

Science or Fiction? Fun with YouTube

AP Physics 2/EM Radiation/grades 11-12

Materials: The teacher will need a computer with internet access hooked up to a projector. It is best to either preload the video on YouTube OR to download the video using something like [KeepVid](#) in case the internet connection has issues.

Instructions for the teacher: This is an approximately 15 minute activity in which students watch a YouTube video and then discuss the scientific validity of what they watched. I've written this for a specific video that would be shown during the EM Radiation unit, but this activity could be done at any time of the year with any topic. I would just make sure to have a YouTube video relevant to the current topic of study. As such, I've created a [Suggestion Form](#) which students can use to recommend videos for Science or Fiction. The link to the form will be on the class Moodle so students will be able to submit suggestions at any time throughout the year. I've also provided a ScreenShot of the Suggestion Form on page 2 of this document. This activity is not graded, but that could be modified based on instructor preference.

- To introduce this lesson, I would review the EM spectrum with students.
- I would then show them the video "[Unlocking a Car with Your Brain](#)" from Sixty Symbols. This video shows a professor of physics at Nottingham University in the UK demonstrating how you can unlock your car from farther away if you hold the key against your head when you push the button on the fob.
- I would then begin a discussion on the validity of the video. We would consider the source of the video, the credibility of the speaker, how the demonstration was filmed (did the camera catch the entire scene or was there strategic editing), personal experience (has anyone tried this themselves), etc.
- I would then ask the class to vote whether they think this is science or fiction.
- Finally, the best way to decide is to perform the experiment so we would grab our car keys, run outside, and discover for ourselves that this is indeed science.

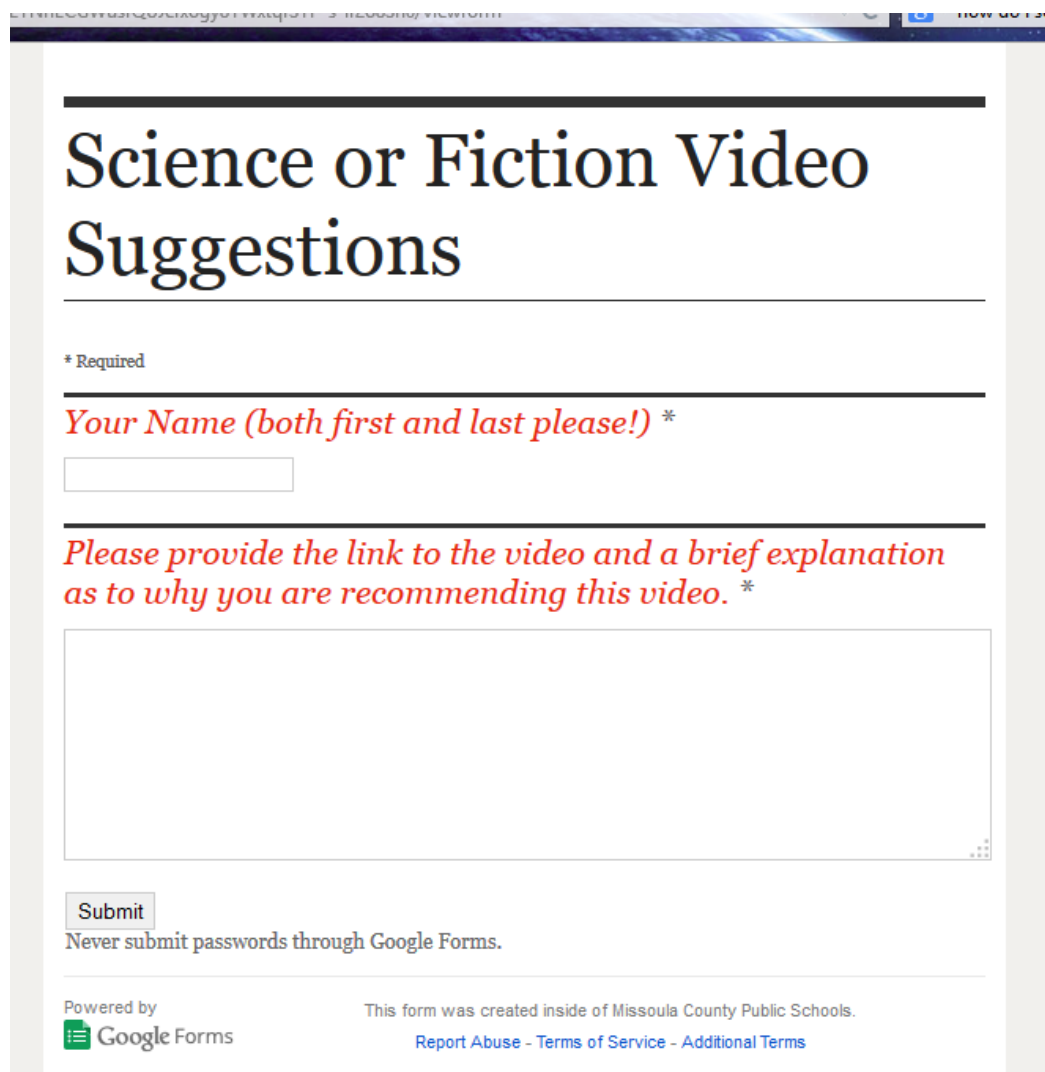
Standards: This assignment addresses the following standards for AP Physics 2 as written by the College Board. The standards can be found in the [AP Physics 2 course description](#).

- Science practice 3: The student can engage in scientific questioning to extend thinking or to guide investigations within the context of the AP course.
- Science practice 5: The student can perform data analysis and evaluation of evidence.



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Suggestion Form: Here's what students will see when they access the Suggestion Form:



The screenshot shows a Google Form titled "Science or Fiction Video Suggestions". The form includes a required text field for the user's name, a large text area for providing a video link and explanation, and a "Submit" button. At the bottom, it features the Google Forms logo, a note that the form was created in Missoula County Public Schools, and links for reporting abuse, terms of service, and additional terms.


Science or Fiction Video Suggestions

* Required

*Your Name (both first and last please!) **

*Please provide the link to the video and a brief explanation as to why you are recommending this video. **

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