KESTEVEN AND SLEAFORD HIGH SCHOOL

Physical Education Scheme of Learning
Year 10 GCSE – Movement Analysis

Intent – Rationale

Students will develop their understanding of the body in action; how movements are created, where they happen and how they can be analysed. They will learn movement terms, levers and planes and axes.

Sequencing – what prior learning does this topic build upon?	Sequencing – what subsequent learning does this topic feed into?
Musculo-skeletal topic – building on movements created by muscles at joints	• Written NEA
What are the links with other subjects in the curriculum?	**What are the links to SMSC, British Values and Careers?**
• Physics - levers	• Use the coded help guides to complete this section
What are the opportunities for developing literacy skills and developing learner confidence and enjoyment in reading?	**What are the opportunities for developing mathematical skills?**
• Please fill this in with your own suggestions alternatively the LRC team will provide some suggested titles/links	• Principle of equilibrium

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Physical Education Scheme of Learning
Year 10 GCSE – Movement Analysis
Intent – Concepts

What knowledge will students gain and what skills will they develop as a consequence of this topic?	
Know Know different actions that occur at our key joints. Know the 3 lever systems. Know the equation for mechanical advantage and be able to explain this referring to levers. Know the 3 planes and axes where movement occurs. **Apply** Be able to identify the correct agonist for the movements at each joint. Be able to label all 3 lever systems. Use the key terms in identify and explain questions. Develop understanding of different command words and know the expected content required. Apply your understanding to different sporting actions. **Extend** Understand the 3 classes of levers and how they are used in sporting actions. Understand the 3 planes and axes and know a sporting example for each. Be able to apply your understanding with sporting examples to support your answers. Use understanding to demonstrate knowledge in a variety of examination questions with differing command words.	
What subject specific language will be used and developed in this topic?	**What opportunities are available for assessing the progress of students?**
Agonist (prime mover) Muscle or group responsible for the movement. Antagonist Acts to produce the opposite action to the agonist. They work in antagonistic pairs. Axis Imaginary line through the body around which it rotates. Types of axis: • longitudinal (or vertical) – head to toe	• Formative assessment in low stakes quizzes, kahoots and recall games. • Exam questions used to assess application of knowledge • EOTT to assess application in timed conditions

• transverse – through the hips • sagittal – through the belly button. ## Lever A rigid bar (bone) that turns about an axis to create movement. The force to move the lever comes from the muscle(s). Each lever contains: • a fulcrum - fixed point, effort (from the muscle(s) to move it) • load/resistance (from gravity). ## Mechanical advantage The efficiency of a working lever, calculated by: effort ÷ weight (resistance) arm ## Movement at a joint Classified into: • flexion – decrease in the angle of the bones at a joint • extension – increasing the angle of bones at a joint • abduction – movement away from the midline of the body • adduction – movement towards the midline of the body • rotation – movement around an axis • plantar flexion – pointing the toes at the ankle/increasing the ankle angle • dorsi flexion – toes up at the ankle/decreasing the ankle angle • circumduction – turning or circular motion around a joint (which occurs in more than one plane). ## Plane Imaginary lines depicting the direction of movement. Types of planes: • sagittal - forwards and backwards • frontal - left or right • transverse - rotation around the longitudinal axis.	

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Intent – Concepts

Lesson title	Learning challenge	Higher level challenge	Suggested activities and resources
Analysis of basic movements	Know different actions that occur at our key joints	Apply your understanding to different sporting actions	
Movement analysis – the key actions	Be able to identify the correct agonist for the movements at each joint	Apply your understanding to different sporting actions	
Levers	Be able to label all 3 lever systems	Understand the 3 classes of levers and how they are used in sporting actions	
Levers and advantage/disadvantage	Know the equation for mechanical advantage and be able to explain this referring to levers	Apply your understanding to different sporting actions	
Planes and Axes	Know the 3 planes and axes where movement occurs	Understand the 3 planes and axes and know a sporting example for each	
Recap	Use the key terms in identify and explain questions	Be able to apply your understanding with sporting examples to support your answers	
EOTT – Effects of exercise & movement analysis	Develop understanding of different command words and know the expected content required	Use understanding to demonstrate knowledge in a variety of examination questions with differing command words	

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