Course: Physics Name:_____Date:_____Period:_____
Unit: Kinematics, Projectile Motion
Project: Murder You Solve

GOAL: Students will be able to identify the shooter in murder investigation using projectile motion kinematics calculations.

ROLE: CSI Inspector for the FBI

AUDIENCE: Special Agent In-Charge of the investigation

SITUATION:

Scenario

It is 3:40 a.m. Your personal cell phone and work cell phone ring at the same time. Groggy, you clumsily answer the phone to find out that a crew is awaiting your arrival at the crime scene. As this is your first official duty call, you run to your car nervously but somewhat excited.

On-site, you navigate through the media frenzy only to be greeted by the disheartening calmness of the homicide crew carrying about their routine work. The body of a young Caucasian male lies lifeless on the floor. The smell of gun smoke is clearly present in the room.

Performance: After completing this problem, students will be able to:
P.D.21I can solve problems for objects experiencing projectile motion with constant x-direction velocity and constant y-direction acceleration.
G.67 I can convert units within the metric system of measurement and between the metric and English systems of measurement.

Product:

Students will create individual whiteboard screencasts using www.screencast-o-matic.com to present their findings. See rubric on the back of this page for specific screencast video requirements.

Whiteboard Screencast videos are due **Wednesday November 23, 2011** by the end of the school day.

Screen-cast Procedure:

To present your whiteboard you will create a 'screen-cast' video that displays a photo of your whiteboard while you explain your problem solving method and solution. You will create your screen-cast using the following website: http://www.screencast-o-matic.com/.

Step 1 - go to http://www.screencast-o-matic.com/ **Step 2** - watch the short video titled 'A very quick demo', this video will show you how to create and save your screen-cast**. Step 3** - After practicing, record your screen-cast and save it to your computer. Save your video as 'First Last Name Period CSI' -include a space between your first and last names. **Step 4** - Upload your video into your E.L. Haynes Google Docs. In your ELH email, click on documents, then upload, then files. Select your video and click, start upload in the dialogue box that appears (leave both boxes checked within the dialogue box). **Step 5** - After uploading your video (it may take a few minutes before it available for view) share it your physics teacher.

For additional help, see the instructional video on your physics class website.

Course: Physics Name:_____Date:_____Period:_____
Unit: Kinematics, Projectile Motion
Project: Murder You Solve

	Exceeds the Standard - 4	**Meets the Standard - 3**	**Approaches the Standard - 2**	**Does not meet - 1**
Whiteboard (Standard WHA.1)	•Includes all '**3**' items and •Organization of whiteboard improves aids & improves explanation	•Includes all items listed above •Writing is neat & easy to read	• missing 1 of items listed above •Writing is neat & easy to read	• missing 2 or more items listed above
Video (Standard WHA.1)	•Includes all '**3**' items and •Quality & clarity of video demonstrates high level of effort and/or practice prior to recording	•Video length ≤ 5 minuets •Appropriate volume level •All whiteboard items explained	•Video length ≤ 5 minuets •Acceptable volume level •1 whiteboard item is not explained/missing	•Video length **≥** 5 minuets •Volume level is too loud or too much background noise to be heard clearly •More than 1 whiteboard item is not explained/ missing
Projectile Problem Explanation (Standard P.D.21)	•Includes all '**3**' items and •solution includes all **correct** units •Supporting details and/or examples that increase the viewer's ability to understand the video	Includes: • What the problem is asking for (with correct units) • What is know • Description of each variable • How/why the chosen formula used • How values were substituted	Missing an item from '**3**' that makes it unclear if the *physics* of the problem is understood	Missing multiple items from '**3**' that makes it clear that the *physics* of the problem is **not** understood
Unit Conversion Explanation (Standard P.G.67)	Includes all '**3**' items and student explains the reason for the proper unit conversions	•All values have ***logical*** units •How units cancel out	•Missing an item from 3 that makes it unclear that student understands unit conversions	Missing 2 items from 3 that makes it unclear that student understands unit conversions