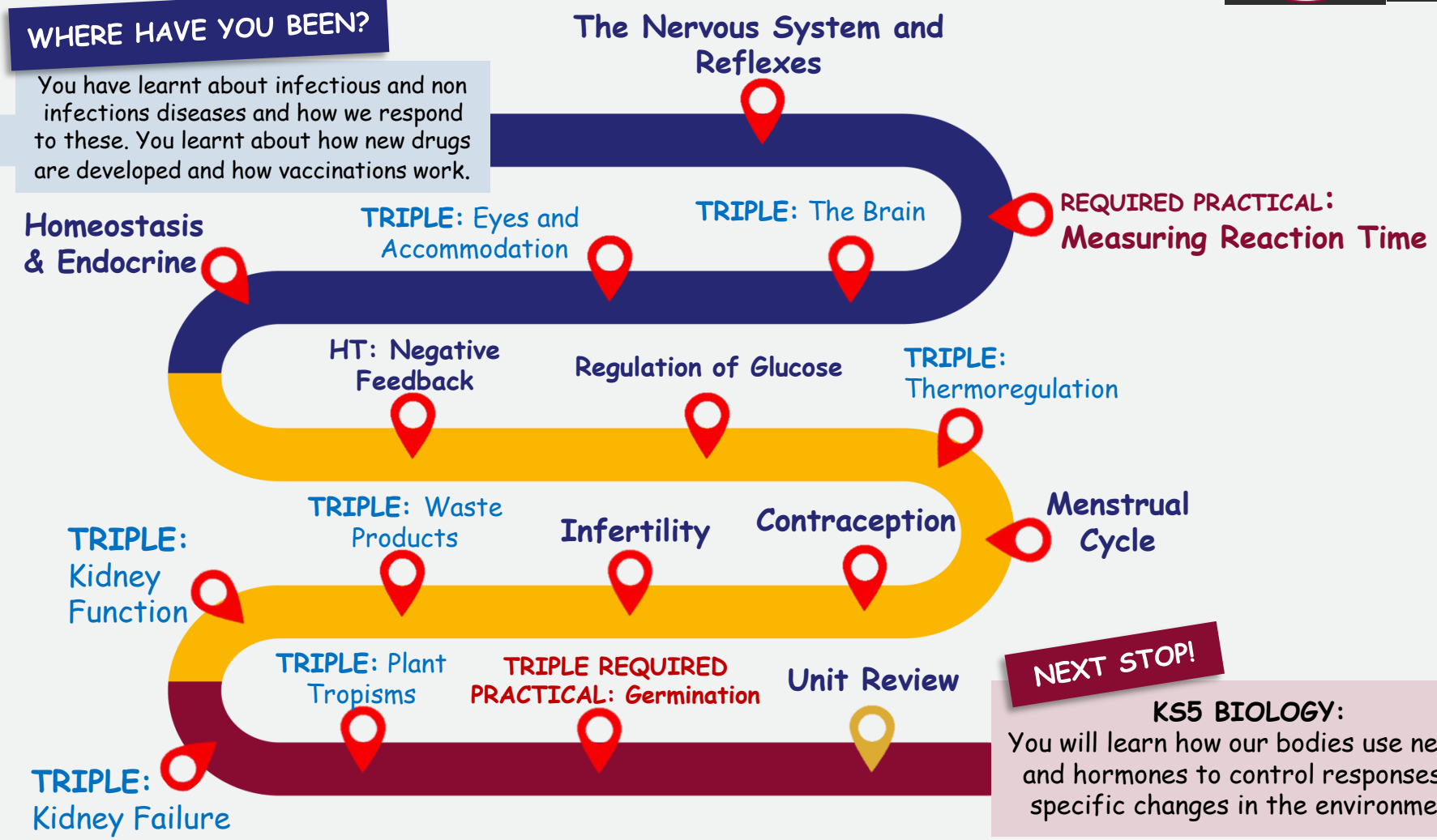
YEAR 11 | Organisms - Homeostasis and Response

WHERE HAVE YOU BEEN?

You have learnt about infectious and non infections diseases and how we respond to these. You learnt about how new drugs are developed and how vaccinations work.



NEXT STOP!

KS5 BIOLOGY:
You will learn how our bodies use nerves and hormones to control responses to specific changes in the environment.

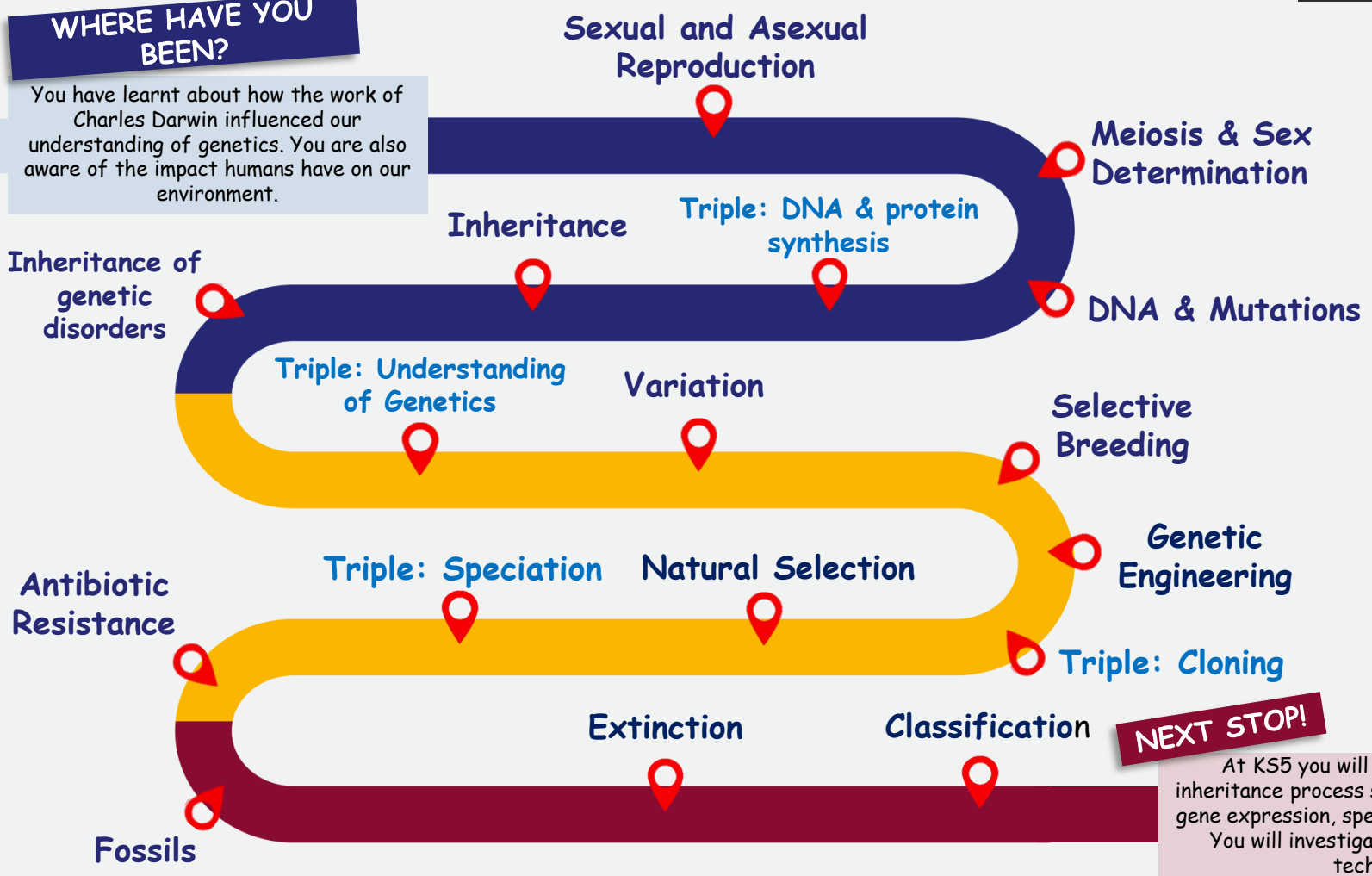
Why are we learning this?

The human body is fascinating and understanding how you respond to your environment and how your body reacts to certain stimuli can help you to make choices about your lifestyle. The unit explains how hormones control fertility and what can be used to control / help fertility, something that will have an impact on 1 in 4 people! The unit concludes with how plants respond to hormones too, something that is good to understand for your future lush gardens!

YEAR 11 | Origins - Inheritance and Variation

WHERE HAVE YOU BEEN?

You have learnt about how the work of Charles Darwin influenced our understanding of genetics. You are also aware of the impact humans have on our environment.



NEXT STOP!

At KS5 you will dive deeper into the inheritance process studying allele frequency, gene expression, speciation and genetic drift. You will investigate emerging new gene technologies.

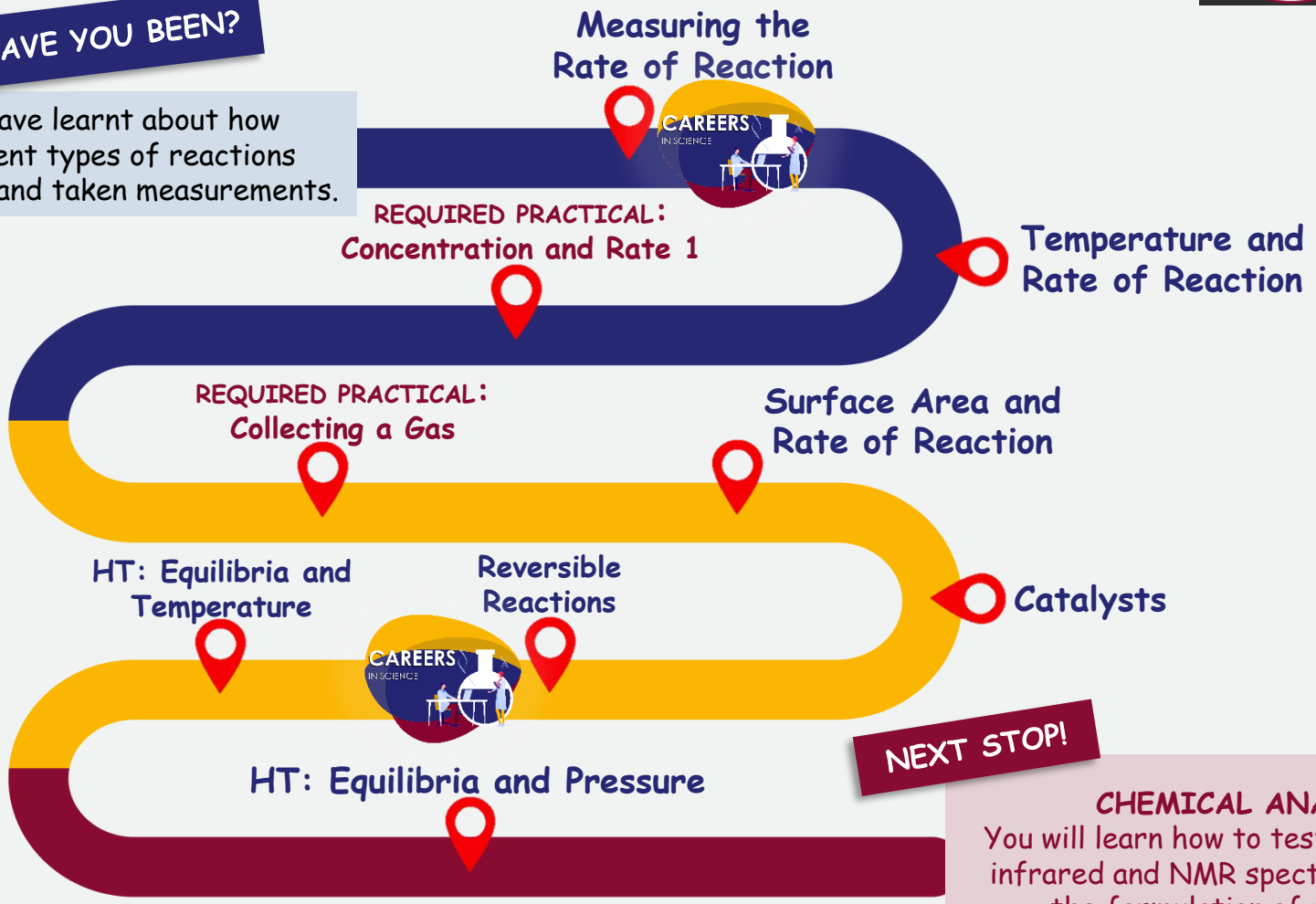
Why are we learning this?

We are all unique, amazing individuals, in this unit you will learn how and why we are unique, how characteristics are passed on through your family, why you have blue eyes or brown and who our ancestors are. You will be able to explain why all living organisms are different due to our DNA and evaluate evidence around evolution and extinction.

YEAR 11 | Reactions - Rate of Reaction

WHERE HAVE YOU BEEN?

You have learnt about how different types of reactions complete and taken measurements.



NEXT STOP!

CHEMICAL ANALYSIS

You will learn how to test for purity, use infrared and NMR spectroscopy to test the formulation of substances.

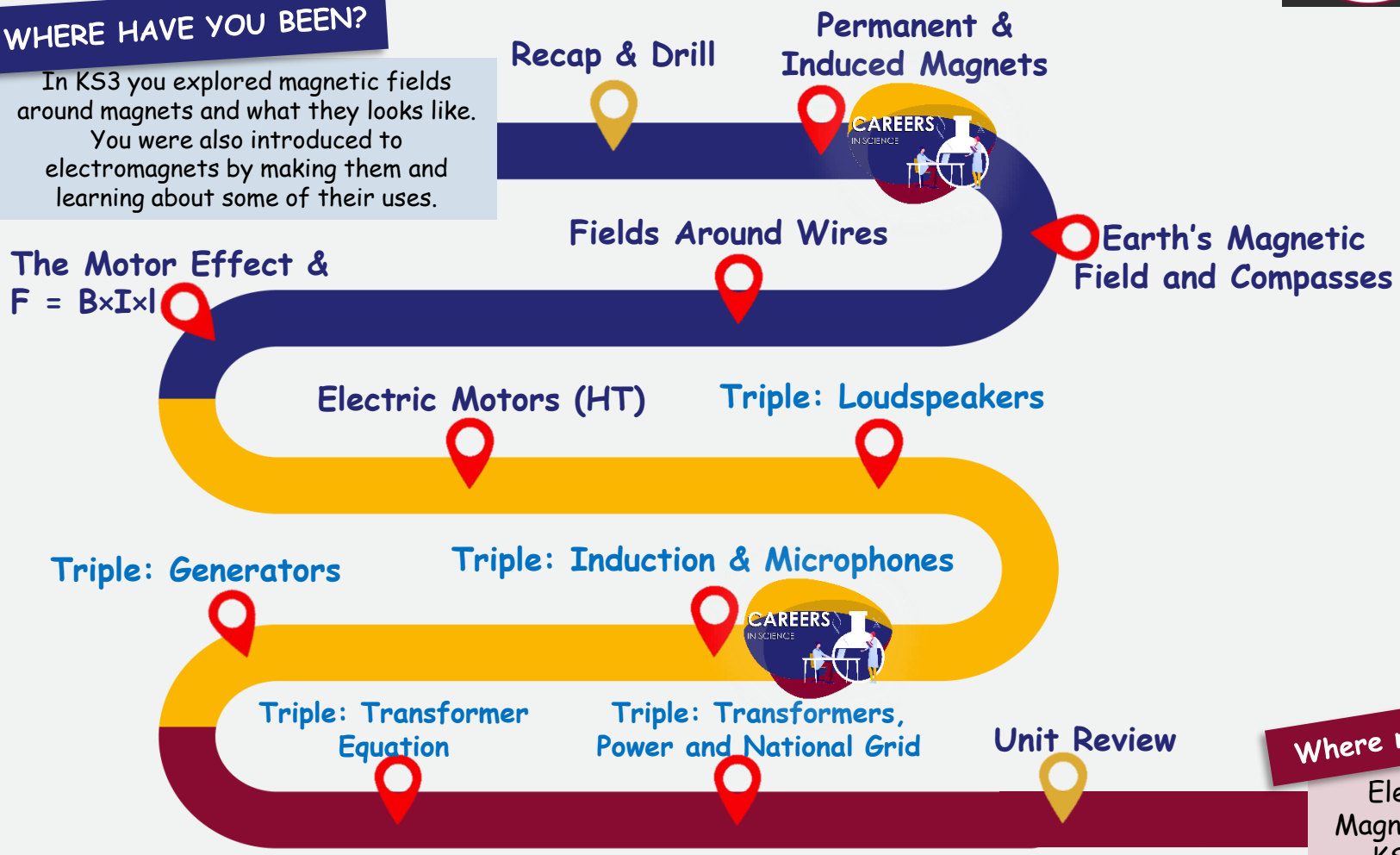
Why are we learning this?

Chemical reactions are everywhere, from cells to industry. In our bodies chemical reactions must happened at the correct speed or 'rate' to supply our cells with everything they need to live. In industry the products of chemical reactions make a lot of money and so it is important to able to speed up the rate at which they happen and make them happen as cheaply as possible.

YEAR 11 | Magnetism and Electromagnetism - Magnetism

WHERE HAVE YOU BEEN?

In KS3 you explored magnetic fields around magnets and what they looks like. You were also introduced to electromagnets by making them and learning about some of their uses.



Where next?

Electricity & Magnetic fields in KS5 Physics

Why are we learning this?

Electromagnetic effects are used in a wide variety of devices. Nearly all the electricity you use has been generated using these effects, and any electrical device with moving parts will use them to produce movement. Even systems that involve control or communications can take full advantage of this.

Year 11 | Waves (TRILOGY)

WHERE HAVE YOU BEEN?

You have learnt about the features of a wave. You should also know the terms **longitudinal** and **transverse** and **how the ear works.**

Reflection of Light

REQUIRED PRACTICAL: Waves in a Ripple Tank

Properties of Waves

REQUIRED PRACTICAL: Waves on a String

Refraction

The Electromagnetic Spectrum

HT: Transmitting and Receiving Radio Waves

Making & Using EM Waves

REQUIRED PRACTICAL: Leslie Cube

Dangers of Electromagnetic Waves

NEXT STOP!

KS5 PHYSICS

You will learn about stationary waves, interference of waves and how white light can be diffracted.

Why are we learning this?

Everything you see and hear is through light-waves and sound-waves; there are more waves beyond those that we can't see or hear! The difference between high and low notes, why your reflection looks to be as far behind a mirror as you are in front of it, why water always looks shallower than it really is and how rainbows form can all be understood when you know about waves.

Year 11 | Waves (TRIPLE)

WHERE HAVE YOU BEEN?

You have learnt about the features of a wave. You should also know the terms **longitudinal** and **transverse** and **how the ear works**.

NEXT STOP!

KS5 PHYSICS

You will learn about stationary waves, interference of waves and how white light can be diffracted.

Why are we learning this?

Everything you see and hear is through light-waves and sound-waves; there are more waves beyond those that we can't see or hear! The difference between high and low notes, why your reflection looks to be as far behind a mirror as you are in front of it, why water always looks shallower than it really is and how rainbows form can all be understood when you know about waves.

Year 11 | Earth and Beyond - Space Physics

WHERE HAVE YOU BEEN?

In year 7 you studied the solar system, now you will look at how the universe was formed and the life cycle of stars.

Triple: Red Shift & the Big Bang

Triple: How Stars Form

Triple: Death of a Star

Triple: Formation of the Solar System

Triple: Orbits & Centripetal force

Where next?

In KS5 Physics you can learn about escape velocity, different types of supernova and black holes

Why are we learning this?

We are part of an ever expanding universe, in this unit you will study how the universe began and look at the evidence to support the scientific theories on this.
You will also look at the life cycle of stars similar to and bigger than our sun .