

Rubric for Assignment: Wave phenomena around you

Find **one** phenomena that can be explained with the wave model of sound, electromagnetic waves, water waves or other waves.

We will use a Google document titled “**Waves in Everyday Life**” to brainstorm those ideas. To get you started with ideas I listed already the first possible topics.

Find at least **three** resources (best something that is available on the internet, so everybody in class can access it) that help explain those phenomena. You may find three resources for one topic (not necessarily “yours”) or one each for three topics. Resources can be more than articles for example you might find helpful simulations or online lectures. List those in the Google document for the relevant topic together with a short comment about its content.

Visit the document to see what wave phenomena we all came up with. For **three** of the topics think what questions you have about this topic, what you would like to know more about. Use the “insert comment” in Google documents to add your question to the topic.

Select **one** of the phenomena listed and write a short report (1-2 pages) about it. If possible try to address any of the questions asked for this topic.

How the assignment is graded:

- 5 points for adding one topic to the Google document.
- 15 points for contributing three resources that help explain the listed wave phenomena in the Google document
- 10 points for asking questions about three of the topics
- 55 points for writing a summary report about one topic (a detailed rubric follows below)
- up to 6 bonus points for addressing the questions asked

Report Rubric

Criteria	Level of Performance			Points Earned
	Advanced	Proficient	Developing	
	(5)	(4 - 3)	(2 - 0)	
Introduction	Description of phenomenon is clearly and accurately stated and appropriate for audience	Description of phenomenon is accurate but not sensible for the audience (expecting too much pre-knowledge or not giving enough detail)	Description of the phenomenon is incomplete or inaccurate.	/5
	(10 - 9)	(8-6)	(5-0)	
Explanation and Organization	Explanation is conceptually correct. Presentation of content is well organized and	Explanation is conceptually correct. Presentation is generally organized, but no logical	Explanation is not or only partially conceptually correct. Presentation has little or no structure	/10

	presented in a logical sequence to enhance the reader's comprehension	sequence is followed.	or organization.	
	(10 - 9)	(8-6)	(5-0)	
Synthesis	Student makes meaning of the collected information and incorporates it with prior knowledge as indicated by use of example calculations, references to related phenomena, illustrations, tables or diagrams.	Student makes only partial meaning of the collected information and incorporates it with prior knowledge as indicated by use of example calculations, references to related phenomena, illustrations, tables or diagrams.	Student makes little or no meaning of the collected information and does not incorporate it with prior knowledge as indicated by use of example calculations, references to related phenomena, illustrations, tables or diagrams.	/10
	(5)	(4 - 3)	(2 - 0)	
Authorship	The majority of the report is written in the student's own words. Any direct quotations are referenced.	Report excessively uses direct quotations, which are referenced.	Report uses direct quotations without reference.	/5
	(3)	(2)	(1 - 0)	
Writing Style	Uses good professional writing style.	Style is informal or inappropriate, improper voice is used.	The writing style is inappropriate for the assignment and the audience.	/3
	(5)	(4 - 3)	(2 - 0)	
Diagrams, Graphs, Tables and Figures	Diagrams, graphs, tables or figures (referenced if necessary) are included that effectively support the communication of the information.	Diagrams, graphs, tables or figures (referenced if necessary) are included, but only some are applied to support, explain or interpret information.	Diagrams, graphs tables or figures are missing, are not relevant, are not referenced if necessary or do not aid the communication of the information.	/5
	(5)	(4 - 3)	(2 - 0)	
Terminology and Units	Correct terminology is consistently used, any new quantities are defined and any numerical values for quantities are listed with appropriate (SI)	Correct terminology is used most of the time and any numerical values for quantities are listed with appropriate (SI) units. Not all new	Terminology is incorrect and numerical values lack appropriate (SI) units.	/5

	units.	quantities are defined.		
	(7 - 6)	(5 - 4)	(3 - 0)	
Originality/Depth	Topic discussed can not be found in a standard College Physics book or exceeds in depth the discussion in such a textbook.	Topic can be found in a standard College Physics textbook and is discussed in sufficient detail for an overview.	Report does strongly rely on information found in Walker "Physics" or Wikipedia and misses any detail.	/7
	(5)	(4 - 3)	(2 - 0)	
Resources/ Bibliography	Uses appropriate resources to locate information needed to answer questions. The bibliography is referenced throughout the document.	Uses limited resources to answer questions (e.g. limited to textbook and instructor). Bibliography is included but references throughout the document are missing.	Bibliography is missing.	/5
Bonus Points	(6 - 2) depending on number of questions answered	(3 - 1)	(0)	
Addressing Questions	Student has explained the answers to questions asked during the brainstorming exercise and thus demonstrated her comprehension of the phenomenon.	Student has answered some of the questions asked in the brainstorming exercise without providing the explanation.	Students does not address any questions asked.	/6