Calendar	Big Question/ Theme/ Topic	Small Questions
1st September – October half term.	**1.1 Muscular skeletal system** Knowledge and understanding of the anatomy and physiology of the muscular and skeletal systems.	1. What are the names of each bone? 2. Where is each bone located? 3. What are the different regions of the vertebral column? 4. What are the names of each muscle? 5. Where is each muscle located? 6. What are the different movement names? 7. What movement is available at each joint? 8. What movements are used in physical activity and sport? 9. What are Isotonic/eccentric, isotonic/concentric and isometric contractions? 10. How is movement or stability produced as a result of these different contractions/muscular actions during physical activity and sporting movements? 11. What are the definitions of agonist, prime mover, antagonist, fixator and synergist? 12. How do muscles take on these different roles when providing stability or movement in a variety of physical or sporting situations? 13. What are the differences between 1st, 2nd and 3rd class levers? 14. Where can each lever be located in the body? 15. How are levers used in sport? 16. What are the mechanical advantages and disadvantages of each lever? 17. What are the 3 laws of motion? 18. What is centre of mass/gravity? 19. What is moment of force? 20. What is the difference between a response and adaptation? 21. What are the responses of the muscular-skeletal system and their benefit to performance?

		22. What are the different skeletal adaptations? 23. What are the muscular adaptations due to aerobic training? 24. What are the muscular adaptations due to anaerobic training?
October half term – End of November	**1.3 Neuromuscular system** Knowledge, understanding and application of the anatomy and physiology and the function of the neuro-muscular system during physical activity.	1. What are muscle fibres? 2. What are myofibrils made of? 3. What do motor units comprise of? 4. How do nerve impulses travel to muscle fibres? 5. What are the roles of actin, myosin, troponin and tropomyosin? 6. What are the 5 stages of muscle contraction? 7. What is the process of the contraction stage? 8. What are the 3 different fibre types and their differences? 9. What is gradation of contraction? 10. How are motor units recruited? 11. What are the structural and functional responses and adaptations of the neuromuscular system? 12. How can we influence our fibre types? 13. How can different fibre types affect sports participation?
Start December – End of term (Christmas)	**1.2 Cardiorespiratory system and cardiovascular systems** Knowledge, understanding and application of the anatomy and physiology	14. What are the 4 chambers of the heart called? 15. What is heart muscle called? 16. What is responsible for the hearts conduction? 17. What divides the heart? 18. What are the 4 main stages of the cardiac cycle?

Start of January – February half term	of the cardiovascular, circulatory and respiratory systems in physical activity. Understanding of how they function individually and in conjunction with each other. Understanding of what constitutes an unhealthy lifestyle and its effects on the cardiovascular and cardiorespiratory systems.	19. How does blood flow through the heart during the cardiac cycle? 20. What is the difference between systemic and pulmonary circulation? 21. What are the differences between arteries and veins? 22. What is the main role of capillaries? 23. Which blood vessels are responsible for delivering blood to muscles and which return blood to the heart? 24. What are the different heart rate values? 25. What are the responses of the CV system to exercise and how do they benefit performance? 26. What are the main structural adaptations that occur to the CV system? 27. What functional adaptations occur to the CV system? 28. How to do these adaptations benefit exercise? 29. What are the main structures of the respiratory system and where are they located? 30. What is the function of each respiratory structure? 31. How do we inspire and expire air? 32. What role do pressure gradients play in breathing mechanics? 33. What are the different respiratory values? 34. Can you depict the values on a respiratory values chart? 35. How do these values change during exercise? 36. How do gases exchange both externally and internally? 37. How is it that the respiratory and CV systems work in conjunction with each other? 38. What responses occur in the respiratory system?

		39. What are the structural and adaptations and functional benefits of the respiratory system? 40. Are adaptations to the CV or respiratory system more beneficial and why? 41. What are the effects of an unhealthy lifestyle? 42. What impacts do these effects have on the body? 43. How can exercise help alleviate some of these effects?
February half term – Easter break	**2.1 Diet and nutrition and their effect on physical activity and performance** Knowledge and understanding of dietary manipulation for performance pre, during and post-physical activity.	1. How do we ensure energy balance? 2. What are the problems associated with getting energy balance wrong? 3. What affects a person's optimal weight? 4. How does optimal weight vary? 5. What are the macronutrients? 6. What are the differences in dietary needs for power and endurance athletes? 7. What is carb-loading and how do we carb-load? 8. What is the difference between isotonic, hypotonic and hypertonic solutions? 9. How do we hydrate for performance? 10. What are the dangers of not hydrating? 11. What different supplements can be used to enhance performance? 12. How can supplementation be used to reduce fatigue? 13. What supplements can be used for recovery? 14. What are the advantages and disadvantages of creatine loading?

Easter break – May half term	**2.2 Preparation and training methods in relation to maintaining and improving physical activity and performance.** Knowledge and understanding of preparation and training methods in relation to maintaining and improving physical activity and performance.	1. What are the different components of fitness? 2. What are the definitions for each component? 3. How is each component used SPECIFICALLY in sport? 4. What are the determinants of movement/running performance? 5. What are the different principles of training? 6. What are the definitions of each principle? 7. How is each principle applied when formulating training plans/regimens? 8. What is periodisation? 9. What are the different cycles of periodisation? 10. Why do we use periodisation? 11. How can technology be used to monitor work rate? 12. How can technology evaluate fitness and performance? 13. What are the positives and negatives of technology in fitness and performance? 14. What are the characteristics of each method of training? 15. What physiological adaptations are produced by each method? 16. What are the main advantages and disadvantages of each method? 17. Which athletes would select each method of training?
May half term – Summer break.		1. What are the different fitness tests and their protocols? 2. How are they affected by validity and reliability? 3. Which tests are useful for which athletes/activities? 4. What do the results of fitness tests show us? **NEA – Performance analysis – writing and planning.**