Name: Date: Period:

Research Project

Purpose

You will prepare a **5- to 7-minute presentation** to teach your classmates a physics concept.

Topic

For this project, you must choose a topic that you want to learn more about. The topic can be a physics topic that we have not yet covered in detailed, or it can be a real-world application of a topic that we have covered.

You can find a list of available topics by using the QR code at the right or by navigating to `go.rohrbachscience.com/project-topics`. If there is a topic you are interested in that is not on the sheet, please check with Mr. Rohrbach to have it approved.

Research

We will spend some time in the library working on this project. Both book and internet sources are valid. You must have at least 3 sources of information. WIKIPEDIA IS NOT A VALID SOURCE FOR THIS PROJECT.

Presentation

The core of your presentation will be a visual that you design. This can be an image, a graph, a photo, a video, or a model. Your visual should substantially contribute to understanding the topic. Pretty pictures are welcome to be included, but pretty pictures alone do not count for this requirement. (For example, a picture of a person does not count.)

Examples of visuals might include:

- graph
- flow chart
- collage
- experiment
- large drawing
- model
- interpretive dance
- pop-up book
- skit

In addition to your visual, you will likely have a PowerPoint, poster, or other presentation aid. This is not necessarily a requirement. However, it is often helpful and highly encouraged to have a presentation aid, especially if your visual alone cannot sustain a 5- to 7-minute presentation.

Your presentation must include specifics as to the science of your topic (for example: equations, explanations, scientists who helped figure it out, history, benefits to society). *The explanation of the science should be in your own words, not just copied down out of a book.* I want you to understand a little of what's going on.

On the Grading Rubric

This is an extended project, and every year I have students who think my grading rubric is a little harsher than they are used to seeing. As such, I think it is important to summarize what differentiates A-level, B-level, and C-level projects.

- **C projects** are projects that generally meet the requirements. Usually they are a simple power point or poster. The student explains the topic well enough, but the explanation does not go very far in depth. A C-project gets the idea across, but it lead me to learning more about the topic than I could have done by simply reading one of your sources.
- **B projects** are good, solid projects. Students are well aware of what they are talking about and can answer my questions. A well-done poster or power point is probably a B project. You should be proud of a B project!
- **A projects** go above and beyond. There is something about the project that makes it stick out: either a creative flair, a passion in how the student presents it, or a description that makes me think about something in a way I never have before
- **A+ projects** are projects that I could not imagine having been done any better!

If you look at the rubric, you will realize that if you meet all standards, you will get a 90%. Does that mean it is impossible to get a 100%? No, of course not. But perfect projects go above and beyond in multiple respects: they are remarkably well researched, they are very creative (something I have either not seen before or not seen completed nearly as well), and they really stick in my mind as outstanding projects. If you want a 100% you will need to work very hard and have a fantastic idea that you learn inside and out!!!

On Plagiarism

What is plagiarism? If ever you are copy and pasting something from a website, you better indicate the website where this material came from and it better be in quotation marks. However, even if it is cited, a presentation still counts as plagiarism there is too much use of others' words and not enough use of your own. *This is not an exhaustive list.* You are responsible at this point in your high school career for knowing what is and is not plagiarism. *If you are unsure whether or not you are plagiarizing, talk to Rohrbach.*

Timeline

Mon, Jan 15	Sign up for your top 3 topic choices
Tue-Wed, Jan, 23-24	Library Research Day #1
Sun, Jan 28	Annotated Citations due on Schoology by 11:59pm
Wed-Thu, Feb 14-15	Library Research Day #2
Week of Mar 11-15	Presentations in class
Sat, Mar 16	Spring Break!

Name: Date: Period:

Rubric

Creativity (15 points): Your project is not just a generic "book report"-style presentation. There is some level of creativity to it.

- ◯ Exceeds Standard (15/15)
- ◯ Meets Standard (13/15)
- ◯ Almost Meets Standard (11/15)
- ◯ Needs Work (7/15)

Effectiveness and Self Sufficiency (35 points): There is evidence that you know and understand what you are talking about and are not merely parroting something you read. (*If you are reading off of slides and are not able to answer questions about your project, your explanation is not self-sufficient.*)

- ◯ Exceeds Standard (35/35)
- ◯ Meets Standard (32/35)
- ◯ Almost Meets Standard (25/35) - Although the words are your own, your presentation seems more like a paraphrase of your sources than it seems like your own presentation.
- ◯ Needs Work (18/35) - You have not done enough to make the explanation "your own."

Scientific Accuracy and Thoroughness (30 points): You thoroughly and accurately explain the ***science*** (not just the history) behind your topic.

- ◯ Exceeds Standard (35/35)
- ◯ Meets Standard (32/35)
- ◯ Almost Meets Standard (25/35) - Perhaps you could have gone into more depth. Perhaps everything you said was pretty good, but the organization and way you said it was a little hard to follow. Perhaps your explanation was mostly right, but showed a few misunderstandings in how your topic worked. Perhaps you weren't as prepared for the Q&A session as you could have been.
- ◯ Needs Work (18/35) - Perhaps you focused more on historical and biographical details than on the science.

Your Visual [Image/Diagram/Picture/Model] (15 points): Your visual substantially contributes to understanding of the topic *and* is well explained. (A picture of a person does not count for this standard.)

- ◯ Exceeds Standard (15/15)
- ◯ Meets Standard (13/15)
- ◯ Almost Meets Standard (11/15) - Perhaps you have a very well done graphic but it could use some more explanation. Perhaps it is explained well but could use some more detail in the graphic itself.
- ◯ Needs Work (9/15) - Your visual is good, but it has just been copied and pasted from the internet
- ◯ Visual exists but does not meet standard (7/15)
- ◯ No visual is provided, except maybe some generic pictures (0/15)

Total Score: _____ / 100