



Year 8

Pathway 2/3/4

Science - Spring - Term 1

Learning Intention:**Biology** - Organisms' behaviour and health

Plants

Is to inspire a love of learning and curiosity about the world, develop their practical knowledge and skills to use scientific equipment safely and accurately to competently test ideas and demonstrate phenomena. To inform knowledge of the key workings of the human body so that educated opinions and decisions can be made about health, products and stories in the media. To combine basic Maths and English skills in context to help students develop their application skills, to improve transferable skills such as time-keeping, teamwork and develop students' learning skills and independence so they can go on to be life-long learners.

Students will have the opportunity to further extend their learning and understanding of the characteristics of living things. That cells are the fundamental building blocks of living things and that cells become specialised to suit their functions. The skeleton, the different food groups and their importance in our diets. By using this knowledge they will go on to design a model of a human skeleton and design a healthy pack lunch.

Key knowledge that should be learned during this SoW

All (Pathway 2)

Most (Pathway 3)

Some (Pathway 4)

Concept:

How to make a model of the skeleton,

Knowledge:

To recognise the Seven life processes , to be able to use a microscope and that cells are the building blocks of all living things and recall the different food groups.

To understand the Seven life processes ,to be able to use a microscope, that cells are the building blocks of all living things and how to carry out food tests.

To gain understanding of the Seven life processes , to be able to use a microscope and that cells are the building blocks of all living things. That cells become specialised to do their jobs.

Key Skills:

- Observe an onion cell under the microscope.
- Recall examples of different

- Observe and prepare with some support an onion cell under the microscope.

- To gain understanding of specialised cells.
- Use visking tubing to show

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| | <p>food groups.</p> <ul style="list-style-type: none"> ● List the 7 life processes. ● Making Balloon lungs ● To look and record what is seen under a microscope. ● Identify skeletons of different animals. <ul style="list-style-type: none"> ● Grow and look after Cress seeds. ● Tasting with and without smelling and sight jelly beans. ● Take part in practical tasks with support. | <ul style="list-style-type: none"> ● Build a model of a moving joint ● Preparing and looking at the Stomata practical. ● Put the parts of the digestive system in the correct order ● Testing for sugars and proteins in foods. ● Make bread dough and measure the rise in dough at different temperatures and record how much the dough has risen. ● Label basic parts of a microscope accurately. ● Some support when taking part in practical tasks. | <p>how food is digested in the gut.</p> <ul style="list-style-type: none"> ● Little/no support when taking part in practical task ● Preparing and looking at the Stomata practical. ● Put the parts of the digestive system in the correct order ● Testing for sugars and proteins in foods and determining the quantity of sugars in the foods. ● Make bread dough and measure the rise in dough at different temperatures, record how much the dough has risen and make a conclusion. ● To label parts of and use a microscope accurately, and view specimens using different magnifications. |
| Language and/or communication skills: | <ul style="list-style-type: none"> ● Microscope ● Balanced ● Food Groups | <ul style="list-style-type: none"> ● Respiration ● Benedict's ● Carbohydrates ● Cell | <ul style="list-style-type: none"> ● Vitamins/Minerals ● Carbohydrates ● Protein ● Biuret's ● Nucleus ● Magnification |
| Curricular Links | Links to other learning within the subject are: Science/Resistant Materials/ PSHCE/PE | | |



Year 8

Pathway 2/3/4

Science - Spring 2 Term

Learning Intention: Biology - Organisms' behaviour and health

Food chains, food webs and variation of species

Is to inspire a love of learning and curiosity about the world, develop their practical knowledge and skills to use scientific equipment safely and accurately to competently test ideas and demonstrate phenomena. To inform knowledge of the key workings of the human body so that educated opinions and decisions can be made about health, products and stories in the media. To combine basic Maths and English skills in context to help students develop their application skills, to improve transferable skills such as time-keeping, teamwork and develop students' learning skills and independence so they can go on to be life-long learners.

Students will further their learning and understand what is meant by 'species' and that there is variation within the same species. This is an extension of what they have learnt from year 7. To extend their understanding about predator/prey relationship and their adaptations. To recap and further their understanding on food chains and to understand how energy moves in food chains.

Key knowledge that should be learned during this SoW

All (Pathway 2)

Most (Pathway 3)

Some (Pathway 4)

Concept:

How to select a breed of organism for its desirable traits, to be able to describe how the change in the numbers of organisms can affect the prey/ predator relationships.

Knowledge:

To be recognised what variation is and how to make a food web.

To understand the importance of variation within species, how food webs are interlinked and how changes in numbers can affect the relationships within the web.

To gain more understanding of the importance of variation within species, how food webs are interlinked and how changes in numbers can affect the relationships within the web.

Key Skills:

- Design a simple food chains.

- To gain some understanding

- To gain understanding of the

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| | <ul style="list-style-type: none"> ● Build on culinary skills like: Spreading/Cutting etc ● Students evaluate what they have made - self assessment | <p>of the importance of each food group</p> <ul style="list-style-type: none"> ● Limited support when taking part in practical task | <p>importance of each food group and their nutritional value</p> <ul style="list-style-type: none"> ● Little/no support when taking part in practical task |
| Language and/or communication skills: | <ul style="list-style-type: none"> ● Healthy ● Lunch ● Balanced ● Food Groups (Umbrella/House/Sun) | <ul style="list-style-type: none"> ● Umbrella - Protect ● House - Build ● Sun - Energy | <ul style="list-style-type: none"> ● Nutrition ● Vitamins/Minerals ● Carbohydrates ● Protein |
| Curricular Links | Links to other learning within the subject are: Science/Resistant Materials/ PSHCE/PE | | |