



Saint Paul's Catholic High School
A Voluntary Academy and Engineering College





G.C.S.E

PHYSICAL EDUCATION

HOMEWORK

TOPIC: 1.1.5

THE RESPIRATORY SYSTEM

| | | | |
|---|--|--------|--|
| SCORE | | | |
| GRADE | | TARGET | |
| DIVISION | | | |
| PRAISE  | | | |
| ACTION REQUIRED  | | | |
| STUDENT FEEDBACK | | | |

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A* | A | B | C | D | E | F | G | U |
| 90% | 80% | 70% | 60% | 50% | 40% | 30% | 20% | 10% |

NAME: _____

GCSE PE TEACHER: _____

(b) An increase in breathing rate is an example of:

- A a long term benefit of exercise
- B a poor level of fitness
- C an immediate effect of exercise
- D an effect of regular training.

(1)

(d) Which of the following statements correctly identifies the effects of smoking on sports performers?

- A Carbon dioxide in cigarette smoke reduces oxygen available to the muscles.
- B Haemoglobin prefers carbon monoxide so more oxygen is carried out of the lungs.
- C Cardiovascular endurance is not affected by smoking, but speed is, so the sprinter cannot run as fast.
- D Recovery in endurance athletes is slower as a reduced amount of oxygen gets to the muscles due to carbon monoxide in cigarette smoke.

(1)

(i) Which of the following statements is correct?

- A Carbon dioxide is produced as a result of aerobic exercise.
- B Carbon dioxide is not produced when we work aerobically.
- C Oxygen is not needed during aerobic work.
- D The more physical work we do the less oxygen we need.

(1)

Which of the following is a long-term effect of participation in exercise and physical activity on the respiratory system?

(1)

- A** Increase in blood flow to the lungs
 - B** Increase in oxygen debt
 - C** Increase in vital capacity
 - D** Increase in breathing rate
-

Although not illegal, smoking can have dangerous side effects on the body.

(a) In the table:

- name the **two** body systems that can be seriously damaged by cigarette smoke (2)
- state a health risk associated with smoking for each of these systems. (2)

| Body system damaged by smoking | Health risk associated with smoking for this system |
|--------------------------------|---|
| | |
| | |

(b) Apart from the obvious health risks, why are sports performers advised not to smoke?

(1)

.....

.....

(Total for Question 9 = 5 marks)

10 An oxygen debt can occur when working hard during physical activity. Explain the term 'oxygen debt'.

.....

.....

.....

.....

(Total for Question 10 = 3 marks)

11. Figure 2 shows a representation of the lungs during inspiration and expiration.

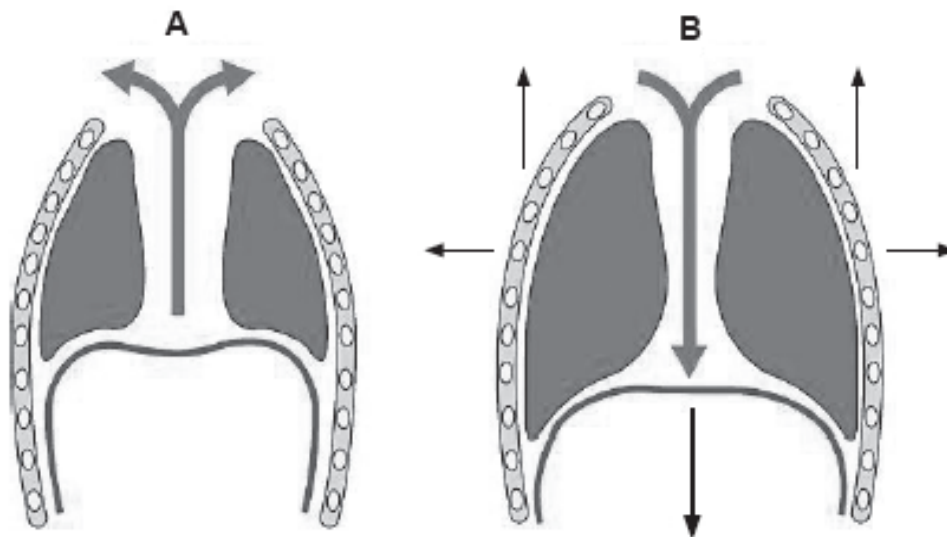


Figure 2

(a) (i) Which of the diagrams, A or B, represents inspiration?

..... (1)

(ii) Give **three** reasons why you have selected this diagram.

- 1
- 2
- 3
- (3)

(b) (i) How does the percentage of oxygen in the lungs differ during inspiration compared to expiration?

..... (1)

(ii) Why is there a difference in the percentage of oxygen in the lungs during inspiration compared to expiration?

.....

..... (2)

(c) (i) What other significant gas is present in the lungs during expiration?

.....
..... (1)

(ii) What happens to the percentage concentration of this gas during inspiration compared to expiration?

.....
..... (1)

(Total 9 marks)

(b) At various points during their training sessions Jade and Hope experience oxygen debt.

(i) Explain the term 'oxygen debt'.

.....
.....
..... (3)

(ii) Does an oxygen debt occur as a result of working aerobically or anaerobically?

.....
..... (1)

(iii) If Jade and Hope understand the reasons for oxygen debt occurring, how might this affect the planning of their training sessions?

.....
.....
..... (2)

12. (a) Complete the statement.

During exercise your breathing rate in order to
take in more air.

(1)

(b) Name the two most important gases contained in inspired air in terms of impact on performance.

Gas 1

Gas 2

(2)

(c) Regular training can affect tidal volume. Explain the term 'tidal volume'.

.....
.....
.....
.....

(1)

(d) What term is being described in the statement below?




'The maximum amount of air that can be forcibly exhaled after breathing in as much as possible.'

.....

(1)

(Total 5 marks)

Student → Teacher Feedback:

| CIRCLE A FACE | WHY? |
|---|---|
|  | I am confident with these areas of this topic..... |
|  | I am unsure on these areas of this topic..... |
|  | I am struggling with these areas of this topic..... |