

# CAMBRIDGE TECHNICAL IN SPORT AND PHYSICAL ACTIVITY

## Year 11 into 12 Transition Booklet



**United College Sixth Form**  
The best in everyone™  
Part of Swindon Academy & United Learning

Name:

Welcome to the Cambridge Technicals in Sport and Physical activity course, you will begin your two-year course with this transition booklet. The booklet is designed to give you the best possible start with the course. We have carefully considered the course and the units required and applied the contents of your first unit into this booklet for you to begin your learning journey. There are many tasks including research tasks which will support your learning within the booklet. Enjoy!

N.B You are welcome to use the internet to support your research, but ensure you use a reliable website like [brianmac.com](http://brianmac.com) rather than Wikipedia. Alternatively, you can use on the PE 6<sup>th</sup> form textbook which are in the PE office or 6<sup>th</sup> form.

# BODY SYSTEMS AND THE EFFECTS OF PHYSICAL ACTIVITY (Unit 1 contents)

## EXAM UNIT

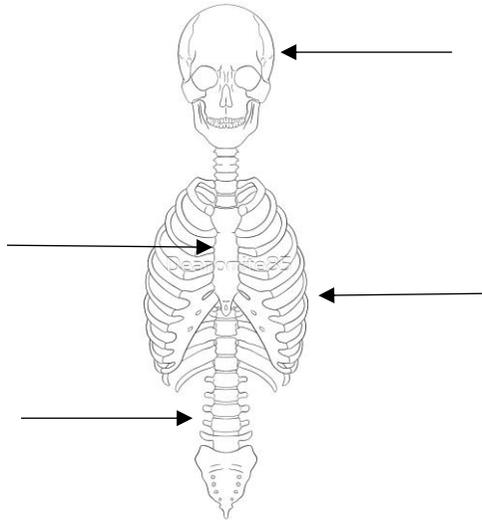


**Task 1:**

Research and complete the labelled diagrams on this page. Make sure your spellings are correct. Then research the functions of the skeleton.

As an extension task – give a description of the axial and appendicular skeleton

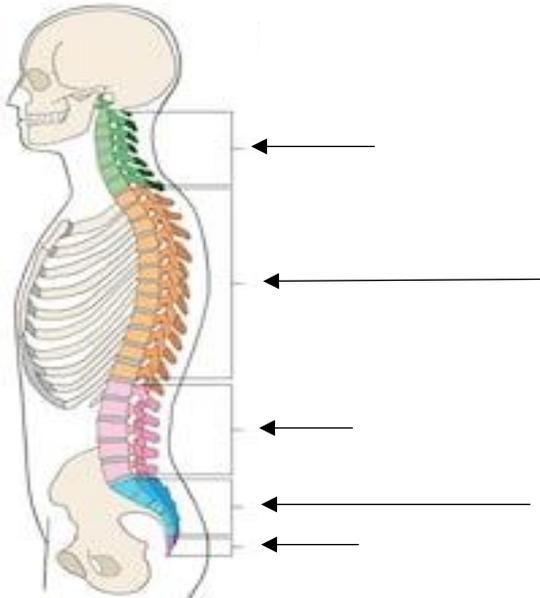
**AXIAL SKELETON**



**APPEDICULAR SKELETON**



**VERTABRAL COLUMN**

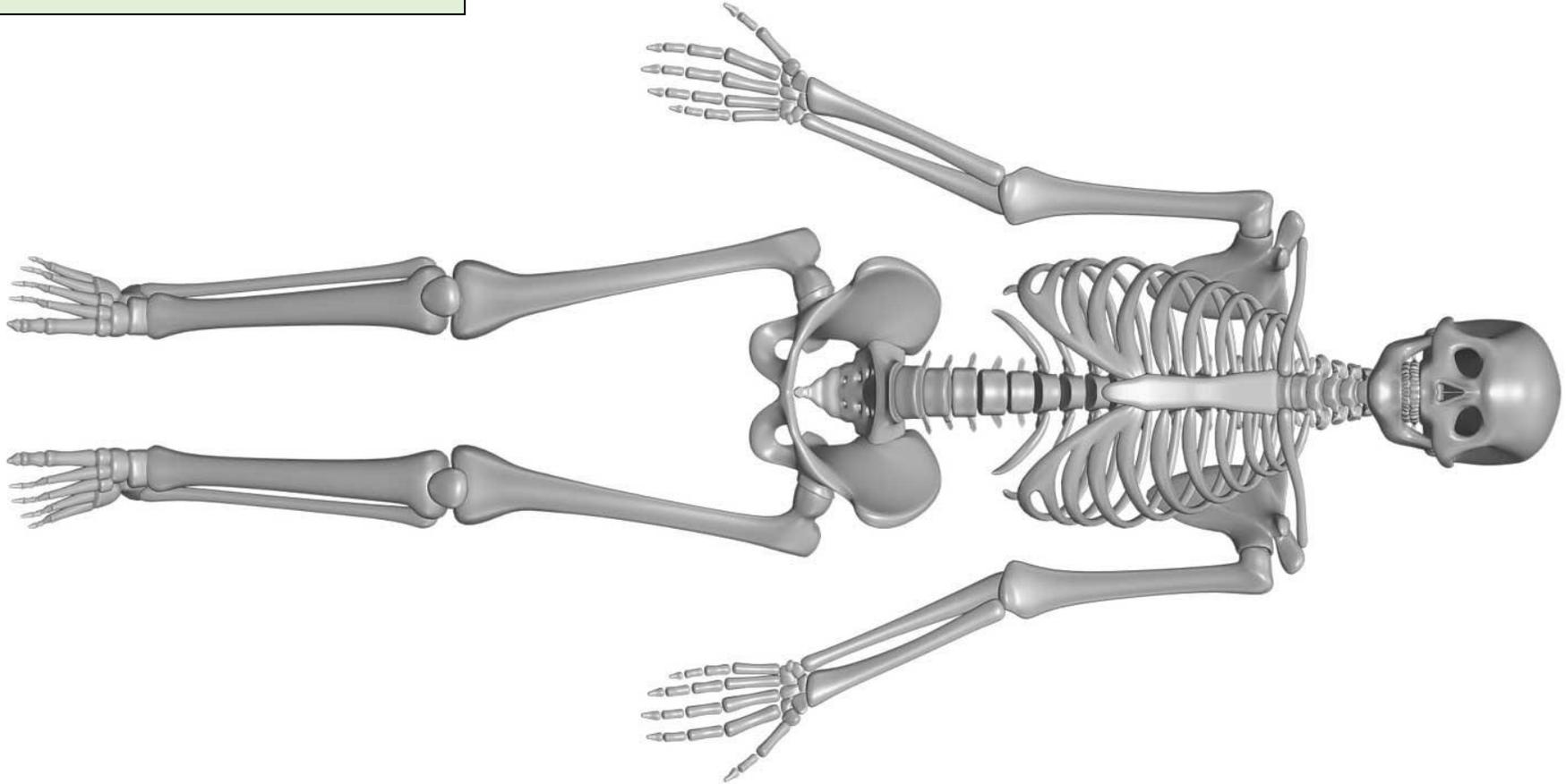


**FUNCTIONS OF THE SKELETON**

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

**Task 2:**

Research and complete the labelled diagrams on this page with as many labels as you can. Try to complete it on your own first to see how many you know, then use research sources to support you. Make sure you label correctly so skull is cranium – use scientific names.



### CLASSIFICATION OF JOINTS

1. FIXED/FUSE  
EXAMPLE:
2. SLIGHTLY MOVABLE/CARTILAGINOUS  
EXAMPLE:
3. FREELY MOVABLE/SYNOVIAL  
EXAMPLE:

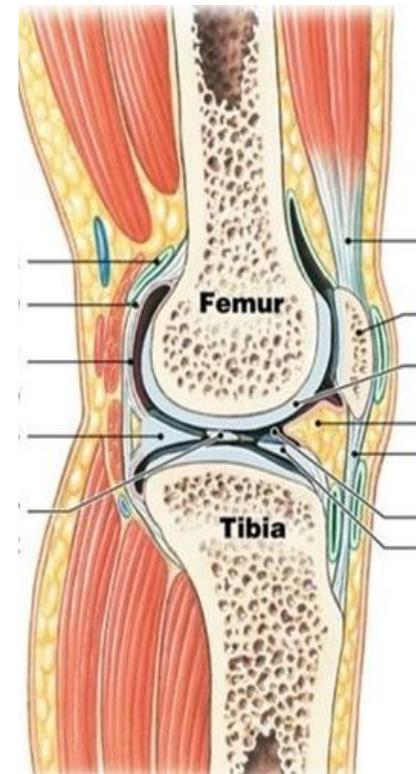
### TYPES OF SYNOVIAL JOINT

1. HINGE
- 2.
3. PIVOT
- 4.
5. SADDLE
- 6.

### EXAMPLES OF SYNOVIAL JOINTS

- 1.
2. SHOULDER/HIP-
- 3.
4. WRIST-
- 5.
6. VERTEBRAE-

### STRUCTURE OF A SYNOVIAL JOINT



### STRUCTURE AND FUNCTION OF A SYNOVIAL JOINT

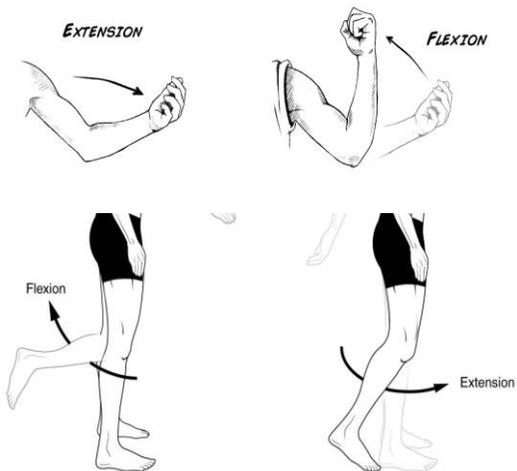
1. CARTLIAGE:
2. LIGAMENTS:
3. SYNOVIAL MEMBRANE:
4. SYNOVIAL FLUID:
5. MENISCI:
6. PADS OF FAT:
7. BURSAE:
8. JOINT CAPSULE:
9. STABILITY:
10. MOBILITY:

### Task 3:

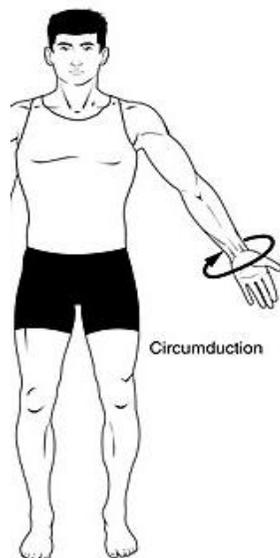
Research and complete the labelled diagrams on this page and the definitions. Make sure your spellings are correct.

As an extension task – link them to sporting movements if you can, or print them from the internet and stick to the page.

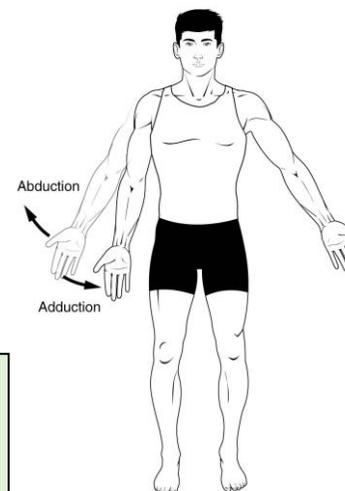
### FLEXION AND EXTENSION



### CIRCUMDUCTION



### ADDUCTION AND ABDUCTION



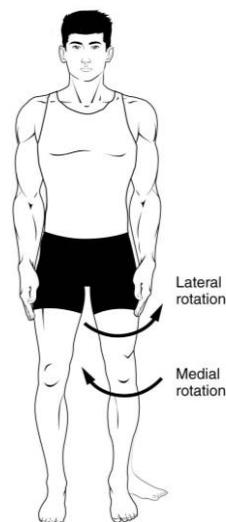
#### Task 4:

Research and complete a definition of each of the types of movement labelled in the boxes and link to a sporting movement example. E.g. flexion could be a bicep curl with weights.

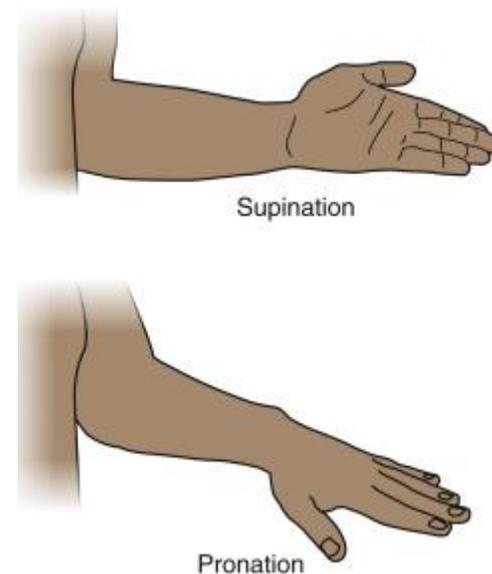
### DORSIFLEXION AND PLANTAR FLEXION



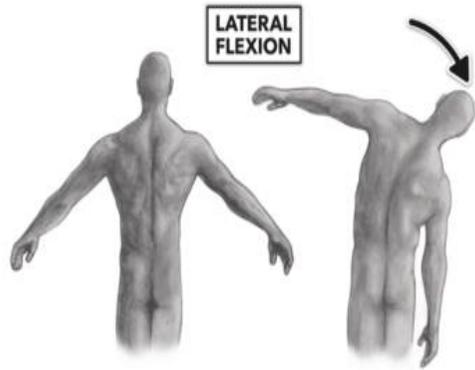
### MEDIAL AND LATERAL ROTATION



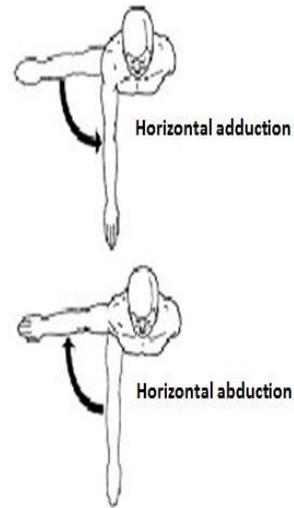
### PRONATION AND SUPINATION



### LATERAL FLEXION



### HORIZONTAL ADDUCTION AND ABDUCTION



### THE IMPACT OF PHYSICAL ACTIVITY ON THE SKELETAL SYSTEM



#### Task 5:

Research and complete the short term and long-term impacts of physical activity on the skeletal system.

Then research and complete the effects of warmups and cools downs on the body.

Use your own knowledge too.

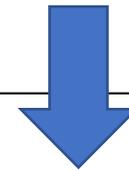
### EFFECTS OF WARM-UPS AND COOL DOWNS

WARM UP:

COOL DOWN:

LONG TERM

SHORT TERM



FRONT

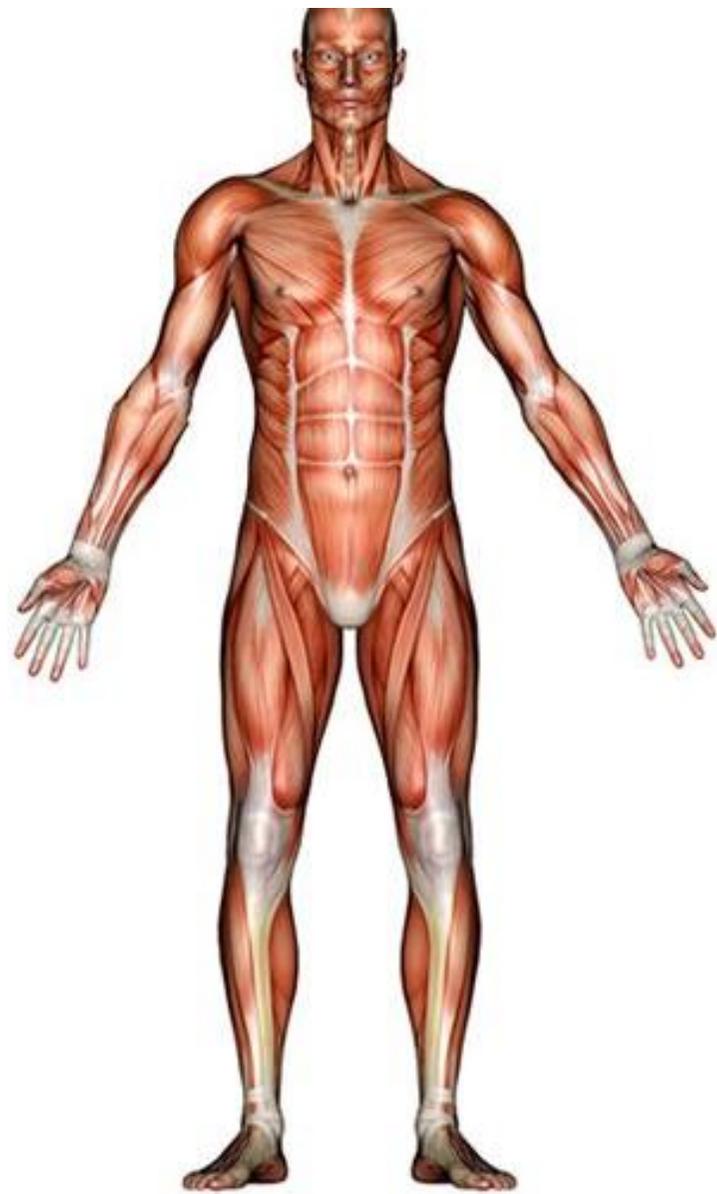


**Task 6:**

Research and apply to the diagrams all the muscles you can. Make sure they are labelled correctly. The use the next page to try and remember as many as you can from your diagrams – no cheating!

BACK





**Task 7:**

Research and complete the definitions of the different types of muscle movements and functions.

An extension is to link to sporting movements if you can.

MUSCLE FUNCTION

AGONIST:

EXAMPLE

MUSCLE FUNCTION

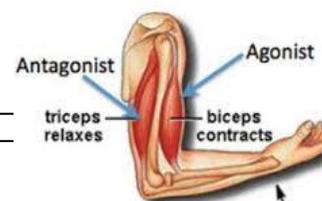
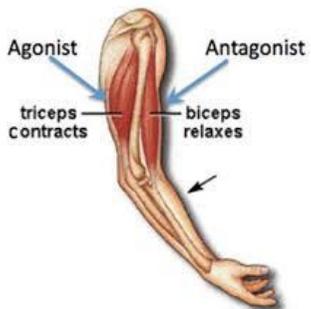
ANTAGONIST:

EXAMPLE

MUSCLE FUNCTION

FIXATOR:

EXAMPLE



MUSCLE CONTRACTION

ISOMETRIC:

EXAMPLE

MUSCLE CONTRACTION

CONCENTRIC:

EXAMPLE

MUSCLE CONTRACTION

ECCENTRIC:

EXAMPLE

SLOW OXIDATIVE

CHARACTERISTICS:



SPORTING EXAMPLES

SPORTING EXAMPLES

FAST OXIDATIVE

CHARACTERISTICS:

**Task 8:**

Research and complete the definitions of the different types of muscle fibres in all boxes.

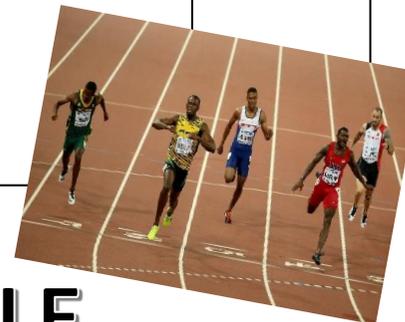
Link to sporting movements if you can!

SPORTING EXAMPLES



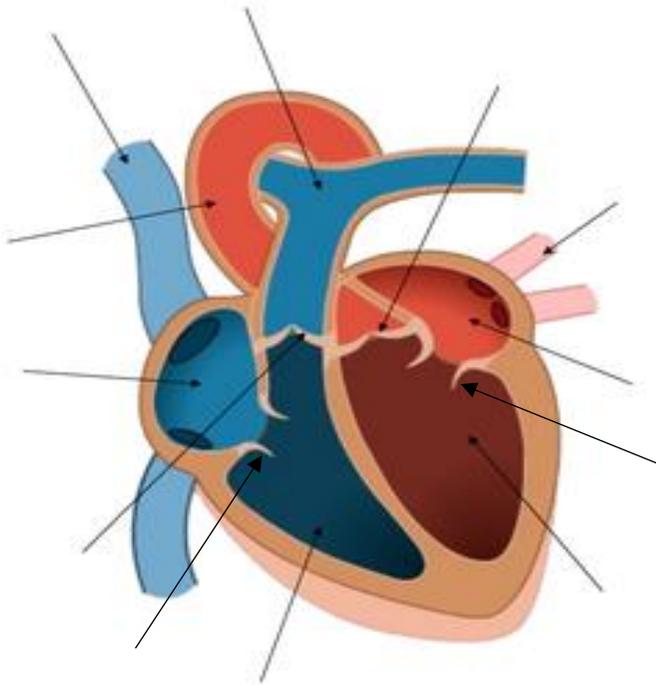
FAST GLYCOLYTIC

CHARACTERISTICS:



# MUSCLE FIBRE TYPES

## THE HEART



## BLOOD VESSELS- STRUCTURE

1. ARTERIES
2. ARTERIOLES
3. VEINS
4. VENULES
5. CAPILLARIES

### **Task 9:**

Research and complete the labels on the heart diagram.

Then research and fill out the definitions of the blood vessels and heart function.

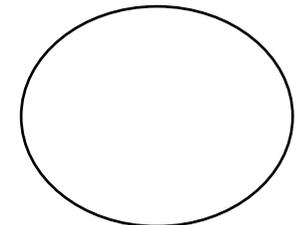
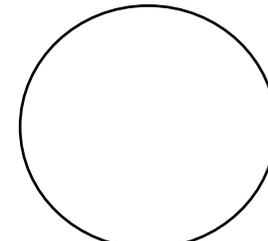
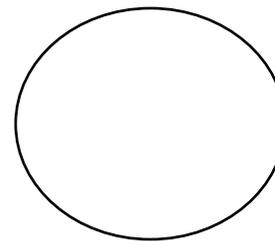
Finally, have a go at drawing a vein, artery and capillary in the circles below.

1. STROKE VOLUME

2. HEART RATE

3. CARDIAC OUTPUT

DRAW A VEIN, ARTERY AND CAPILLARY



**Task 10:**

Research and complete the boxes with the correct information and definitions. You may need to use both the internet and textbooks to help you with this research.

# ENERGY SYSTEMS

## ATP/PC

TYPE OF REACTION:

CHEMICAL OR FOOD FUEL:

AMOUNT OF ATP PRODUCED:

BY-PRODUCTS:

TIME FOR FULL RECOVERY:

## LACTIC ACID

TYPE OF REACTION:

CHEMICAL OR FOOD FUEL:

AMOUNT OF ATP PRODUCED:

BY-PRODUCTS:

TIME FOR FULL RECOVERY:

## AEROBIC

TYPE OF REACTION:

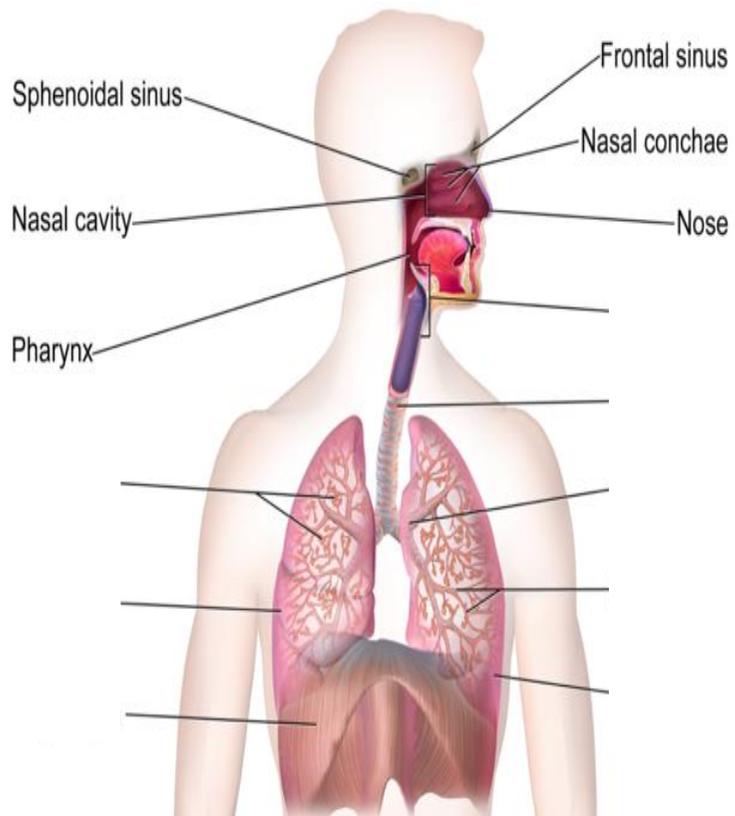
CHEMICAL OR FOOD FUEL:

AMOUNT OF ATP PRODUCED:

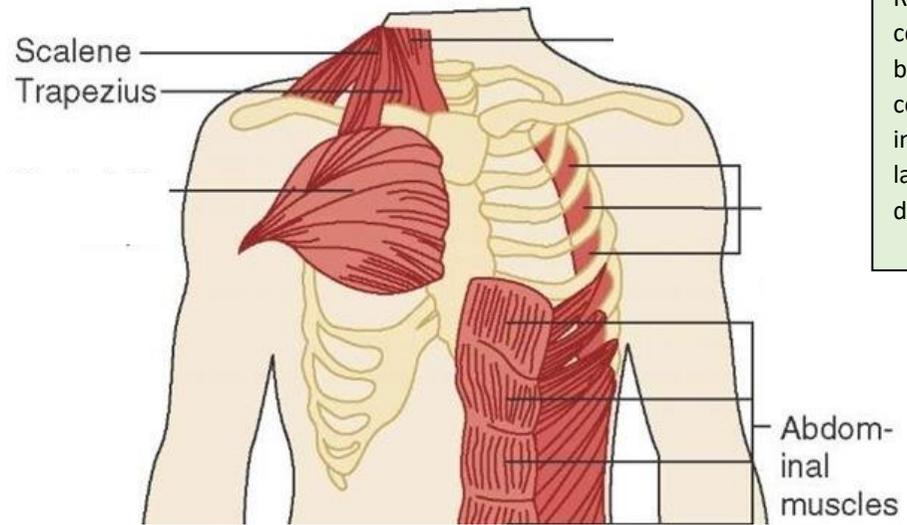
BY-PRODUCTS:

TIME FOR FULL RECOVERY:

### THE RESPIRATORY SYSEM



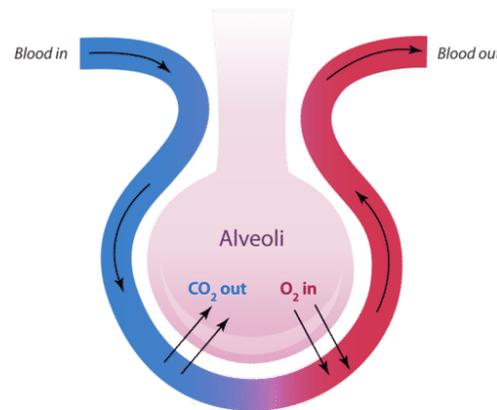
### RESPIRATORY MUSCLES



**Task 11:**  
Research and complete the boxes with the correct information, labels and definitions.

1. TIDAL VOLUME
2. BREATHING FREQUENCY
3. MINUTE VENTILATION

### GASEOUS EXCHANGE



EXPLAIN WHAT IS HAPPENING IN THE DIAGRAM

### AFFECTS OF EXERCISE ON THE RESPIRATORY SYSTEM

1. SHORT TERM AFFECTS:
2. LONG TERM AFFECTS:

Notes page: