

DAILY LESSON PLAN

Teacher's Name GeoGebra for Life Number of Days 1

Unit/Topic Pendulum Class/Grade Level Physics 9th

Content-learning objective(s).

1. SWBAT define and explain the concept of a pendulum.
2. SWBAT understand the factors that affect the period and frequency of a pendulum.
3. SWBAT apply the mathematical formulas related to pendulums.
4. SWBAT analyze and interpret experimental data related to pendulums.

State Standards Addressed:

1. NGSS Standard: HS-PS2-1 Develop and use models to illustrate the rotational and translational motion relationships.
2. NGSS Standard: HS-PS3-1 Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

Other Standards Addressed (if applicable, [ELD Standards](#), [CS Standards](#)):

[ELD Standards](#)

1. ELD Standard: ELD.Pi.9-10.2 Analyze and interpret the meaning, impact, and implications of an author's use of language, rhetoric, and/or structure.
2. ELD Standard: ELD.Pi.9-10.5 Analyze the characteristics of different text forms (e.g., informational, technical, literary) to determine how the form relates to content, purpose, and audience.

[CS Standards](#)

1. CCSS.Math.Content.HSA-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
2. CCSS.Math.Content.HSN-Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems.
3. CCSS.ELA-Literacy.SL.9-10.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9-10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

Materials Needed:

1. Pendulum apparatus (string, weight)
2. Stopwatch or timer
3. Measuring tape or ruler
4. Whiteboard or blackboard
5. Graph paper
6. Calculators

Activity Time	Teacher Actions include links to activities and formative assessments	Anticipated Student Responses

Activity Time	Teacher Actions	Anticipated Student Responses

copy page if needed

Differentiated Instruction Options:

Assessment: