Calendar Year 11	Big Question/Theme/Topic	Small Questions
Autumn 1	The Skeletal System	• What are the functions of the skeleton applied to performance in physical activities and sports? • What are the classifications of bones? • What is the structure of the skeletal system? • What are the classification of joints? • What movements are possible at joints? • Describe the role of ligaments and tendons and their relevance to participation in physical activity and sport.
	The Muscular System	• What are the classification and characteristics of voluntary, involuntary and cardiac muscle? • What are their roles when participating in physical activity and sport? • What is the location and function of each voluntary muscle? • How do muscles work together to create opposing movement at joints? • What are the characteristics of fast and slow twitch muscle fibre types (type I, type IIa and type IIx)? • How does the skeletal and muscular system work together to allow participation in physical activity and sport
	The Cardiovascular System	• What are the functions of the cardiovascular system? • How is the cardiovascular system structured? • How are arteries, capillaries and veins structured? • How does the function of them benefit the body during physical activity and sport? • What is vasoconstriction? • What is vasodilation? • How is blood flow redistributed during physical activity compared to when resting? • What are the functions and importance of red and white blood cells, platelets and plasma for physical activity and sport?

Autumn 2	The Respiratory System	• What is the composition of inhaled and exhaled air and the impact of physical activity and sport on this composition? • What is vital capacity? • What is tidal volume? • How does tidal volume change when participating in physical activity and sport? • What is the location of the main components of the respiratory system? • How is the alveoli structured to enable gaseous exchange? • How does the process of gaseous exchange meet the demands of varying intensities of exercise (aerobic and anaerobic)? • How does the cardiovascular and respiratory system work together to allow participation in physical activity and sport?
	Anaerobic and Aerobic exercise	• How is glucose and oxygen used to release energy aerobically with the production of carbon dioxide and water? • What is the impact of insufficient oxygen on energy release? • What is the by-product of anaerobic respiration? • How is fat used as a fuel source for aerobic activity? • How are carbohydrates used as a fuel source for aerobic and anaerobic activity?
	The Short and Long term effects of exercise	• What are the short-term effects of physical activity and sport on lactate accumulation, muscle fatigue? • What is the relevance of this to the player/performer? • What are the short-term effects of physical activity and sport on heart rate, stroke volume and cardiac output? • What is the importance of this to the player/performer? • What are the short-term effects of physical activity and sport on depth and rate of breathing, and the importance of this to the player/performer? • How does the respiratory and cardiovascular system work together to allow participation in, and recovery from, physical activity and sport? • What are the long-term effects of exercise on the body systems?

Spring 1	Movement Analysis – Lever Systems Planes and axes of movement	• What are first, second and third class levers and what are their uses in physical activity and sport? • What are the mechanical advantages and disadvantages of the body's lever systems and the impact on sporting performance? • How does the body use a range of planes and axes to create movement patterns? • How are planes and axes used during sporting actions such as somersaults, cartwheels and twist jumps on the trampoline?
Spring 2	Revision	