

KS5 Deserts: Plants and the Future 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.



Thank you for booking the Deserts: Plants and the Future 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.



What is desertification?

Suggest factors that could contribute to desertification.

You could encourage students to discuss the following:

- Climate change
- Population growth
- Agricultural practices
- Deforestation



Kew scientists are involved in projects that are trying to prevent desertification. For example, Kew is working with communities in sub-Saharan Africa to build a 'Great Green Wall', spanning the entire width of the continent. This will act as a barrier against the encroaching desert, as well as providing a sustainable future for communities.



What is desertification?

Suggest factors that could contribute to desertification.



Post-visit teacher notes

KS5 Deserts: Plants and the Future

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.

Your pupils could answer the long answer exam-style question below.



Assess the causes and potential impacts of desertification.
[20 marks]

They can then check their answers using the mark scheme provided.





Assess the causes and potential impacts of desertification.

[20 marks]



Qu.	Marking guidance	Assessment Objectives	Total marks
1	<p>Assess the causes and potential impacts of desertification.</p> <p><i>A01 - Knowledge and understanding of the causes of desertification. Knowledge and understanding of the possible impacts of desertification.</i></p> <p><i>A02 – Application of knowledge and understanding to analyse and evaluate the impacts of desertification. Response should have clear assessment of the impacts of desertification.</i></p> <p>A01</p> <ul style="list-style-type: none"> • Definition of desertification – the persistent degradation of dryland ecosystems by human activities and climate change. • Causes of desertification: <ul style="list-style-type: none"> - Climate change: Less and more unpredictable rainfall. Higher temperatures – less evapotranspiration, so less rain. Rivers dry up and water supply declines. - Human activity: Population growth, migration, growing need for feeding and fuelwood. Intensive agriculture, over-cultivation, overgrazing, deforestation – all remove vegetation, leading to soil erosion, meaning vegetation cannot re-establish itself. All lead to land degradation and then desertification. • Desertification impacts on ecosystems, populations and landscapes. <p>A02</p> <ul style="list-style-type: none"> • Allow any reasonable impacts of desertification. • Impacts on ecosystems: <ul style="list-style-type: none"> - Animal and plant life cycles are affected (migration, mating, seed production). - Food webs are affected. - Changes in pathogens and diseases, which can affect human health, agriculture and fisheries. - Reduction in habitats, and some species may become extinct. • Impacts on populations: <ul style="list-style-type: none"> - Reduced soil fertility means lower agriculture yields and decline in crop diversity. - Drought and famine - Loss of land and culture; forced migration (there may be conflict on the land that is left). • Impacts on landscapes: <ul style="list-style-type: none"> - Soil erosion - More sand and dunes - More treeless areas - Increased river and lake sedimentation - Increased soil salinity - More sand storms - Desert winds damaging vegetation. 	<p>A01 = 10 A02 = 10</p>	<p>20</p>