Be Brave, Be Curious, Be Kind

Lesson Breakdown - Science

LANDAU FORTE ACADEMY MOORHEAD

Summer – Cycle A – LKS2

Prior Learning – EYFS
• find out about the plants and animals in their local environment • observe how plants change and explore growth and decay • the features of plants and learn vocabulary including stem, leaf, stem, root and petal
Prior Learning – KS1
• observe and describe how seeds and bulbs grow into mature plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy • identify and name a variety of plants and animals in their habitats, including microhabitats • describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food

Project: <u>Plants</u>	Learning Objective	Skills	Knowledge	Resources
Engage Lesson 1	To make observations of beans in different conditions **making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers**	To make scientific observations over time	Understand that plants need certain conditions to survive and grow. Limiting or denying these can prevent or hinder plant growth and survival.	
Develop Lesson 2	To label and describe different parts of plants **identify and describe the functions of different parts**	Label and describe the basic structure of plants with a focus on how water is transported.	Water is transported from the roots of the plant, up the stem and into the leaves.	

Be Brave, Be Curious, Be Kind

Lesson Breakdown - Science

LANDAU FORTE ACADEMY MOORHEAD

	of flowering plants: roots, stem/trunk, leaves and flowers **investigate the way in which water is transported within plants**			
Develop Lesson 3	To understand what a plant requires to grow **explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant**	Make observations about plants and their basic needs.	Understand the basic needs of plants (air, light, water, nutrients from soil, and room to grow).	•
Develop Lesson 4	To know how plants are pollinated **explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal**	Label and describe the basic structure of plants with a focus on pollination.	Understand that, when an insect (known as a pollinator) lands on a flower to get food, pollen from the anther sticks to its body. Then, when the pollinator flies to another flower, the pollen rubs off their body onto the stigma. This is called pollination.	
Innovate Lesson 5	To record observations over time. **gathering, recording, classifying and presenting data in a variety of ways to help in answering questions**	Present findings from investigations using diagrams (charts and graphs)	Information can be presented in different ways to help show relationships or trends in data.	

Be Brave, Be Curious, Be Kind

Lesson Breakdown - Science

LANDAU FORTE ACADEMY MOORHEAD

	recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables			
Innovate Lesson 6	To be able to compare a range of scientific results **reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions** **identifying differences, similarities or changes related to simple scientific ideas and processes**	Apply scientific knowledge to help draw conclusions from different scientific observations.	Information can be presented in different ways to help show relationships or trends in data.	
Express Lesson 7: Assessment	To be able to recall knowledge from this project.	n/a	n/a	n/a

Key Vocabulary:							
air flowers	growth height	investigate leaves	light petals	plants research	root seedlings	soil stem	warmth water

Be Brave, Be Curious, Be Kind

Lesson Breakdown - Science

LANDAU FORTE ACADEMY MOORHEAD

Prior Learning – n/a
Unit is only taught at LKS2 level

Project: Light	Learning Objective	Skills	Knowledge	Resources
Engage Lesson 1	To explore a range of different light sources **recognise that they need light in order to see things and that dark is the absence of light**	Learn through investigation that light travels in straight lines. Actively investigate the nature of white light through a number of practical activities.	Know what a light source is and that the sun is a light source which is so powerful that it will damage your eyes if you look at it (even with sunglasses).	
Develop Lesson 2	To explore how the absence of light affects different objects **recognise that they need light in order to see things and that dark is the absence of light**	Explore and compare the effects of darkness on different objects	Light sources are objects that emit (give off) their own light. If something is a light source, you could still see it in complete darkness because it would be giving off (emitting) light. Objects which do not give off (emit) light are not light sources.	•
Develop Lesson 3	To understand how light is reflected **notice that light is reflected from surfaces**	Explore, using equipment, how light can be reflected Investigate how light is reflected differently depending on the material the object is made from.	Light can reflect (bounce off) the surface of objects and travel to our eyes so that we can see them. All objects reflect light but some reflect more back to our eyes, making them clearer to see.	•
Develop Lesson 4	To understand how shadows are formed **recognise that shadows are formed when the light from**	Explore, using equipment, how shadows are formed	Understand how a shadow changes depending on the object's orientation.	•

Be Brave, Be Curious, Be Kind

Lesson Breakdown - Science

LANDAU FORTE ACADEMY MOORHEAD

	a light source is blocked by an opaque object			
Innovate Lesson 5	To create your own sun dial and record your findings **recognise that shadows are formed when the light from a light source is blocked by an opaque object** **find patterns in the way that the size of shadows change**	Set up simple practical enquiries and comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units. Record findings using simple scientific language and tables.	Understand that, before clocks were invented, the sun and shadows were used to tell the time. These devices are called sundials. The shadow stick was the earliest form of the sundial. The length and position of where the sun had cast a shadow would allow people to judge the time of day.	
Innovate Lesson 6	To explore how distance from light sources changes the size of shadows **find patterns in the way that the size of shadows change**	Set up simple practical enquiries and comparative and fair tests. Make systematic and careful observations and, where appropriate, take accurate measurements using standard units. Record findings using simple scientific language and tables.	The distance of a light can affect the size of the shadow. This includes the distance of the light source to the object, and the distance of the object to the surface where the shadow is cast. Shadows get bigger when an object gets closer to the light source.	
Express Lesson 7: Assessment	To be able to recall knowledge from this project.	n/a	n/a	n/a

Key Vocabulary:							
colour spectrum concave convex	energy image investigate	light light source measure	mirror opaque predict	reflect reflection reflective materials	reflector refraction shadow	source translucent transparent	visible light white light