

Teaching Unit: **P1: Newton's Laws**

Sub Topic: **1st, 2nd, 3rd**

Essential Understandings

Knowledge and Skills

concept of inertia, acceleration & force, action-reaction.

Differentiate between mass and weight using Newton scales, determine a force from a known mass and an accelerating object, determine the action and reaction of different masses

Teaching Unit: **P1: Momentum**

Sub Topic: **Impulse, Bouncing**

Essential Understandings

Knowledge and Skills

Teaching Unit: **P1: Circular Motion**

Sub Topic: **Centripetal Force, Centrifugal Force**

Essential Understandings

Knowledge and Skills

Teaching Unit: **P1: Center of Gravity**

Sub Topic: **Center of mass, Stability**

Essential Understandings

Knowledge and Skills

Teaching Unit: **P1: Rotation Mechanics**

Sub Topic: **Torque, Rotational Inertia**

Essential Understandings

Knowledge and Skills

Teaching Unit: ***P1: Gravitational Interactions***

Essential Understandings

Understand what causes a satellite to remain in orbit and what causes tides on earth. What causes a black hole.

Sub Topic: ***Gravitational Fields***

Knowledge and Skills

research - what is the universe
labs - simulations & free fall

Teaching Unit: ***P1: Linear Motion***

Essential Understandings

Teaching Unit: ***P1: Projectile Motion***

Essential Understandings

Vector addition and how it relates to projectiles.

Sub Topic: ***Graphs,Speed,Velocity,Acceleration***

Knowledge and Skills

Sub Topic: ***Vectors,TU_1066Satellites***

Knowledge and Skills