Physics Unit 03: Accelerated Motion

Unit #:	APSDO-00019212	Duration:	2.0 Week(s)	Date(s):	

Team:
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Grades:
11
Subjects:
Science

Unit Focus

In this unit, students will measure, analyze and predict the motion of objects which are accelerating. This will include objects accelerating horizontally (e.g., cars) and objects accelerating vertically (e.g., falling objects). Summative assessments may include: written tests/quizzes composed of application problems and modelling questions which assess students' understanding of how accelerated motion derives from changes in velocity; as well as lab reports composed of experimental design, laboratory practice, and data analysis components. Primary instructional materials may include an online physics textbook (linked from teacher webpage), supplemental online and print resources, and related equipment and materials.

Stage 1: Desired Results - Key Understandings

Established Goals

Next Generation Science Standards (DCI)
Science: 3

- The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. *PS2.3.A2*

Science: 6

- All positions of objects and the directions of forces and motions must be described in an arbitrarily chosen reference frame

Transfer

T1 (T1) Integrate knowledge from a variety of disciplines and apply it to new situations to make sense of information, formulate insightful questions, and/or solve problems.
T2 (T2) Design an investigation or model using appropriate scientific tools, resources, and methods.
T3 (T3) Collect, analyze, and evaluate the quality of evidence in relation to a question.
T4 (T4) Develop a valid scientific conclusion, assess its validity and limitations, and determine future course of actions to inspire further questions.
T5 (T5) Communicate scientific information clearly, thoroughly, and accurately.
T6 (T6) Use mathematics to represent physical variables and their relationships, to make quantitative predictions, and to solve problems.

Meaning

Understandings	Essential Questions