



Year 9

Pathway 2/3/4

Science - Spring Term 1

Learning Intention:**Biology** - Living Things and Their Habitats

Life processes

The topics that students will be focusing on are the following:

- To recall the characteristics of living things
- To prepare and look at slides of cells and become competent in using the microscope
- To recall the Skeletal and Muscular Systems, Nutrition, Digestion and Excretion
- To gain a better understanding of the importance of a good diet, respiration and to investigate the effects of exercise
- To understand photosynthesis including the word equation for photosynthesis

Key knowledge that should be learned during this SoW

All

Most

Some (Pathway 4)

Concept:

In this unit students will learn about a variety of habitats and the plants and animals that live there. They will learn to tell the difference between things that are living, dead and things that have never been alive, and apply this in a range of contexts.

Knowledge:

- | | | |
|---|--|---|
| <ul style="list-style-type: none">● To recall the seven life processes● To use a light microscope as instructed● To understand the importance of a good diet● To investigate the effects of exercise | <ul style="list-style-type: none">● To draw and label plant and animal cells and state the function of the parts● To know about respiration and gas exchange● To know about gas exchange in plants | <ul style="list-style-type: none">● To recall the Skeletal and Muscular Systems● To recall Nutrition, Digestion and Excretion● To understand photosynthesis● To recall facts: assessment |
|---|--|---|

	<ul style="list-style-type: none"> ● To understand the damage illegal and legal drugs can cause the body 		
Key Skills:	To be able to recognise that scientists can use their knowledge of Maths, Engineering and Technology to solve problems.	To be able to understand that scientists can use their knowledge of Maths, Engineering and Technology to solve problems.	To gain understanding of how scientists can use their knowledge of Maths, Engineering and Technology to solve problems.
Language and/or communication skills:	<ul style="list-style-type: none"> ● Life ● Process ● Light ● Microscope ● Good Diet ● Exercise ● Body 	<ul style="list-style-type: none"> ● Plan ● Functions ● Respiration ● Gass ● Exchange 	<ul style="list-style-type: none"> ● Skeleton ● Muscular ● Nutrition ● Digestion ● Excretion ● Photosynthesis
Curricular Links	Links to other learning within the subject are: Science/Resistant Materials/ PSHE/PE/Food technology		



Year 9

Pathway 2/3/4

Science - Spring Term 2

Learning Intention: Starting work on OCR Entry Level Certificate: OCR ELB3 - Control systems

This topic introduces students to the concept of balancing the body's internal environment, in the contexts of body temperature, water level, and blood glucose level.

This is to help them understand that changes in our surroundings can affect our body's internal environment. That the body's internal environment can change and that the body tries to control this change, using temperature regulation as an example.

Key knowledge that should be learned during this SoW

All

Most

Some

Concept:

Students will test different hypotheses, measure and record different variables. They will then have the opportunity to evaluate their results to find out there is a link between the dependent and independent variables.

They will also begin to make meaningful connections in maths, science, and technology content to solve real-world problems through hands-on learning activities and creative design.

Knowledge:

- To investigate which balloon will travel the furthest when moving on different types of strings.
- Making a string telephone
- To use a choice chamber to investigate the choices regarding habitat made by woodlice.
- Use the Model of a teeth investigation to learn how to brush the teeth correctly.

- To measure and record data accurately(Runny lava investigation)
- Investigating absorbency of different materials
- To investigate the effects of counter balances on how far a missile travels.
- To investigate the rate at which different types of chocolate melt.
- Build a rocket investigation.

- To measure , record data, and evaluate data accurately(Runny lava investigation)
- Investigating absorbency of different materials
- To investigate the effects of counter balances on how far a missile travels.
- To investigate the rate at which different types of chocolate melt.

	<ul style="list-style-type: none"> • Fruit painting practical 	<ul style="list-style-type: none"> • Limited support when taking part in practical task 	<ul style="list-style-type: none"> • To find out what variable they need to control to get their Rocket to travel the furthest during (Build a rocket investigation). • Little/no support when taking part in practical task
Key Skills:	To be able to recognise that scientists can use their knowledge of Maths, Engineering and Technology to solve problems.	To be able to understand that scientists can use their knowledge of Maths, Engineering and Technology to solve problems.	To gain understanding of how scientists can use their knowledge of Maths, Engineering and Technology to solve problems.
Language and/or communication skills:	<ul style="list-style-type: none"> • Control variables • Prediction 	<ul style="list-style-type: none"> • Dependent • Control variables 	<ul style="list-style-type: none"> • Independent variable • Gravity • Air resistance • Thrust
Curricular Links	Links to other learning within the subject are: Science/Resistant Materials/ PSHE/PE		