NHSG Key Stage 3 Unit Overview for Y7 Science: Plants

Scheme of Learning	Y7 Science: Plants
Learning Objectives	1. Outline the main structures in a plant 2. Describe the process of photosynthesis and how the plant obtains the reactants for this process 3. Describe the main adaptations of a leaf 4. Explain how stomata allow for gas exchange 5. Label and describe the main structures of a flower 6. Describe the process of pollination 7. Compare the structure of wind and insect pollinated plants. 8. Compare fertilisation in plants to animals 9. Describe how seeds and fruits are formed. 10. Explain how seeds are adapted to their method of dispersal
Key Question	How do plants grow and reproduce?
Knowledge	To understand how plants obtain the reactants for photosynthesis and how these are transported to the site of photosynthesis. To also describe how the products of photosynthesis are used/ transported out of the plant. To describe the steps and structures involved in the fertilisation of a plant and compare these the human reproduction.
Ongoing Assessment	• Retrieval questions at the start of every lesson. • Worksheets in booklet format for all major concepts to be used for self and peer assessment. • Revision checklist at beginning of handout pack and retrieval questions at the end. • Homework is set for peer assessment
Key Assessment	End of topic test, 30 marks in 35 minutes. Including a mixture of MCQ, short answer and long answer questions. With mark schemes moderated by the team, with notes on standardised language.

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Clear sequencing of content	This follows on from their introduction to cells at the beginning of the year and the focus on palisade cells. It also follows on from chemistry introduction to word equations and draws on knowledge from their reproductive unit. Plants is then followed up in the GCSE content in Y9 where they add additional detail.
Career pathways	Botanist, Horticulture, Agriculture, Conservationist, Farming, Plant geneticist, Florist, Ecologist.
Diversity and Inclusion	Introducing students to key figures in history that have contributed to the field.
Intervention support	Learning checklist and key terminology are highlighted throughout. Online textbook via Kerboodle includes working scientifically, glossary and literacy support. Adaptive teaching in the classroom supports all learners.
Challenge	Introduce a-sexual reproduction as a challenge. Introduce PhD research that has been rewritten in manageable chunks on the topics of selective breeding in plants and optimising photosynthesis for students to read up on.