

# Communicable Diseases

## Mark Scheme 1

<b>Level</b>	GCSE (9-1)
<b>Subject</b>	Combined Science: Trilogy - Biology
<b>Exam Board</b>	AQA
<b>Topic</b>	4.3 Infection and Response
<b>Sub-Topic</b>	Communicable Diseases
<b>Difficulty Level</b>	Bronze Level
<b>Booklet</b>	Mark Scheme 1

**Time Allowed:** 56 minutes

**Score:** /53

**Percentage:** /100

**Grade Boundaries:**

**M1.(a)** 8 (micrometres) 1

(b) red blood cell(s) 1

white blood cell(s)  
*accept named cell*  
*eg phagocyte / lymphocyte* 1

(plasma)  
transports proteins / dissolved substances / food (molecules) / urea / hormones /  
blood  
cells 1

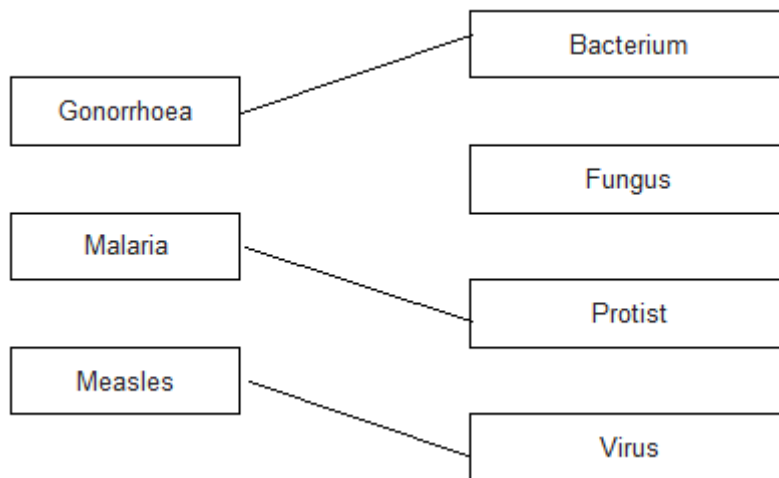
(c) any **one** from:  

- you could lose a lot of blood
- bleed internally

*allow bleeding would not stop*  
*allow could bleed to death* 1

[5]

**M2.(a)**



3

(b) (trachea) has mucus

1

to trap pathogens

1

(trachea) has cilia

1

to move mucus out of trachea

1

(c) **dependent variable:**  
number of times mosquitoes landed on socks

1

**control variable:**  
any **one** from:

- number of mosquitoes in each container
- length of time socks worn
- dampness of socks
- same type of socks

- size of container
- time
- temperature
- species of mosquito
- age of mosquito

1

- (d) use worn socks  
**or**  
 use chemical from worn socks

1

to attract / trap infected mosquitoes

1

*or accept:*

*wear clean socks / change socks regularly (1)*

*to reduce the chance of attracting mosquitoes (1)*

- (e) less chlorophyll present

1

(so) less light absorbed

1

(so) reduced photosynthesis

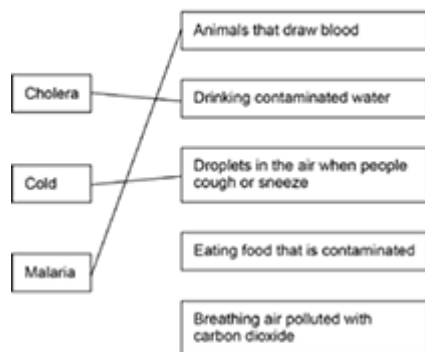
**or**

(so) less sugar / food made

1

[14]

**M3.(a) Disease Way the disease is spread**



*extra lines from left cancel the mark*

3

(b) any **two** from:

- skin acts as a barrier
- blood clots (over cuts)
- nose (hairs) catch particles (breathed in)
- mucus (in trachea / bronchi) traps microorganisms
- acid in stomach kills microorganisms

2

(c) because measles is a virus

1

(d) 28 / twenty eight

*± 0.5 small square tolerance*

1

(e) 2.5

1

(f) number will decrease

1

less likely to come into contact with someone with measles / the disease

1  
[10]

M4.(a) (i) 64

1

(ii) 36

*allow e.c.f from (i) i.e. 100 – answer given in (a)(i)*

1

(iii) any **one** from:

- only considers 16-year-olds  
*ignore lack of evidence*  
*allow does not refer to all ages*
- only about some / 5 countries  
*allow does not refer to all countries.*

1

(b) the more exercise done the healthier a person is

*allow the more exercise done the higher the health rating*  
*allow the less exercise done the lower the health rating*

1

(c) having a high cholesterol level

1

(d) (i) antibodies

1

(ii) antibiotics

1

[7]

M5.(a) 40 – 60 hours

1

(b) (i) decrease

1

1<sup>st</sup> slowly then faster / appropriate detail from the graph – e.g. from 7.8 to 0 / faster after 4 – 10h

1

(ii) oxygen after glucose  
*extra box ticked cancels 1 mark*

1

oxygen less than glucose

1

(iii) respiration

1

[6]

**M6.** (a) any **two** from:  
*ignore eating disorder*  
*ignore cancer*

- arthritis  
*accept worn joints*
- diabetes  
*accept high blood sugar*
- high blood pressure  
*ignore cholesterol*
- heart disease / heart condition / heart attack / blood vessel disease  
*allow blood clots / strokes*

2

(b) (i)  $\frac{1}{4}$  or 0.25 or 25%

*correct answer gains 2 marks*

*if answer incorrect, evidence of  $1500 \div 6000$  gains 1 mark*

*25 without % gains 1 mark*

2

- (ii) majority / most / high proportion of people in trial lost mass / weight  
*ignore good results / it worked*

1

[5]

M7. (a) (i) 12

*correct answer with **or** without working*

*if answer incorrect evidence of (number of deaths)  $\times$  6 **or** 2  
seen gains 1 mark*

2

- (ii) (ward 2)

more deaths / infections on ward 1

**or**

less deaths / infections on ward 2

1

- (b) (i) **both** bars correctly plotted  
*ie plots in spaces between 2.8 and 3.2 **and** 0.8 and 1.2  
ignore width and shading*

1

- (ii) less deaths / infections

1

- (iii) bacteria / germs / microbes / infection killed / washed off  
*accept less infections passed on*

1

[6]



## Save My Exams! – The Home of Revision

For more awesome GCSE and A level resources, visit us at [www.savemyexams.co.uk/](http://www.savemyexams.co.uk/)