

KS4 Photosynthesis and Gas Exchange Classroom activity pack

This pack contains a series of activities for you to complete with your class both before and after your visit to Kew.

You may choose to do all of the activities or just select one. Post-visit activities are intended to build on the learning from the educational session at Kew. Many of the resources can be used on a whiteboard or can be printed.



KS4 Photosynthesis and gas exchange

Thank you for booking the KS4 Photosynthesis and Gas Exchange education session at Kew.

You can use the pre-visit activity to support your pupils' learning.

Ahead of your visit, your pupils could answer the question below. They can tell us about their answers when they come to Kew.



Question:

Kew scientists are working in the Arabian Peninsula to collect and bank endangered desert plant species before they die out.

What would the conditions be like in this area? Suggest how plants could be adapted to survive in these conditions.

Why might it be useful for scientists to collect seeds from plants growing in these conditions? Suggest how this project could affect your life in the UK.

You could discuss with your students:

- The importance of plant adaptations to hot and dry environments for our food security, especially as our climate changes.
- The importance of safeguarding genetic diversity.

You can find more information about this Kew project at:

<https://www.kew.org/read-and-watch/empty-quarter-arabia-disappearing-plants>



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Post-visit teacher notes

KS4 Photosynthesis and Gas Exchange

We hope that the teaching session at Kew assisted in developing the skills and knowledge of your pupils and provided them with an insight into the amazing plants and world-leading plant science at Kew.

Following your visit, you can use the post-visit activity to further support your pupils' learning.

You could encourage your students to answer the question below.



Kew scientists have been investigating *Equisteum* (a fern relative), which has evolved to live without any leaves, making their stems the photosynthetic organ.

Suggest the advantage of this for the plants.

More information about this plant adaptation (and more!) is available at:
<https://www.kew.org/read-and-watch/how-plants-have-adapted>





Thinking back to your visit to Kew

When you visited Kew, you learnt about the ways in which plants reduce water loss.

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