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| **What will we be learning?****Unit 1 - Body systems and the effects of physical activity** | **Why this? Why now?** This unit is externally assessed in January of Year 12 so studying this unit in the Autumn term prepares students for this examination. | **Key Words:**Body systemSkeletalMuscularCardio-vascularRespiratoryStructureFunctionShort term exerciseLong term exercise |
| **What will we learn?**The following body systems and the short and long-term effects of exercise on them:* **LO1 - Skeletal system**
* **LO2 - Muscular system**
* **LO3 - Cardiovascular system**
* **LO4 - Respiratory system**
* **LO5 - Energy systems**
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| **What opportunities are there for wider study?**Careers/degree courses* Sports science
* Physiotherapy
* PE teacher

Further reading:[Human body systems: Overview, anatomy, functions | Kenhub](https://www.kenhub.com/en/library/anatomy/human-body-systems)[Effects Of Exercise On The Body - Short & Long Term - TeachPE.com](https://www.teachpe.com/anatomy-physiology/effects-of-exercise?msclkid=e3a0c09ad13211ecb409f270d87eaa50) |
| **How will I be assessed?*** End of unit tests
* Mock exam
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**CAM TECH – SPORT**

**UNIT 1**

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| **SKELETAL SYSTEM*** Parts of the skeleton
* Functions of the skeletal system
* Types of bones
* Classification of joints
* Synovial joints – types, structure and functions
* Joint movements
* Vertebral column – structure and function
* Impact of exercise – short term, long term, how a warm up and cool down help
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| **MUSCULAR SYSTEM*** Main muscles at synovial joints
* Muscle function and contraction
* Muscle fibre type and impact on performance
* Impact of exercise – short term and long term
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| **CARDIOVASCULAR SYSTEM*** The heart – structures and their roles
* Stroke volume, heart rate and cardiac output
* Blood vessels
* Blood – components and functions
* Vascular shunt mechanism and pre-capillary sphincters
* Impact of exercise – short term, long term and how a warm-up helps
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| **RESPIRATORY SYSTEM*** The lung – structures and their roles
* Mechanics of breathing and respiratory muscles used
* Gaseous exchange
* Tidal volume, breathing frequency and minute ventilation
* Blood – components and functions
* Impact of exercise – short term and long term
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| **ENERGY SYSTEMS*** ATP-PC system
* Lactic acid system
* Aerobic system
* Energy continuum
* The recovery process
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