

AQA, OCR, Edexcel

GCSE Science

GCSE Biology

Drug Discovery Answers

Name:

M M E

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Total Marks: /22

Q1: Where were drugs traditionally extracted?

A= Plants

(1 mark)

Q2: Digitalis is a heart medication. What plant was the drug originally extracted from?

A= Foxgloves

(1 mark)

Q3: What can a drug become if given in large quantities?

A= Poison/poisonous

(1 mark)

Q4: Aspirin is a type of painkiller from what plant is the compound originally extracted from?

A= Willow

(1 mark)

Q5: Aspirin has been used to treat pain and inflammation since 400 BC. Explain why it is still a popular painkiller.

A= Accept any 2 of the following:

- Cheap
- Few side effects
- Multiple uses

(2 marks)

Q6: Discuss how Alexander Fleming discovered penicillin.

A= Accept any 3 of the following:

- Clear ring of gel around his mould cultures (no growth around cultures)
- Something had killed the mould
- Cross contamination of his work
- Uses a mould (penicillin) to kill bacteria

(3 marks)

Q7: Why was the discovery of penicillin important?

A= Accept any 3 of the following:

- 1st antibiotic
- Used in WWII – helped the war effort
- Changed future of medicine
- Saved many lives from communicable diseases

(3 marks)

Q8: Explain why the production of synthetic forms of drugs are preferred to plant extracts.

A= Accept any 2 of the following:

- Purer compound
- No other interacting compounds
- Keeps the natural resource
- No limit on the final drug supply

(2 marks)

Q9: Discuss ways new drugs are being discovered.

A= Accept any 5 of the following:

- Computer models
- Synthesised chemicals
- Examining wild plants
- Research into making wild extractions more efficient
- Soil
- Microorganisms

(5 marks)

Q10: A new antibiotic has been discovered in soil and has shown great effectiveness.

Why is this a promising antibiotic development?

A= 1 mark for each of the following points:

- Can use a resistant bacteria
- E.g. MRSA

(2 marks)

Q11: Why is antibiotic discovery using soil difficult?

A= Difficult to culture/ grow

(1 mark)