

YEAR 11 INTO YEAR 12 BRIDGING PROJECT

A LEVEL PE

Below are a number of key terms/words that are essential for the first two modules that will be started in September. The task is:

1. Research each key term/word and find a simple definition that you understand. Write this out in your own words.
2. Then use a diagram or explanation or practical example to illustrate this term/word in the context of PE/sport to show you fully understand what it actually means.
3. Revise & learn your definition as this will be tested in September within the first weeks of the term with Mr Blake (Anatomy & Physiology) and Mr Powell (Skill Acquisition).

Applied Anatomy and Physiology:

1. Anticipatory rise <https://www.youtube.com/watch?v=9PD6ESjqVZg&t=129s>
2. Articulating bones
3. Arterio-venous oxygen difference (A-VO₂ diff)
https://getrevising.co.uk/diagrams/arterio_venous_oxygen_difference_a_vo2
4. Cardiac conduction system <https://www.bbc.co.uk/bitesize/guides/zrrry9q/revision/5>
5. Excess post-exercise oxygen consumption (EPOC)
https://www.youtube.com/watch?v=t2VD_HKNhQ
6. Oxygen deficit
7. Plane <https://www.youtube.com/watch?v=moP483UxRQ8>
8. Receptors <https://www.youtube.com/watch?v=9PD6ESjqVZg&t=129s>
9. VO₂ max <https://www.teachpe.com/anatomy-physiology/vo2-max>
10. Partial pressure

Skill Acquisition:

1. Skill <https://www.youtube.com/watch?v=IYcbtd6v7mA>
2. Learning
3. Transfer of learning <https://www.teachpe.com/sports-psychology/transfer-of-learning>
4. Reaction Time <https://www.topendsports.com/testing/reactime.htm>
5. Perception
6. Single channel hypothesis <https://www.teachpe.com/sports-psychology/information-processing>
7. Psychological refractory period <https://www.teachpe.com/sports-psychology/information-processing>
8. Constructivism

The following activities will enable you to prepare for A level study by building on the prior learning gained from topics as part of your GCSE course.

Applied Anatomy and Physiology Activities:

A. The Musculoskeletal System and movement analysis

Answer the following questions for the movements involved in a press-up.

1. Perform the downward phase of a press-up.
 - What is happening at the elbow joint?
 - Which muscle is contracting?
 - What type of contraction is it performing?

2. Now perform the upward phase of a press-up.
 - What is happening at the elbow joint?
 - Which muscle is contracting?
 - What type of contraction is it performing?

3. Try to hold the press-up in the downward phase.
 - Which muscle feels as if it is contracting?
 - What type of contraction is it performing?

Answer the following questions for the movements involved in a squat.

4. Perform the downward phase of a squat.
 - What is happening at the knee joint?
 - Which muscle is contracting?
 - What type of contraction is it performing?

5. Now perform the upward phase of a squat.
 - What is happening at the knee joint?
 - Which muscle is contracting?
 - What type of contraction is it performing?

6. Try to hold the squat in the downward phase.
 - Which muscle feels as if it is contracting?
 - What type of contraction is it performing?

Answer the same questions for a movement of your choice that involves using the shoulder joint.

B. The Cardiovascular System

Answer the following questions to check that you understand how the heart functions as this will help your understanding of more complex aspects of the study of the cardiovascular system.

Questions rely on your basic study of the heart from the GCSE course:

1. Name the 4 chambers of the heart.
2. Which chambers are larger? Explain why.
3. Which side of the heart is larger? Explain why.
4. Name the main blood vessels that enter and leave the heart.
5. What are the names of the valves in the heart and where are they located?
6. What is the main function of valves?
7. Starting at the venae cavae, place the following structures in the correct order that a red blood cell would pass on its journey through the heart.

Aorta	Left ventricle	Lungs	Pulmonary artery	Bicuspid valve
Right ventricle	Left Atrium	Tricuspid valve	Right Atrium	Pulmonary vein

C. The respiratory System

Rearrange the following words to show the correct passage of air:

Larynx nose trachea pharynx alveoli bronchioles bronchi

Draw a simple diagram to show the movement of oxygen from the alveoli to the muscles and carbon dioxide from the muscles to the alveoli. On this diagram label the partial pressures of oxygen and carbon dioxide and show the diffusion directions.

Explain why the partial pressure of O₂ and CO₂ is important in the diffusion of these gases for a football player to be able to make use of their stamina.

Skill Acquisition Activities:

A. Skill classification

Classify a sprint start in athletics under the following continua studied at GCSE level:

- Open ----- Closed
- Self-paced ----- Externally paced
- Gross ----- Fine

Justify (support your viewpoint with evidence) each choice you have made by referring to the characteristics of the classification.

B. Information Processing

Consider a game or event that you recently took part in. Think about some of the decisions you made during that game or event.

- What information did you use to make those decisions and what information was not needed?
- List the relevant and irrelevant information.
- What factors hindered your decision making?

Make a list of the types of feedback you used in this situation. Describe each type and explain how they helped you in your performance.

C. Guidance Methods

A novice or beginner is at the first stage of learning called the cognitive stage. What are the characteristics of a performer at this stage?

At GCSE level we studied 4 methods of guidance. Describe each method.

Create a table to show the advantages and disadvantages of each method of guidance to a performer at the cognitive stage of learning.