Sets (s): Triple award

YEAR 11

SUBJECT Physics

Knowledge Focus: Further motion concepts

Ysgol Uwchradd Prestatyn High School

This half term : Skills, Knowledge and Understanding to be developed: Continue to study Forces including Hooke's law, kinetic and gravitational potential energy. Then study further mption concepts., which covers straight-line motion. The equations of uniformly accelerated motion in a straight line are studied, and the effects of forces on objects, and the concept of momentum and its conservation are explored.

Key Terms to be learned this half term:
terminal velocity, work done, energy transfer, kinetic energy, gravitational potential energy, elastic potential energy, momentum, mass, velocity, conservation of momentum, moments, pivot, rotation.

Week 1 and 2 Learning Objectives etc: Continue to learn and practice the equations for kinetic energy and changes in potential energy. Study the relationship between force and extension for a spring. Carry out the specified practical – investigate the force extension graph for a spring. Study the work done in stretching by finding the area under the force-extension graph. Look at how efficiency of vehicles can be improved (aerodynamic, rolling resistance, idling losses and inertial losses) Learn the principles of forces and motion to an analysis of safety features of cars.	**Objective assessments:** Questions on and examples kinetic energy and gravitational potential energy Wjec text book pages 179-182 Complete analysis of the investigation by calculating the mean length for each mass, then the extension for each mass, plot the graph and determine whether it obeys Hooke's law.	**Homework:** Physics P2 (H) 2008 Q5 and on pg 193,194 wjec textbook Q5 Q6 pixel (H)
Week 3 and 4 Learning Objectives etc: Study how the momentum of a body depends on its mass and its velocity, use the equation Momemtum=mass x velocity Look at Newton's second law of motion in the form Force = change in momentum÷time Learn the law of conservation of momentum and relate it to Newton's third law of motion and use it quantitatively to perform calculations involving collisions or explosions and use kinetic energy equation to compare kinetic energy before and after an interaction. Learn how the motion of objects can be modelled using equations.	**Objective assessments:** APP in chemistry	**Homework:** Q7 2019(H) and revise for APP Revise for mock examinations
Week 5 and 6 Learning Objectives etc: Mock examinations	**Objective assessments:**	**Homework:** Revise for mock examinations
Week 7 Learning Objectives etc: Study the principle of moments and carry out the specified practical. Look at examples in which forces cause rotation; and calculate the moment of force in such examples.	**Objective assessments:** Investigate the Principle of Moments	**Homework:** **Question on moments**

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