

### Biology unit 3 homework – Infection and response

For each of the questions below: -

Highlight the command word if there is one & annotate what the command word means. - Answer the question!

**Q1.** Pathogens cause infectious diseases in animals and plants.

(a) Draw **one** line from each disease to the type of pathogen that causes the disease.

Disease	Type of pathogen
Gonorrhoea	Bacterium
Malaria	Fungus
Measles	Protist
	Virus

(3)

**Q2.**

The body defends itself against pathogens.

(a) Give **three** ways that white blood cells defend the body against pathogens.

Tick (✓) **three** boxes.

Ingest pathogens	<input type="checkbox"/>
Produce antibiotics	<input type="checkbox"/>
Produce antibodies	<input type="checkbox"/>
Produce antibodies	<input type="checkbox"/>
Produce antitoxins	<input type="checkbox"/>
Produce vaccines	<input type="checkbox"/>
Stop pathogens entering the body	<input type="checkbox"/>

(3)

**Biology unit 3 homework – Infection and response**

For each of the questions below: -

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- (b) Bacterial infections can be treated with antibiotics.

Sometimes bacteria are resistant to antibiotics.

What does *resistant to antibiotics* mean?

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(1)

**Q3.**

New drugs have to be tested before they can be sold.

- (ii) During **Phase 1** clinical trials, the drug is tested on healthy volunteers using low doses.

Draw a ring around the correct answer to complete the sentence.

The reason for **Phase 1** testing is to

find the best dose.

see if the drug works.

see if the drug has side effects.

(1)

- (iii) During **Phase 2** and **Phase 3** clinical trials, half of the volunteers are given a fake drug called a placebo in a double blind trial.

In a double blind trial, who knows which volunteers are given the drug and which volunteers are given the placebo?

Tick (✓) **one** box.

	Tick (✓)
The doctors but not the volunteers	
The doctors and the volunteers	
The volunteers but not the doctors	
Neither the volunteers nor the doctors	

(1)

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**Q4.**

- (c) After the outbreak began, drug companies started to develop drugs and vaccines for EVD.

A drug has to be thoroughly tested and trialled before it is licensed for use.

Testing, trialling and licensing new drugs usually takes several years.

Draw **one** line from each word about drug testing to the definition of the word.

**Word about drug testing**

**Definition**

Dose

Side effects making the person ill

Efficacy

The concentration of the drug to be used and how often the drug should be given

Toxicity

Whether the drug works to treat the illness

(3)

**Q5.** Pathogens are microorganisms that cause infectious disease.

- (b) One way the human body protects itself against the entry of pathogens is by producing antimicrobial chemicals.

Antimicrobial chemicals kill pathogens.

Give **two** other ways the human body protects itself against the **entry** of pathogens.

1. \_\_\_\_\_  
\_\_\_\_\_

2. \_\_\_\_\_  
\_\_\_\_\_

(2)

- (c) Measles is a childhood disease caused by a microorganism.

Measles is **not** treated by antibiotics.

Give the reason why.

\_\_\_\_\_

(1)

### Biology unit 3 homework – Infection and response

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#### Q6.

Pathogens are microorganisms that cause infectious diseases.

- (i) Between 1750 and 1850 vaccinations were also developed.  
What is in a vaccine?

Tick (✓) **one** box.

large amounts of dead pathogens

large amounts of live pathogens

small amounts of dead pathogens

(1)

- (b) Antibiotics were developed in the 1940s. Antibiotics kill bacteria.

- (i) Which **one** of the following is an antibiotic?

Draw a ring around the correct answer.

**cholesterol**

**penicillin**

**thalidomide**

(1)

#### Q7.

The MMR vaccine is used to protect children against measles, mumps and rubella.

- (a) Complete the sentences about vaccination.

Vaccines stimulate white blood cells to produce \_\_\_\_\_ .

This makes children \_\_\_\_\_ to the pathogen.

(2)

#### Q8.

Bacteria and viruses can reproduce quickly inside the body and make people feel ill.

- (a) Use the correct answer from the box to complete the sentence.

**antibodies**

**antitoxins**

**toxins**

Bacteria and viruses make us feel ill because they produce \_\_\_\_\_ .

(1)