

PHYSICAL SCIENCE FINAL PROJECT

Your final science mission is to show your classmates what you have learned this semester in a creative way. You are to plan, create and present a “Science School House Rock” science show. This project will count as 40% of your final exam. Please remember that your exam is worth 20% of your semester grade.

WHAT IS THE BROOKLYN SCIENCE SHOW?

The Brooklyn Science Show is similar to a “Schoolhouse Rock” video. Your group is to create a 2-5 minute video or presentation that discusses (sings or acts out) one concept from this year. You may use any resources available and you are to be creative. Your grade depends on it. Below you will find your daily assignments and due dates. Read the entire project, you will find much information to help you on your mission.

DUE DATES:

Due to the time you will be given in class **NO LATE WORK WILL BE ACCEPTED!!!!!!**
Your presentation/videos will be made or shown on your scheduled exam day. Again **NO EXCEPTIONS!!!!**

DAY ONE: Monday, May 18th

- Receive the project
- Divide in groups (up to 4 classmates – you may choose to go solo!)
- Select a topic you would like to present
 - The same topic can be presented twice per class
- Concept paragraph is to be turned in by the end of class

DAY TWO: Tuesday, May 19th

- Start storyboard
- Written update due by the end of class

DAY THREE: Wednesday, May 20th

- Storyboard due by the end of class

DAY FOUR: Thursday, May 21th

- Start and finish the script
- Script due by end of class!

DAY FIVE: Friday, May 22nd

- Rehearse/film day
- Written update due at the end of class

DAY SIX: _____

- PRESENT (THIS IS YOUR SCHEDULED EXAM DAY)

PREPARATION POINTS

CONCEPT PARAGRAPH: THIS IS WORTH 20 POINTS

Your paragraph (a minimum of 5 sentences including a topic sentence and a concluding sentence) must be written using complete sentences. Your paragraph should explain what topic you have chosen, a brief definition of your topic, and a general idea of how you will be presenting the topic.

You will be graded on the following:

- Following directions
- Clarity of writing
- Grammar
 - Make sure you proofread your work
- Creativity of your idea

STORYBOARD: THIS IS WORTH 30 POINTS

A storyboard is like a prescript that gives a guide of what you will do and say during the presentations. It is similar to a sales pitch an advertising firm might give in order to win the contract for a new style of tennis shoes. You must use captions and pictures to describe what your group is doing for you presentation. This will be used as a guideline for your script and presentation. The board must have a minimum of 5 pictures showing what you will act out or video. The captions must be clearly written with correct spelling.

Watch at <https://www.youtube.com/watch?v=QOeaC8kcxH0> if you want to see what a storyboard for Toy Story looked like!

You will be graded on the following:

- Following directions
- Pictures are easy to understand
- Captions are accurate
- Grammar
- Neatness

SCRIPT: THIS IS WORTH 40 POINTS

The script is a written dialog of what each person will say and what actions will be done. You need to be a very specific as if you were reading a script to a play (such as Romeo and Juliet). The actions should be placed in brackets. For example: (pick up the beaker and carefully smell the liquid).

You will be graded on the following:

- Following directions
- Grammar
- Clarity of writing
- Accuracy of information
- Creativity

UPDATES: EACH ONE IS WORTH 10 POINTS (TOTAL OF 20 POINTS)

This is a paragraph that tells the following information: what you have completed on your project, what still needs to be done and any changes you have made to your concept, storyboard or script

You will be graded on the following:

- Following directions
- Grammar

DAILY PARTICIPATION: THIS IS WORTH 10 POINTS A DAY (50 POINTS TOTAL)

Everyone is expected to use class time wisely. You can earn up to 10 points a day. Any classes missed are on automatic zero for that day.

PRESENTATION EXPECTATIONS

ACCURACY: THIS IS WORTH 30 POINTS

Your presentation must be scientifically correct. Accuracy will be based on the information found in your textbook and notes. Your presentation must give/explain **6 different facts or key points about your topic.**

How you will be graded:

- For each correct fact or key point, your group will be rewarded 5 points for a total of 30 points. Additional facts or key points will be added to your “quality” grade.

DELIVERY: THIS IS WORTH 20 POINTS

Every member of the group must take part in the presentation. The entire presentation is to run smoothly with everyone knowing what to do, how to do it, and when to do it. Be prepared to cover for anyone who is missing, your group will present with or without you.

You will be graded on the following:

- Following directions
- Minimal use of notes
- Preparation
 - Correct pronunciation of the words
 - Smooth transitions between scenes and speakers

TIME LIMIT: THIS IS WORTH 10 POINTS

Your group will receive two points per minute of the presentation, up to 5 minutes. For every minute over 5 will cost one point per minute

ORIGINALTY/CREATIVITY: THIS IS WORTH 20 POINTS

The more involved and creative the presentation, the more points you will be rewarded.

You will earn points for such thing as:

- Creativity
- Visual aids
- Music
- Acting things out

QUALITY: THIS IS WORTH 20 POINTS

This will be rewarded to groups that go above and beyond the call of duty.

You will be rewarded for such things as:

- Costumes
- Backgrounds
- Time spent outside of class
- Additional facts or key points presented.

CRITIQUE: THIS IS WORTH 30 POINTS

You and your group members will be critiquing the work that each of you has done on the project. Each team member will be given a grading rubric and the scores will be averaged together. Rubrics that have not been filled out honestly will not be used.

CRITIQUE

Honestly evaluate the members in your group using the following statements. Each person can earn 0-3 points for each statement. Only evaluations that have been done honestly will be given consideration.

- A. the individual completed all individual tasks for the group on time and with quality
- B. the individual came to the group prepared to work
- C. the individual participated in a constructive manner
- D. the individual encouraged other to participate in a constructive manner
- E. the individual is a good, active listener and was respectful to others in the group
- F. the individual supported his/her position in a strong and thoughtful manner
- G. the individual was able to disagree in an agreeable manner
- H. the individual was able to compromise for the good of the group
- I. the individual shared in the responsibility of helping the group get the job done according to the directions and on time
- J. the individual promoted a positive attitude for the duration of the project

LIST THE MEMBERS IN YOUR GROUP

1. _____	2. _____	3. _____
A. 0 1 2 3	A. 0 1 2 3	A. 0 1 2 3
B. 0 1 2 3	B. 0 1 2 3	B. 0 1 2 3
C. 0 1 2 3	C. 0 1 2 3	C. 0 1 2 3
D. 0 1 2 3	D. 0 1 2 3	D. 0 1 2 3
E. 0 1 2 3	E. 0 1 2 3	E. 0 1 2 3
F. 0 1 2 3	F. 0 1 2 3	F. 0 1 2 3
G. 0 1 2 3	G. 0 1 2 3	G. 0 1 2 3
H. 0 1 2 3	H. 0 1 2 3	H. 0 1 2 3
I. 0 1 2 3	I. 0 1 2 3	I. 0 1 2 3
J. 0 1 2 3	J. 0 1 2 3	J. 0 1 2 3
TOTAL: _____	TOTAL: _____	TOTAL: _____

Study of Matter

- Classification of matter
 - Heterogeneous vs. homogeneous
 - Properties of matter
 - States of matter and its changes
- Atoms
 - Models of the atom (components)
 - Ions (cations and anions)
 - Isotopes
- Periodic trends of the elements
 - Periodic law
 - Representative groups
- Bonding and compounds
 - Bonding (ionic and covalent)
 - Nomenclature
- Reactions of matter
 - Chemical reactions
 - Nuclear reactions

Energy and Waves

- Conservation of energy
 - Quantifying kinetic energy
 - Quantifying gravitational potential energy
 - Energy is relative
- Transfer and transformation of energy (including work)
- Waves
 - Refraction, reflection, diffraction, absorption, superposition
 - Radiant energy and the electromagnetic spectrum
 - Doppler shift
- Thermal energy
- Electricity
 - Movement of electrons
 - Current
 - Electric potential (voltage)
 - Resistors and transfer of energy

Forces and Motion

- Motion
 - Introduction to one-dimensional vectors
 - Displacement, velocity (constant, average and instantaneous) and acceleration
 - Interpreting position vs. time and velocity vs. time graphs
- Forces
 - Force diagrams
 - Types of forces (gravity, friction, normal, tension)
 - Field model for forces at a distance
- Dynamics (how forces affect motion)
 - Objects at rest
 - Objects moving with constant velocity
 - Accelerating objects