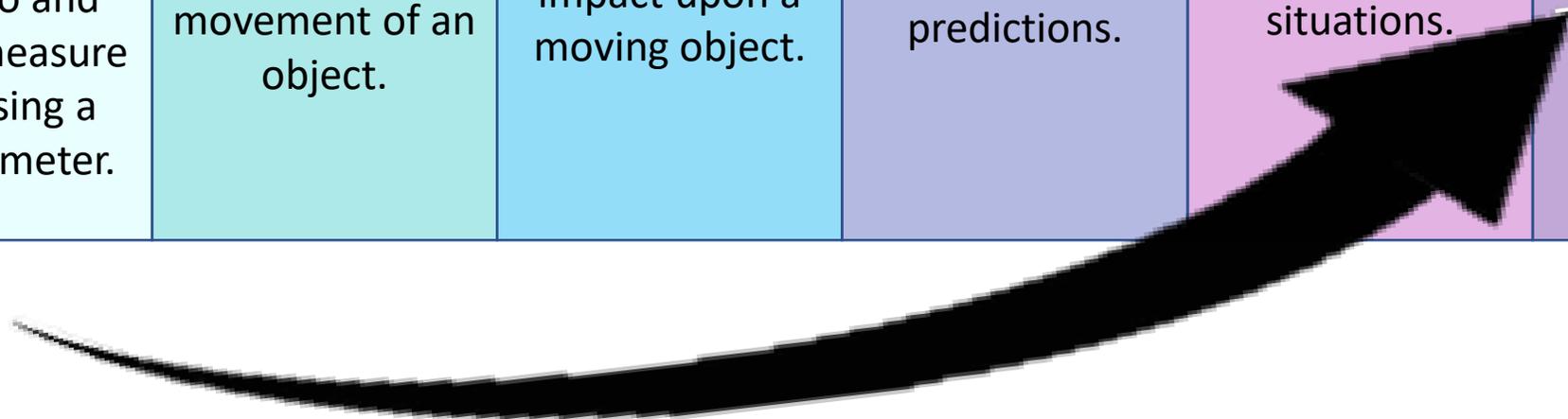
Measure speed and describe the movement of an object.

Identify what happens when friction and drag impact upon a moving object.

Use Hooke's law to identify proportional stretching and make predictions.

Calculate moments and apply the concept of moments to everyday situations.

Explain changes in pressure using particle diagrams.



Learning Journey

2. Electromagnets

Building on knowledge of Magnets, circuits, electricity,



Describe how current, potential difference and resistance can be measured.

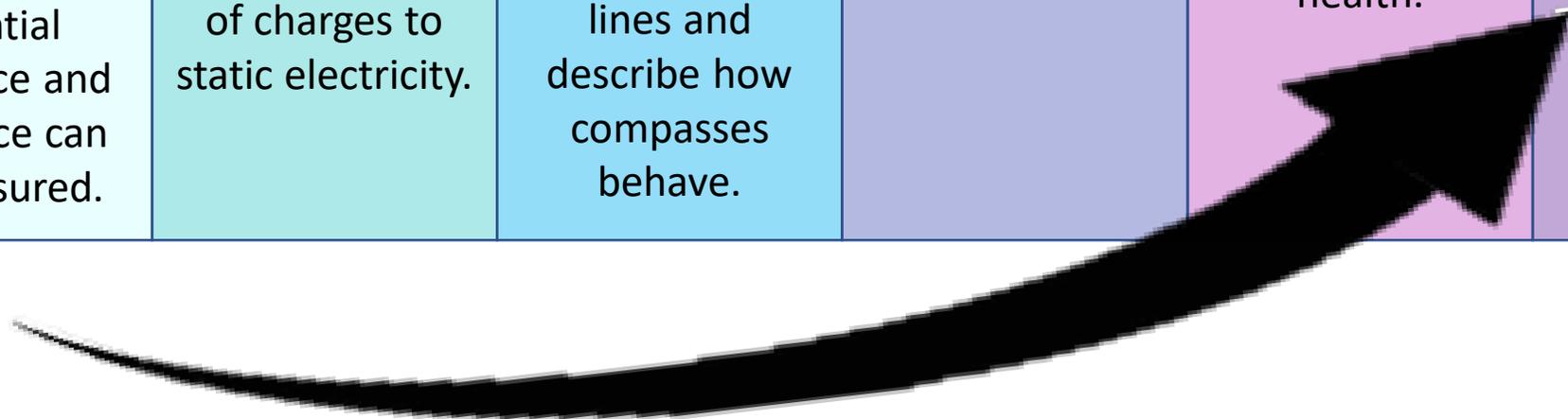
Link understanding of charges to static electricity.

Build on understanding of magnets to record the shape of magnetic field lines and describe how compasses behave.

State the main features of an electromagnet and how

Identify the impact of diet, misuse of drugs, alcohol and tobacco on health.

Explain how digestion occurs using enzymes to break down food and how bacteria can improve health.



Learning Journey

3. Energy

Building on knowledge of Energy flowing, electricity, renewable and non-renewable.



Give examples difference sources of energy and how energy can be generated.

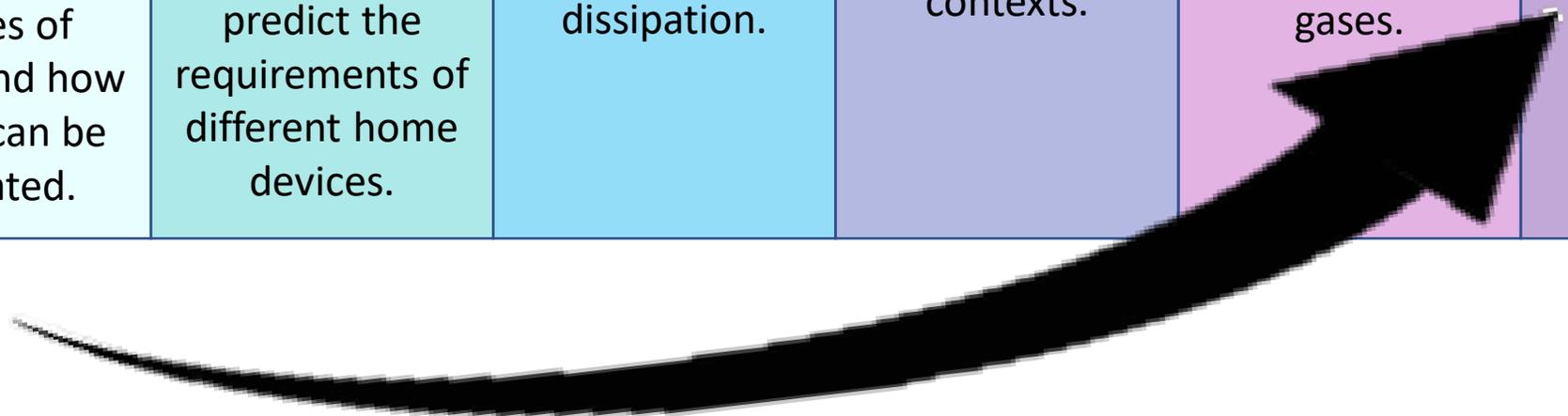
State the difference between energy and power and predict the requirements of different home devices.

Investigate efficiency and energy dissipation.

Explain how conservation of energy applies in different contexts.

Describe what happens when energy is transferred through solids, liquids and gases.

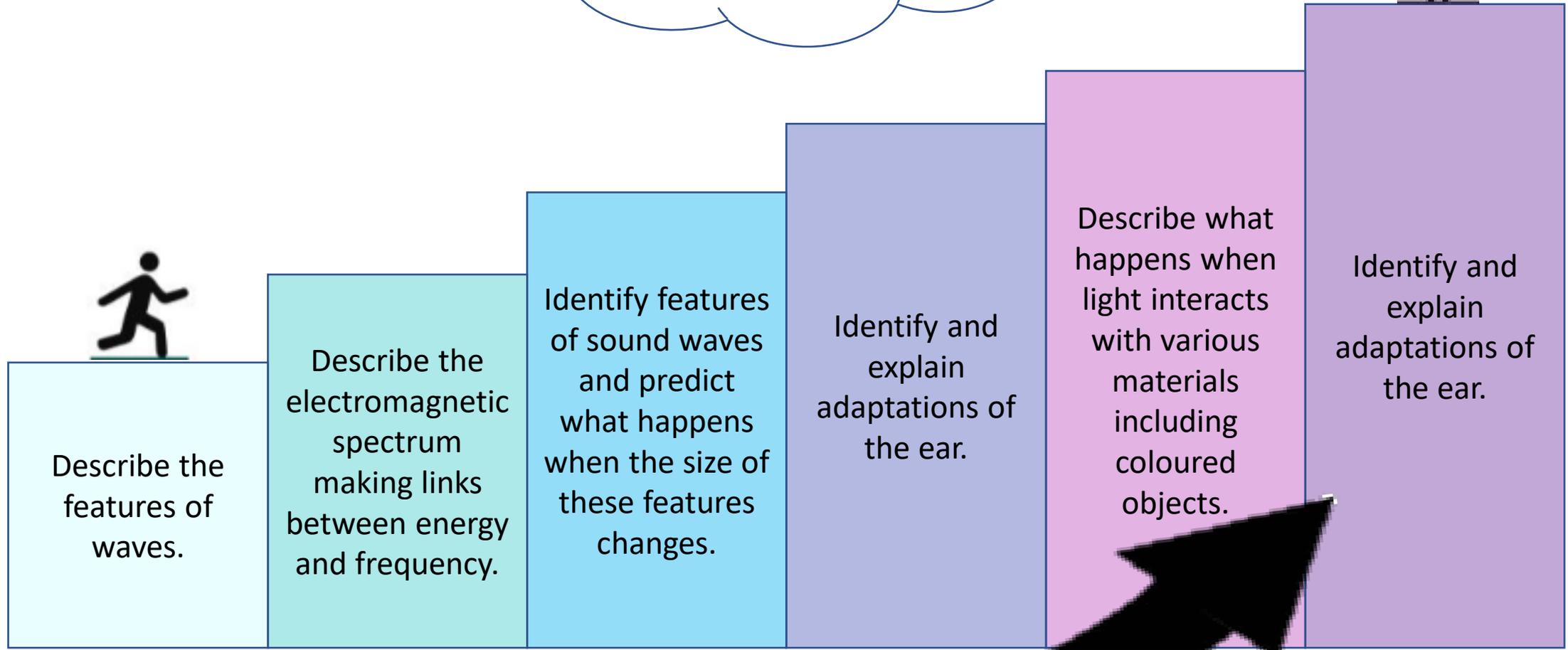
Give examples of how to use insulating materials to reduce heat transfer.



**Learning Journey**

4. Waves

Building on knowledge of light and sound, colours, filters, use of microphone and speakers.



**Learning Journey**

5. Matter

Building on knowledge of Atoms, elements, basic building blocks, particles, solids, liquids, gases.



Explain the properties of solids, liquids and gases.

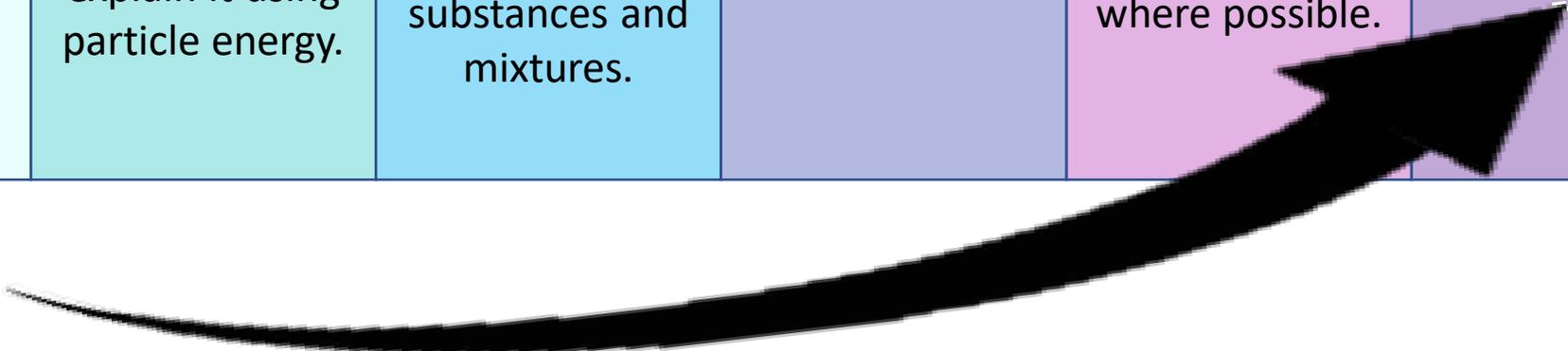
Identify the 'change of state' on a graph and explain it using particle energy.

Use understanding of particles to describe solubility, diffusion, pure substances and mixtures.

Use separation techniques to separate mixtures.

Describe the difference between elements, compounds and mixtures using chemical equations where possible.

Use knowledge of the periodic table to identify trends and patterns in reactivity, boiling and melting points.



Learning Journey

6. Reactions

Building on knowledge of  
Chemical reactions.  
Melting, freezing, boiling,  
evaporation, burning.



Describe observations during chemical reactions and physical changes.

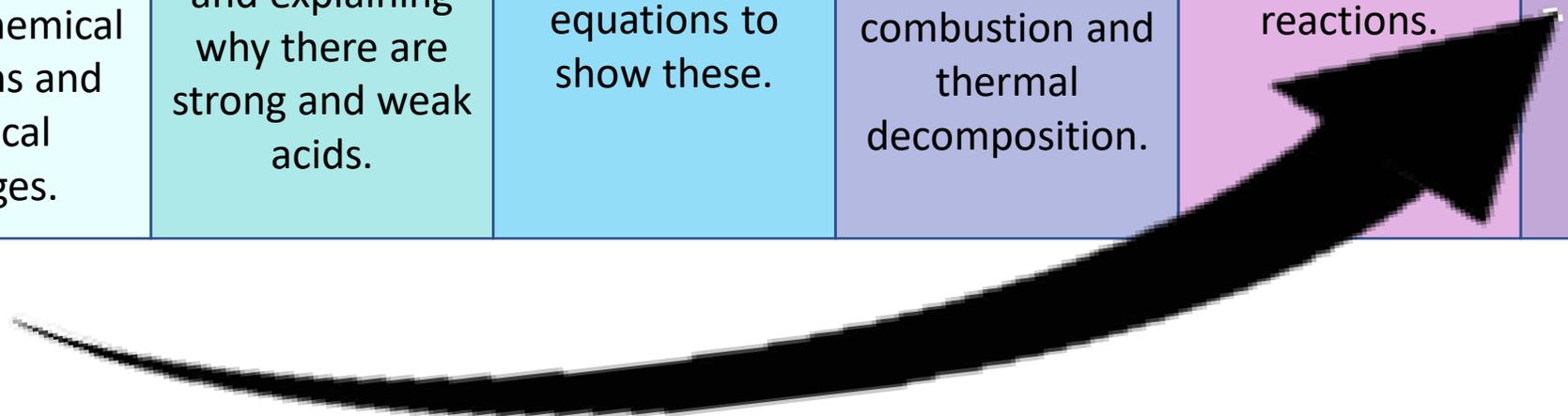
Safely work with acids and alkalis by testing pH and explaining why there are strong and weak acids.

Describe a variety of metal reactions and use word equations to show these.

Describe the arrangement of atoms in reactions in various contexts, including combustion and thermal decomposition.

Use diagrams to show the relative energy levels of particles in chemical reactions.

Use ideas about bond energies to explain endothermic and exothermic reactions.



**Learning Journey**

7. Earth

Building on knowledge of Earth's structure, fuels, pollution, greenhouse gases, the planets, night and day.



Describe the structure of the earth and compare the different layers.

Use the rock cycle to show the formation of rocks.

Name different ceramics and identify their properties.

Use knowledge about the night sky to describe the structure of the universe.

Explain the motion of planetary bodies across the sky and how seasonal changes occur.

Explain how the different phases of the moon occur and investigate how theories have been developed over time.



**Learning Journey**

8. Organisms

Building on knowledge of  
The human body, organs,  
skeleton, movement,  
healthy diets, breathing.



Use the terms cell, tissue and organ to describe human organisation.

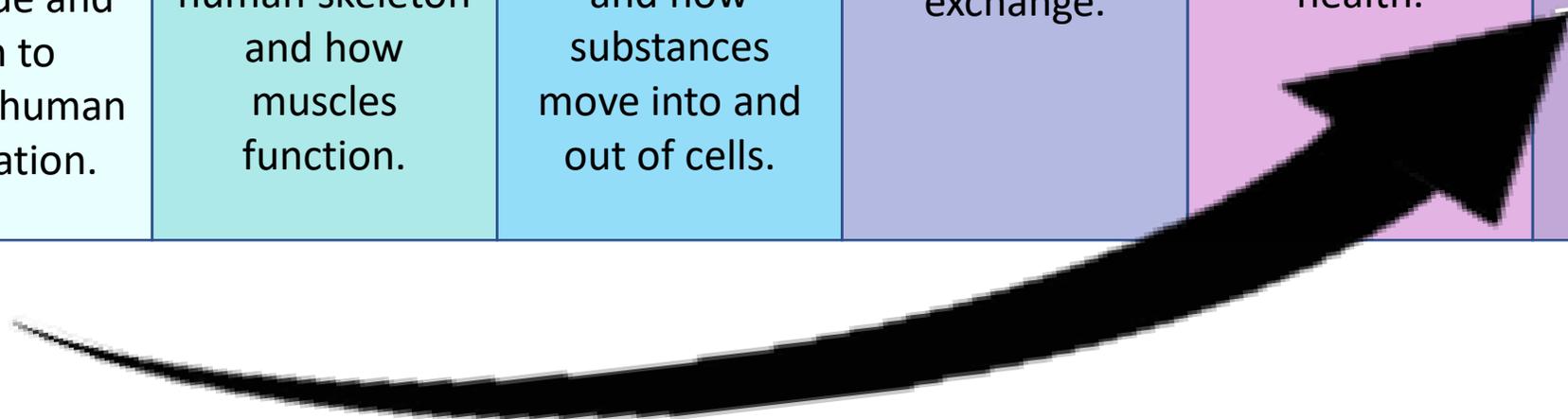
Describe the structure and function of the human skeleton and how muscles function.

Observe cells, identifying the similarities and differences between them and how substances move into and out of cells.

Identify the adaptations which allow efficient gas exchange.

Identify the impact of diet, misuse of drugs, alcohol and tobacco on health.

Explain how digestion occurs using enzymes to break down food and how bacteria can improve health.



**Learning Journey**

**9. Ecosystems**

Building on knowledge of Food chains, pollution, predators and prey, breathing and exercise, plant growth.



Describe how energy is passed through a food chain.

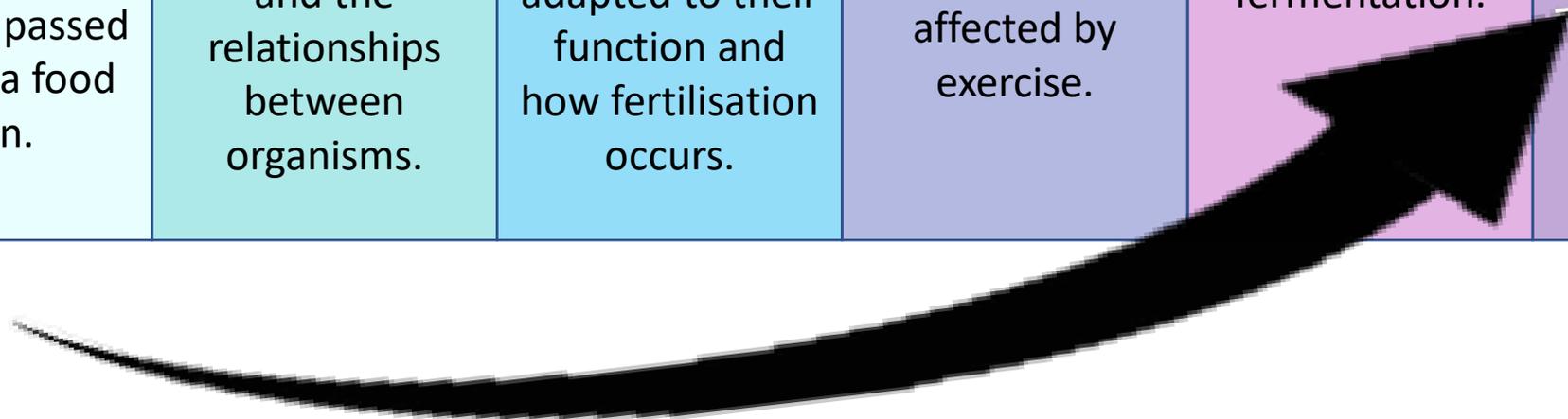
Describe the human impact on ecosystems and the relationships between organisms.

Describe the process of pollination, how the structures of the flower are adapted to their function and how fertilisation occurs.

State the requirements of aerobic and anaerobic respiration and how this is affected by exercise.

Explain the process of anaerobic respiration in the context of fermentation.

Describe the process of photosynthesis, measure the rate of photosynthesis and state the adaptations of leaves to carry out this efficiently.



Learning Journey

10. Genes



Building on knowledge of Features, inheritance, adaptations of some animals, puberty, genes.



Gives examples of variation and how variation in a species occurs.

Describe how some species are adapted to their environment and how extinction occurs.

Describe the changes which occur during puberty and link this to reproduction and the development of the foetus.

Link prior knowledge about adaptations to natural selection and explore the changing theories.

Explain the importance of maintaining biodiversity.

Describe the relationship between DNA, Genes and chromosomes and how advances in science have led to genetic modification.

