

Applications of “Light” in the real world

Task:

In teams of 4, prepare and give a **3-5 min oral presentation** (i.e. video, skit, poem, song, for ask Ms. Lu about an alternative format) on one of the following topics. Your team must sign up for a topic (posted in class).

Requirements:

Your presentation must include a description of your situation, a description of the applications of light involved (and a diagram) and any technological advancement.

In addition, you must prepare and submit electronically to Ms. Lu 2 multiple choice questions about the physics of your topic. Select questions will be included in our unit test.

For your selected topic, you will need to:

- Analyse, with reference to the principles related to the wave nature of light, how your technology uses these principles
- Assess the impact on society and the environment or your technology that uses the wave nature of light
- Discuss and explain careers that would use this technology

Topics:

#	Topic	Textbook Reference	Page
1	Electromagnetic waves used in applications such as lidar and photoelasticity	10.6	538-539
2	Light nanotechnology and counterfeit preventions	10.7	540-541
3	Global Positioning Systems	10.8	542-543
4	CD and DVD Storage Capacity	Investigation 10.3.1	547
5	Optical Pattern Analysis	Unit task 4	556
6	Select own topic with teacher's approval		

Group Members:

	Mark	Level 1	Level 2	Level 3	Level 4
Group Participation [C]	/4	Three members do not participate.	Two members do not participate.	One member does not participate.	All members participate equally
Effectiveness of Presentation [C, A]	/4	Does not communicate situation background, current technology and physics. Little effort has been made to make presentation effective.	Somewhat communicates situation background, current technology and physics. One or more requirements may be missing. Presentation appears not to be rehearsed / prepared in advance.	Does an okay job of communicating situation background, current technology and physics. Some attention to detail and effort made to make presentation effective.	Effectively communicates situation background, current technology and physics. Presentation has been obviously rehearsed; effort has been put into making the presentation effective and / or entertaining.
Description of Physics [K/U]	/4	Physics description inaccurately models situation.	Physics description somewhat models situation.	Physics description does an okay job modeling the situation.	Physics description accurately models situation.
Impact on Society [T/I]	/4	Description inaccurately discusses the impact on society.	Description somewhat addresses the impact on society.	Description does an okay job explaining the impact on society.	Description accurately explains the impact on society.
Career Applications [A]	/2	Does not discuss careers that would use this technology.	Explains careers that would use this technology at a high level. No examples provided	Explains careers that would use this technology at a high level. Provides generic examples.	Thoroughly explains careers that would use this technology. Provides detailed examples.
Multiple Choice Questions [T/I]	/2	No questions are submitted.	Questions are inadequate or missing. Will not be used on a test.	Questions are okay, may or may not be appropriate for test.	Questions are excellent and effective evaluation tools. 4 possible answers are provided. Includes solutions and explanations.
TOTAL Comments:	/20				