

Teachers Name _____

Date CPD Completed _____/_____/_____ (dd/mm/yy)

Science Discipline **Biology**

MEL Scheme of Work (SoW) **Plants and Photosynthesis**




Lesson No. **1-8**




Class / Pupil Details: No. of pupils _____ Year group _____

Class _____ SEN Pupils + Details _____




PART 1 – Before Teaching the Lesson

Teachers Initial Self-Assessment

No.	Descriptor	Yes	No			
TEACHING THE SCIENTIFIC METHOD						
Please complete the appropriate section relating to the lesson you taught.						
Evaluating a scientific investigation						
1.	I can teach pupils how to acknowledge that their results match their prediction.					
2.	I can teach pupils how to draw conclusion from their data.					
3.	I can teach pupils how to ensure that the data is accurate and repeatable.					
4.	I can teach pupils how to explain where 'anomalies' in data occurred, how they affected the data interpretation and what caused them.					
5.	I can teach pupils how to make the data more accurate.					
6.	I can teach pupils how to develop the investigation.					




No.	Descriptor	Yes	No			
TEACHING THE SCIENCE / STEM KNOWLEDGE						
1.	I am confident about teaching the topic of Plants and Photosynthesis.					
2.	I know:					

	<ul style="list-style-type: none"> • how to prove if something is living. • why plants are living things. • that plants have a variety of features which differ from plant to plant. 					
3.	I can explain describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.					
4.	I can teach 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.					
5.	I know the way in which water is transported within plants.					
6.	I know the role of photosynthesis process in the life cycle of plants and why plants are considered autotrophs.					
7.	I know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.					
8.	I can explain the life process of reproduction in some plants.					
9.	I can explain how living things are classified into broad groups according to common observable characteristics and based on similarities and differences.					
10.	I can give reasons for classifying plants based on specific characteristics.					
11.	I can identify how plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.					

No.	Descriptor	Yes	No			
CLASSROOM PRACTICE / Use of Technical Experimental Equipment						
1.	I can explain how to see and examine epidermis and stomata of the leaf.					

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2.	I can explain the bean structure and dissection techniques.					
3.	I can explain how chlorophyll can be extracted from spinach leaves.					
4.	I can use and explain the process of CO ₂ absorption by plants.					
5.	I can explain which features characterize cacti as plants.					
6.	I can use and explain flower parts and their functions.					
7.	I can explain why holly leaves spines vary from top to bottom of the tree and how it helps the tree to reduce damage from animals.					
8.	I can use and explain how water gets to the plant with a celery experiment.					
9.	I can use and explain the Oxygen from plants experiment to show how oxygen is produced during photosynthesis.					
10.	I can use and explain how pine seeds spread and the role of rehydration process in protection of the seeds.					
11.	I can explain multiple ways of how seeds disperse.					
12.	I can explain what is needed for a successful seed germination.					
13.	I can use and explain carbon conductive properties with graphite circuits investigation.					
14.	I can use and explain tree growth experience with a slice of a tree trunk.					
15.	I can use and explain sensitivity as a living feature of plants with a Venus flytrap.					
16.	I can use and explain how plants loose water during photosynthesis.					
17.	I can explain how to safely peel epidermis off the leaf and examine stomata of the leaf.					




No.	Descriptor	Yes	No			
CLASSROOM PRACTICE						
1.	I can prepare in advance all the resources necessary for teaching this lesson including: <ul style="list-style-type: none"> • Lesson plans • Power-points / slides / images • Equipment • Worksheets • Pupil handouts 					
2.	I can effectively manage pupils learning for the duration of the lesson.					
3.	I can conduct effective and informative formative assessments of pupil’s knowledge before the class to inform the appropriate content, design and pace of the lesson.					
4.	I can keep pupils motivated and engaged throughout the lesson.					
5.	I can assess pupils learning progress at the end of the lesson using a range of appropriate plenary techniques and use this to design the sequential lesson.					

PART 2 – After Teaching the lesson




Teachers Reflective Self-Assessment

No.	Descriptor	Yes	No			
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TEACHING THE SCIENTIFIC METHOD - Evaluating a scientific investigation					
1.	I can teach pupils how to acknowledge that their results match their prediction.				
2.	I can teach pupils how to draw conclusion from their data.				
3.	I can teach pupils how to ensure that the data is accurate and repeatable.				
4.	I can teach pupils how to explain where 'anomalies' in data occurred, how they affected the data interpretation and what caused them.				
5.	I can teach pupils how to make the data more accurate.				
6.	I can teach pupils how to develop the investigation.				

No.	Descriptor	Yes	No			
TEACHING THE SCIENCE / STEM KNOWLEDGE						
1.	I am confident about teaching the topic of Plants and Photosynthesis.					
2.	I know: <ul style="list-style-type: none"> • how to prove if something is living. • why plants are living things. • that plants have a variety of features which differ from plant to plant. 					
3.	I can explain describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.					
4.	I can teach 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.					

5.	I know the way in which water is transported within plants.					
6.	I know the role of photosynthesis process in the life cycle of plants and why plants are considered autotrophs.					
7.	I know the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.					
8.	I can explain the life process of reproduction in some plants.					
9.	I can explain how living things are classified into broad groups according to common observable characteristics and based on similarities and differences.					
10.	I can give reasons for classifying plants based on specific characteristics.					
11.	I can identify how plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.					

No.	Descriptor	Yes	No			
TEACHING THE SCIENCE / Use of Technical Experimental Equipment						
1.	I can explain how to see and examine epidermis and stomata of the leaf.					
2.	I can explain the bean structure and dissection techniques.					
3.	I can explain how chlorophyll can be extracted from spinach leaves.					
4.	I can use and explain the process of CO ₂ adsorption by plants.					
5.	I can explain which features characterize cacti as plants.					

6.	I can use and explain flower parts and their functions.					
7.	I can explain why holly leaves spines vary from top to bottom of the tree and how it helps the tree to reduce damage from animals.					
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No.	Descriptor	Yes	No			
CLASSROOM PRACTICE						

1.	I can prepare in advance all the resources necessary for teaching this lesson including: <ul style="list-style-type: none"> • Lesson plans • Power-points / slides / images • Equipment • Worksheets • Pupil handouts 					
2.	I can effectively manage pupils learning for the duration of the lesson.					
3.	I can conduct effective and informative formative assessments of pupil's knowledge before the class to inform the appropriate content, design and pace of the lesson.					
4.	I can keep pupils motivated and engaged throughout the lesson.					
5.	I can assess pupils learning progress at the end of the lesson using a range of appropriate plenary techniques and use this to design the sequential lesson.					
6.	I can inspire pupils to want to keep studying this subject.					

Teachers Summary Statement

Teachers are encouraged here to write down how they felt each aspect of the lesson went and where they felt there was opportunity for development / improvement. You should also write down what you felt went really well and why and how this aspect of your lesson will help in future lessons and why / where.

- What did you feel went really well?

- If you repeated this lesson what would you change and why?

- What do you feel is the most important lesson you have learnt in teaching this lesson?

External CPD Validation Moderators comments			
(Name		Date	
)			
Please attach anonymised Pupil Feedback form to fully compliment the CPD			
Grade Awarded	Merit	Pass	Fail
Awarding Body Stamp / Seal			