

# Edexcel (A) Biology A-level

## 4.13 to 4.16 - Human Impact on Resources

### Flashcards

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Name and describe a historic method of drug testing.



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William Withering's digitalis soup.

Discovered that this drug can treat dropsy, used trial and error to work out the correct dose. Dangerous as it led to some patients being poisoned.



Explain how placebos are used in drug testing.



Explain how placebos are used in drug testing.

- Placebos are identical in every way to the drug being tested, except they do not contain any active ingredient.
- Patients do not know whether they have the placebo or real drug, so there will be no psychological effects on their improvement.



Explain how double blind trials are used in drug testing.



Explain how double blind trials are used in drug testing.

Neither the patient nor the doctors know who has a placebo and who has the real drug. This eliminates any possible bias.



Summarise the process of three-phased drug testing.





Summarise the process of three-phased drug testing.

1. Drug tested on healthy individuals to check for side effects.
2. Drug tested on a group of patients.
3. Drug tested on large numbers of patients, one group receiving the existing treatment and the other receiving the new treatment.



Give the conditions required for bacterial growth.



Give the conditions required for bacterial growth.

- Correct temperature and pH for metabolic enzymes.
- Source of nutrients required for respiration.
- Supply of oxygen (for aerobic bacteria).



Explain how using plant-based products  
can improve sustainability.



Explain how using plant-based products can improve sustainability.

- Sustainability = using resources in a way that also maintains them for future generations.
- Plant fibres, used in fabrics, are biodegradable and cheap.
- Starch, used in biofuel, is extracted from crops which can be regrown.



Define conservation.



Define conservation.

The protection and management of species and habitats, in order to maintain biodiversity. Methods need to be adapted to the ecosystem in question.



Give some methods used in the conservation of endangered species.





# Give some methods used in the conservation of endangered species.

Ex-situ	In-situ
<ul style="list-style-type: none"><li>● Captive breeding programmes, sometimes followed by reintroduction</li></ul>	<ul style="list-style-type: none"><li>● Scientific research</li></ul>
<ul style="list-style-type: none"><li>● Seed banks</li></ul>	<ul style="list-style-type: none"><li>● Education</li></ul>



Give advantages and disadvantages of  
ex-situ conservation.



Give advantages and disadvantages of ex-situ conservation.

- + Requires little space, eliminates predators and poachers.
- Expensive, can't fully recreate natural habitat, disease spreads quickly.



Give advantages and disadvantages of in-situ conservation.



Give advantages and disadvantages of in-situ conservation.

- + Protects more than one species, cheap, few resources required.
- Hard to enforce legislation, populations may still decline.

