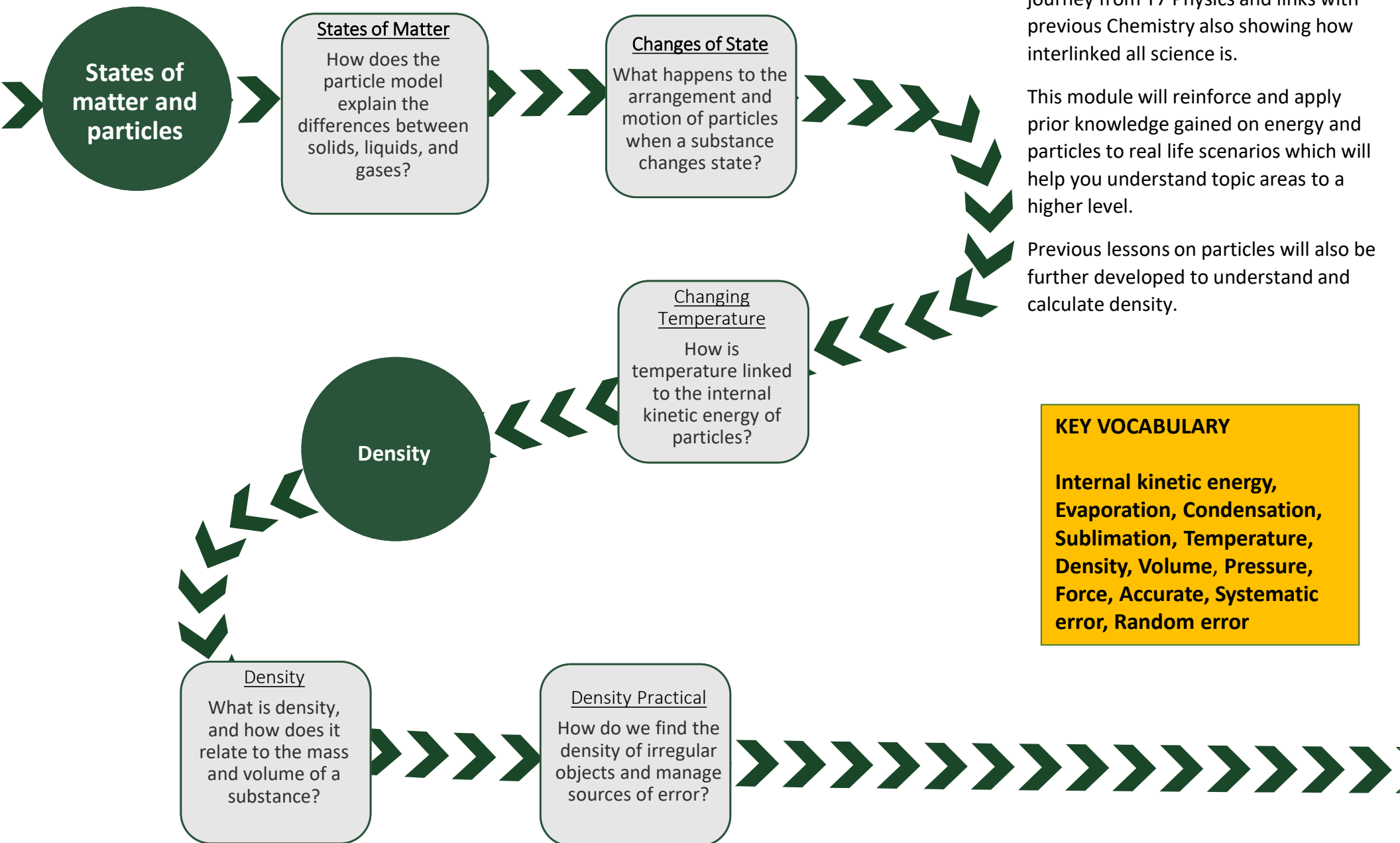




8.1 Density and Matter





8.2 Waves

Waves

What is a Wave?

What are the key features of longitudinal and transverse waves?

Light Vs Sound

How do light and sound waves differ in how they travel through a vacuum or a medium?

Light

Reflection of Light

How does light bounce off different surfaces, and what is the law of reflection?

Mixing Light

How can we combine primary colours of light to create secondary colours?

Refraction

Why does light change direction when it moves between different materials?

Lenses and the Eye

How does the human eye use lenses and absorption to help us see colours?

The Eye Vs the Camera

How is a pinhole camera similar to the way the human eye works?

Sound

More About Sound

How are sound waves produced by vibrations, and how do frequency and amplitude change what we hear?

Sound Wave Travel in Mediums

Why does sound need a medium to travel, and why can it not be heard in a vacuum?

Ears and Vibrations

How does the ear detect vibrations and turn them into the sounds we hear?

Ultrasound and Echolocation

How do humans and animals use reflected sound waves for navigation and cleaning?

Cancelling Sound

What is superposition, and how can sound waves add together or cancel each other out?

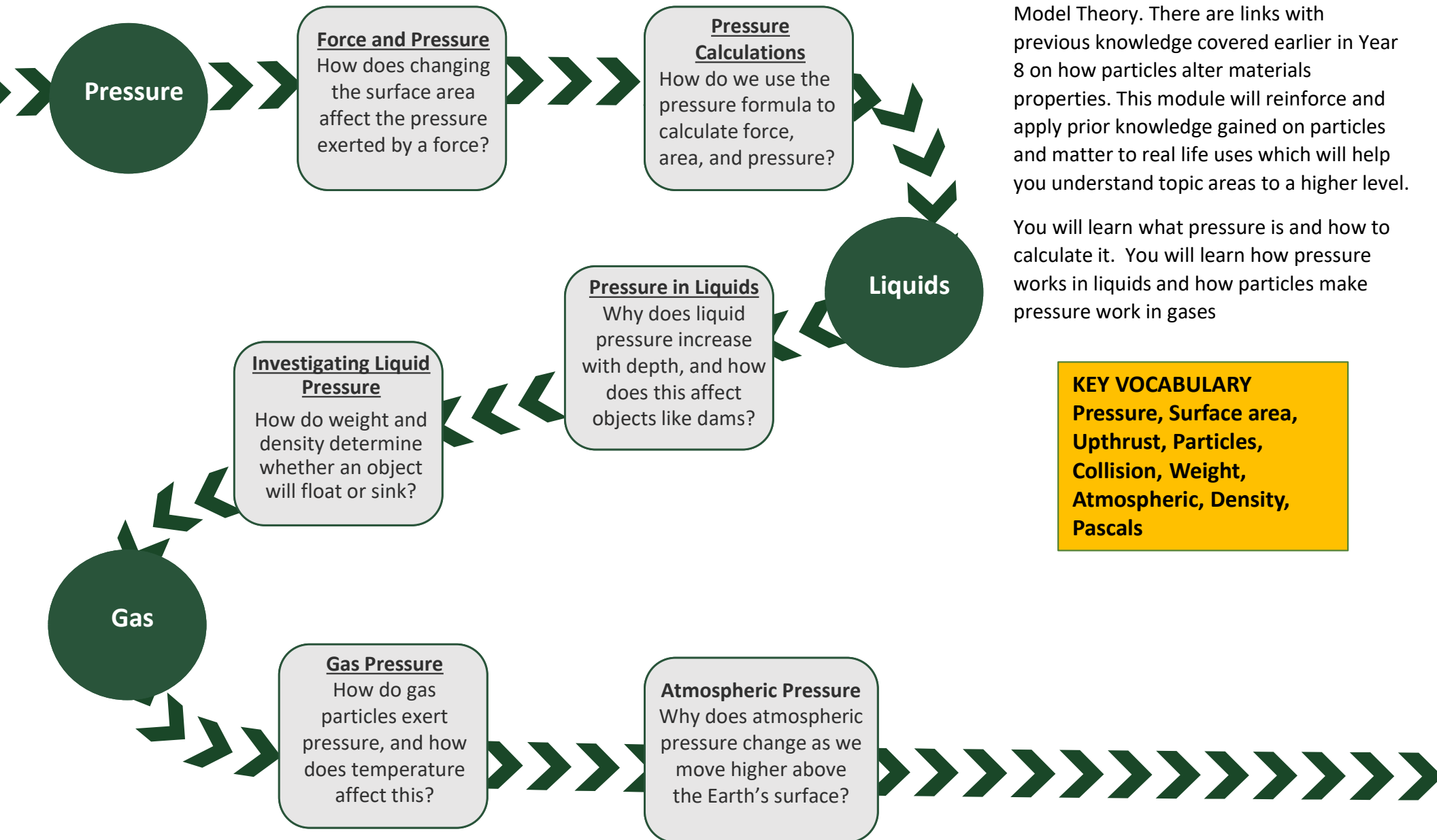
This module continues your learning journey from Y7 Physics and links with previous Chemistry also showing how interlinked all science is. This module will reinforce and apply prior knowledge gained on waves to real life uses which will help you understand topic areas to a higher level.

KEY VOCABULARY

Transverse, Longitudinal, amplitude, frequency, Hertz, Oscillation, Oscilloscope, Vacuum, Medium, Reflection, Refraction, Convex, Concave, Absorption, Echo, Ultrasound, Superposition, Peak, Trough, Opaque, Translucent, Transparent, Bioluminescence



8.3 Pressure



This module continues your learning journey from Y7 Physics/Chemistry and the Particle Model Theory. There are links with previous knowledge covered earlier in Year 8 on how particles alter materials properties. This module will reinforce and apply prior knowledge gained on particles and matter to real life uses which will help you understand topic areas to a higher level.

You will learn what pressure is and how to calculate it. You will learn how pressure works in liquids and how particles make pressure work in gases

KEY VOCABULARY

**Pressure, Surface area,
Upthrust, Particles,
Collision, Weight,
Atmospheric, Density,
Pascals**



8.4 Space

Earth and Space

Gravity & Weight

What is the difference between mass and weight, and how does gravity change on other planets?

Our Solar System

How is our solar system organised, and what other celestial bodies exist in the universe?

How was the Solar System discovered?

How have scientific models of the solar system changed from geocentric to heliocentric over time?

The Moon

How does the moon's position create different phases, and why is it an important natural satellite?

The Seasons

How does the Earth's tilt create different seasons and day lengths across the hemispheres?

This module is a stand-alone topic in Key Stage 3. You will have seen some of the simpler content delivered during Key Stage 2 and we will build on this knowledge now. However, the focus will be on discussing the evidence that support the development of the different models and ideas about the Solar System and the Universe.

KEY VOCABULARY

Mass, weight, Gravity, Celestial, Geocentric, Heliocentric, Satellite, Artificial, Hemisphere, Star, Moon Phase, Peer review