

3.3.2 Plant defence responses

AQA GCSE Biology (Higher) Question and answer notes

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How to use these notes

These notes cover everything you need to know for this part of the specification. They have been written in question-answer format to make them easier for you to study from.

In order to study successfully, I recommend you do the following for each question and answer:

- Read it carefully and make sure you **understand** it.
- **Memorise** the answer.
- **Practice** applying your understanding to past exam questions.

A good way to memorise information is to use **retrieval practice**. This is when you practise retrieving information from your memory. You could do this by making a flashcard for each question with the question on one side and the answer on the other. Or you could use a flashcard app. Alternatively, use a sheet of paper to cover up the answer so you can only see the question. Try to answer the question and then check how you did.

You should practise retrieving each answer from your memory until you can do it perfectly. Even once you can retrieve the answer perfectly, your ability to retrieve it will probably fade as time passes without practising. Therefore you will need to keep going back to the questions that you have previously mastered and practising them again. However, each time you re-learn the answer, the memory will be stronger and will last longer than the time before.

What are the three types of defence responses that plants use to protect themselves from pathogens and pests?

The three types of defence responses that plants use to protect themselves from pathogens and pests are:

- Physical defence responses
- Chemical defence responses
- Mechanical defence responses

What are some of the physical defence responses that plants have?

The physical defence responses of plants include the following:

- Plant cells are surrounded by cellulose cell walls, which make it more difficult for pathogens to enter cells.
- Leaves are covered in a thick waxy cuticle which acts as a barrier to pathogens.
- The stems of plants are surrounded by a layer of dead cells which acts as a barrier to pathogens. In woody plants (like trees and shrubs), this layer is the bark.

What are some of the chemical defence responses that plants have?

The chemical defence responses of plants include the following:

- Plants produce antibacterial chemicals to kill bacterial pathogens.
- Plants produce poisons to deter herbivores (animals that eat plants).

What are some of the mechanical defence responses that plants have?

The mechanical defence responses of plants include the following:

- Some plants have thorns and hairs to deter herbivores.
- Some plants have leaves that droop or curl when touched. This can remove insects from the leaves or scare larger animals.
- Some plants use mimicry (looking like another organism) to deter herbivores. For example, some non-poisonous plants look like other plants that are poisonous in order to trick animals into avoiding them.