

# Lungs MS

## QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	B = rib C = diaphragm		2
b)i	D	allow lower case	1
b)ii)	carbon dioxide		1
Total marks			4

## QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	red cell		1
a)ii)	diffusion		1
a)iii)	haemoglobin		1
a)iv)	a nucleus		1
b)	(on diagram) arrow from any part of blood to air		1
Total marks			5

## QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	B		1
b)	Narrow(er) small(er) / thin(nier)(air) passages / bronchioles or less air can pass through or harder for air to enter	allow muscle fibres are contracted allow oxygen instead of air  ignore reference to surface area	1
c)i)	salbutamol causes relaxation / reduces contraction		1
c)ii)	widens / enlarges / bronchioles / (air) passages or allows air through more easily or allows person to breathe more easily	allow oxygen instead of air	1
Total marks			4

#### QUESTION 4

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	alveoli / alveolus	allow air sacs	1
a)ii)	any one from: <ul style="list-style-type: none"> <li>• protection (of lungs / heart)</li> <li>• help you breathe / inflate lungs</li> </ul>		1
b)i)	diffusion		1
b)ii)	capillaries		1
b)iii)	any two from: <ul style="list-style-type: none"> <li>• (have many) alveoli</li> <li>• large surface / area</li> <li>• thin (exchange) surface or short diffusion pathway</li> <li>• good blood supply / many capillaries</li> </ul>		2
Total marks			6

#### QUESTION 5

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)i)	diaphragm	accept phonetic spelling	1
a)ii)	(because) the volume (inside the jar) increases (causing) the pressure to decrease (and) air enters the balloon	maximum two marks if no reference to correct part of model  allow oxygen	1  1  1
b)i)	(so it moves by) diffusion from a high concentration (of oxygen) to a low concentration  or (because) there is a high(er) concentration (of oxygen) in the air or there is a low(er) concentration of oxygen in the blood	do not allow osmosis or active transport allow down its / oxygen concentration gradient from the  air or to the blood ignore reference to amount of oxygen	1  1
b)ii)	many gill filaments (give a) large surface / area or thin (so) short diffusion pathway or good blood supply (to) maintain the concentration gradient or water continually flows over	must be in the correct pairs to gain 2 marks    do not allow surface area to  volume ratio	1  1

	them / continually ventilated (to) maintain the concentration gradient		
Total marks			8