

4.3 Fundamentals of Biomechanics

Topic Statement	Check off when complete
4.3.1 Define the terms force, speed & velocity, displacement, acceleration, momentum and impulse.	
4.3.2 Analyze velocity/time, distance/time and force/time graphs of sporting actions.	
4.3.3 Define the terms center of mass.	
4.3.4 Explain that a change in body position during sporting activities can change the position of the center of mass.	
4.3.5 Distinguish between first, second and third class levers.	
4.3.6 Draw and label anatomical representations of levers.	
4.3.7 Define Newton's three laws of motion.	
4.3.8 Explain how Newton's three laws of motion apply to sporting activities.	
4.3.9 State the relationship between angular momentum, moment of inertia and angular velocity.	
4.3.10 Explain the concept of angular momentum in relation to sporting activities.	
4.3.11 State and explain the factors that affect projectile motion at take-off.	
4.3.12 Outline the Bernoulli principle with respect to projectile motion in sporting activities.	