Chemistry Name _____
First and second Marking Period Project Period _____

Purpose:
Long Branch High school *Honors Chemistry Course Description* states that students in Honors Chemistry are required to do an in-depth study of at least two of the following eight enrichment topics during the course:

1. Crystal Structure
2. Environmental Chemistry
3. Organic Chemistry
4. Nuclear Medicine
5. Textile Chemicals
6. Polymers
7. Forensics
8. Chemistry of Computers
9. Petroleum
10. Cosmetic Chemistry
11. Kitchen chemistry

(1) To provide students a means to demonstrate their creativity and individuality.
(2) To demonstrate practical applications of chemistry outside the classroom.

Procedures:
1. **Grouping:** You are allowed to work with **anyone who is in one of Mr. Jigmey's chem classes.**
2. **The groups are LIMITED TO Two (2) PEOPLE (but may be less).**

Subtopic:
Do a general research of your main topic and choose one particular subtopic that you want to research in detail. As soon as you choose the particular subtopic, let your teacher know, so that it is reserved for you. No one else is allowed to do that particular subtopic during the semester. (Subtopics will be reserved in the order they are received)

3. You are to select from one of the following:
   - **A. Create a chemistry music video**
     (1) This video must be in DVD format or YouTube linked.
     (2) Lyrics to the song should be original and have a direct reference (**i.e. at least 20 facts**) to chemistry topics covered this semester. It is intended to be a LEARNING video, so including chemistry is a MUST. **Someone must be smarter after watching your video.**
     (3) The song should be 3-5 minutes in length (actual video can be longer), edited, and come in a nicely-presented jewel case.
   - **B. Create a chemistry instructional video (think Mythbusters style)**
     (1) This video must be in DVD format/ you tube linked and 7-10 minutes in length.
     (2) Create an instructional video that addresses an application of chemistry to every day life or an interview with a chemist who applies the topic in their research and/or career.
     (3) Include examples of the topic through demos, equations, interesting information, etc. It must include at least 20 facts relating to chemistry learned this semester.
   - **C. Create a lesson to teach the class**
     (1) This lesson must include a presentation aid (power point, video, poster, prezi, etc.)
     (2) Create a lesson that teaches the class about the selected topic.
     (3) An activity must be included to go along with the presentation (worksheet, quiz, game, etc.)

D. Create a chemistry children's book or comic book

(1) Create an original chemistry children's story that teaches a concept learned this semester that a middle school student could read and understand. It must include at least 20 facts relating to chemistry concepts learned this semester.

(2) Length: Children's book – 10 pages minimum, Comic book – 6 pages minimum. (3) Book must be bound and contain book jacket, dedication page, title page, and typed or well lettered writing.

E. Create a chemistry photo journal

(1) Create a photo journal that captivates chemistry in action.

(2) Each member in your group is responsible for 4 journal entries (ex. A group of 3 is responsible for 12 journal entries/photos).

(3) Photos must be taken by you and not digitally altered. Each photo requires 2 paragraphs: one describing how the photo relates to one of the areas listed above in the purpose and the second that describes the chemistry concept in detail.

F. Create a skit

(1) Write a script that represents the selected topic. This script could tell a story about the topic (how it was discovered possibly)

(2) The skit must be acted out in front of the class during the midterm exam period. The skit does not have to be memorized but the students should be familiar with the script. Notecard can be used but the actual script cannot be used.

(3) Must include a prop (model for explaining the topic)

(4) Must include a power point for the setting (a picture slideshow to be projected behind the actors that changes from scene to scene. Must have at least two scenes.

4 PowerPoint:

You will develop a PowerPoint presentation that includes for your particular subtopic:

- thorough background information
- at least two graphics that help to explain/support your subtopic
- a copy of a current scientific journal article, from the internet, about your subtopic – with a short summary summarizing the main points of the article.
- A generous summary that details how chemistry is used, critical, and/or applies to your subtopic.

5 Portfolio:

You will develop a portfolio [a folder with pockets & three fasteners] containing a copy of your PowerPoint slides, anything you printed off the internet, and a list of all websites used for information in your subtopic. (use website bibliography rules on school's intranet page for this list). The portfolio should also include:

- Log of Time/Work Devoted to Project: **You will develop a neat and orderly log showing the date, amount of time spent working on the project and a list of the work that you did during that time. It should be kept up-to-date and must be signed by either the teacher or your parent each time you work on your project**

6 Grading rubrics are found in the project information packet as well as online. **The grading rubric MUST BE SUBMITTED at the time you turn in your project**

7 All members must participate in the project, including writing an individual paragraph describing their role in the overall product.

8 This project is **due by _____.**

Making the Video – Chemistry Music Video

Your group will create a new chemistry band and create a song and music video that is designed to teach fellow high school students about topics learned this semester through music. The song can be a parody of an existing song with new chemistry lyrics or a completely new song, as long as the lyrics are your own. If you choose to make a video for a previously written chemistry song (i.e. downloaded from the internet), then the highest score you can earn on the project is a 70% (C). **Your video must contain at least 20 facts/problems from chemistry topics learned this semester.**

The song should be 3-5 minutes in length (but the actual video can be longer if needed) and turned in as a DVD or you tube linked . You will be graded on completeness, accuracy, and creativity. Like any good music video, it should be edited and graphics and music should add to the video, not distract the viewer. The DVD should come in a jewel case which contains the lyrics, credits for the performance, band name, and band photo. All members must be present in the video.

Mythbusters – Chemistry Instructional Video

Option 1: The chemistry we have learned this semester has applications to your everyday life and now it is your job to tell your classmates about it through an instructional video. The video will review or reteach any of the topics covered in a humorous and interesting format (similar to Bill Nye or Mythbusters). Make sure to include interesting facts and demonstrations that clearly connect chemistry to your daily life.

Option 2: Find and interview a chemist who uses one or more of the topics from this semester at their job. (Teachers don't count….well not at least for this project ☺). Make sure to find out what things they needed to get to their current position and how they use the chemistry learned in high school chemistry in their job.

The video should be 7-10 minutes in length and turned in as a DVD. **Your video must contain at least 20 facts/problems from chemistry topics learned this semester.** You will be graded on completeness, accuracy, and creativity. Like any good video, it should be edited and graphics and music should add to the video, not distract the viewer. The DVD should come in a jewel case and have an insert with the video name, illustrations, and group member names.

Create a Lesson

Your group will create a lesson to teach the class. Your goal is to teach the class about your topic and also including the topics that were learned throughout the semester. You need to include a lesson plan, that is what information you will be teaching the class and how you will be teaching it. You and your group must also include an activity that follows the lesson. You can do a worksheet, activity, quiz, game, etc. A presentation aid is required to go along with your lesson. **Your lesson must include at lease 20 facts/problems from the chemistry topics learned this semester.**

Create a Chemistry Children's Book

Create either a children's book or a comic book that teaches the chemistry concepts learned this semester through pictures and words that a middle school student could appreciate and understand. The text when combined onto one sheet of paper should be at least one page in length (single spaced, Times New Roman, 12 pt font). **The children's book should be at least 10 pages in length including illustrations. The comic book should be at least 6 pages in length.** The book should be bound (options will be discussed in class) and include a book jacket with information about the authors, dedication page, and title page. Pictures should be colorful, well illustrated (or computer generated graphics). Make it a book that you would want to read and learn from! **Your book must contain at least 20 facts/problems from chemistry topics learned this semester.**

Create a Skit

You and your group must write a script in which you will act out. The script must include dialogue and actions that the characters in your play take. When your group performs the skit you are not allowed to use the typed up script, but you can us notecards as a reference. You also need to have at least two scenery changes while you are performing each scene (you can use a power point with pictures as your scenery). Please also include one prop. **Your skit must include at least 20 facts/problems from chemistry topics learned this semester.**

Chemistry Name _____
Project _____
Rubric: "Making the Video" _____
_____

Topic: _____
You will be graded based upon the following rubric.

Requirement	**Score**
Lyrics (content): ➢ Lyrics are original (i.e. you must write your own lyrics) that have a direct correlation to topics covered this semester (not a subtle reference). The lyrics contain at least 20 chemistry facts/concepts learned during second semester. ➢ If a non-original chemistry song is used (i.e. found on the internet) you can get a maximum of a C+ (or 79%) on the project.	_____/25
Accuracy: ➢ Chemical principles are stated correctly ➢ All formulas and names given are correct, all reactions are balanced correctly ➢ Theoretical information presented accurately	_____/25
Music Video Specifics: ➢ Song is 3 to 5 minutes in length (actual video can be longer) ➢ Lyrics submitted and typed [handout, CD jacket] ➢ Video is in DVD format. Include jewel case with CD jacket. ➢ All members are present in the video with group credits at the end.	_____/10 _____/3 _____/2 _____/5
Creativity ➢ Music video is interesting to watch and is school appropriate. ➢ Video and lyrics flow have a nice quality (*very subjective, people*) **Art Work (CD Jacket)** ➢ Art work is legible, colorful and professional. ➢ CD jacket has band name, student names, period, and a band photo.	_____/10 _____/10 _____/5 _____/5

Final Score: _____/100

Comments:

Chemistry Name _____
Project _____
Rubric: "Mythbusters: Chemistry" _____

_____

Topic: _____

You will be graded based upon the following rubric.

Requirement	**Score**
Content: ➢ Video addresses an application of any semester topic in daily life OR an interview with a chemist who applies the semester topic. ➢ Includes examples, demonstrations of real life applications, equations (if necessary), and fun facts/information about the topic. ➢ Topic has **a direct correlation** to topics covered this semester. The video must contain at least 20 chemistry facts/concepts learned during second semester.	_____/25
Accuracy: ➢ Chemical principles are stated correctly ➢ All formulas and names given are correct, all reactions are balanced correctly ➢ Theoretical information presented accurately	_____/25
Video Specifics: ➢ Video is 7 to 10 minutes in length. ➢ Assessment is provided (quiz, worksheet, etc) ➢ Video is in DVD format. Include jewel case with CD jacket. ➢ All members are present in the video with group credits at the end.	_____/5 _____/8 _____/2 _____/5
Creativity ➢ Video is interesting to watch and is school appropriate. ➢ Video flows and has a nice quality (*very subjective, people*) **Art Work (CD Jacket)** ➢ Art work is legible, colorful and professional. ➢ DVD jacket has video title, student names and period	_____/10 _____/10 _____/5 _____/5

Final Score: _____/100

Comments:

Chemistry Name _____
Project _____
Rubric: "Create a Skit" _____

_____

Topic: _____

You will be graded based upon the following rubric.

Requirement	**Score**
Content: ➢ The script addresses a chemistry topic that applies in everyday life ➢ Includes examples, demonstrations of real life applications, equations (if necessary), and fun facts/information about the topic. ➢ Topic has **a direct correlation** to topics covered this semester. The skit must contain at least 20 chemistry facts/concepts learned during second semester.	_____/25
Accuracy: ➢ Chemical principles are stated correctly ➢ All formulas and names given are correct, all reactions are balanced correctly ➢ Theoretical information presented accurately	_____/25
Skit Specifics: ➢ Skit is 7 to 10 minutes in length. ➢ Assessment is provided (quiz, worksheet, etc) ➢ Video is in DVD format. Include jewel case with CD jacket. ➢ All members are present in the video with group credits at the end.	_____/5 _____/8 _____/2 _____/5
Creativity ➢ Skit is interesting to watch and is school appropriate. ➢ Skit flows and has a nice quality (*very subjective, people*) **Scenery/Prop** ➢ Has at least one scenery change ➢ Includes at least one prop	_____/10 _____/10 _____/5 _____/5

Final Score: _____/100

Comments:

Chemistry
Semester Project
Rubric: "Chemistry Children's Book"

Name _____

Topic: _____

You will be graded based upon the following rubric.

Requirement	**Score**
Content: ➢ Original story teaches about a chemistry concept learned this semester through pictures and story that a middle school student could follow and understand. All aspects of the concept are addressed through the story. ➢ Topic has **a direct correlation** to topics covered this semester. The book must contain at least 20 chemistry facts/concepts learned during second semester.	_____/25
Accuracy: ➢ Chemical principles are stated correctly ➢ All formulas and names given are correct, all reactions are balanced correctly ➢ Theoretical information presented accurately	_____/25
Book Specifics: ➢ Book is 10 pages in length (not counting title page, covers, dedication page) ➢ Text is at least 1 page long (Times New Roman 12 pt font, 1 in margins). Turn in text in one document as proof) ➢ Book is bound (spiral, hole punch with ribbons, scrapbook) with a jacket. ➢ Dedication page is included.	_____/5 _____/5 _____/3 _____/2
Creativity ➢ Book is interesting to read and is school appropriate. ➢ Story flows and has a nice quality (*very subjective, people*) **Art Work (Book Cover)** ➢ Art work is legible, colorful and professional. ➢ Book jacket includes student names, period, and "about the author"	_____/10 _____/10 _____/10 _____/5

Final Score: _____/100

Comments:

Chemistry Name _____
Project _____
Rubric: Create a lesson _____
_____

Topic: _____

You will be graded based upon the following rubric.

Requirement	**Score**
Content: ➢ A lesson plan that relates directly to a real world chemistry topic ➢ The lesson contains at least 20 chemistry facts/concepts learned during second semester.	_____/20
Accuracy: ➢ Chemical principles are stated correctly ➢ All formulas and names given are correct, all reactions are balanced correctly ➢ Theoretical information presented accurately ➢ Information is not copied from a textbook or website.	_____/20
Lesson Plan Activity: ➢ Includes a presentation aid ➢ The activity is unique and is created by the students ➢ Activity is about one page in length or 5-10 questions/problems ➢ Chemistry concepts are included in the activity.	_____/5 _____/5 _____/15
Creativity and Presentation: ➢ Lesson is interesting. ➢ Presentation aid is colorful, includes images, videos, etc. ➢ Activity is relevant to the lesson. **Presentation:** ➢ Students present the material in an engaging fashion (don't bore your students!) ➢ Takes up the full 10 minutes to present ➢ Each person in the group presents an equal amount of information	_____/20 _____/5 _____/10

Final Score: _____/100

Comments:

Note : Power point and portfolio are graded separately

- Power point content 50%
- Presentation 30%
- Portfolio 20 %

Total Grade for the project will be out of 200 points.

Additional Notes about the Projects:

- Students will be able to work on the Project one full class periods in the media center computer lab. Any other computer work will need to be done at home or before or after school. If needed, students can reserve a time with me for after school work on my classroom computer.
- Each portfolio must be turned in by the due date in order to receive any credit, according to LBHS Honors Science mandate that states "no late work will be accepted". (Your best bet is to turn it in early so that this is not a problem)
- Excuses such as "my printer is out of ink" or "I don't have PowerPoint at home" will not be valid reasons for work to be turned in late. You should not have waited until the last minute to get your work ready. If you find out ahead of time that your printer is out of ink, you can print things at school or use the PowerPoint on school computers.
- Each student, working on the Project, needs to participate in the presentation to the class. If two students are partners on the same project, each one should share in all parts of the presentation.
- A detailed grading rubric for the projects will be given to you by the first day of class work.

- **Turn in your portfolio by the due date of: _____**
- **Present your PowerPoint to the class during the week of: _____.**
- **Your Presentation Date is scheduled for: _____**
- This project is **due by _____.**

Resources Log in sheet example:

RECORD OF DATES AND HOURS

Date	Time In	Time Out	Total	Site Host's	Signature

Parent Letter – chemistry Project
Name_____

Date Due Per_____
Teacher Init: _____ Points:

_____

Dear Parents:

Chemistry projects are required in all Honors level chemistry classes at Long Branch High School. Honors level science students have shown promise and interest in advanced-level science classes and are encouraged to pursue careers in medicine, engineering and other highly-skilled and research-based fields. By allowing students to do the independent scientific research of their choice, I believe that our students gain insight to the scientific process (research, creative thought, experimental procedure, use of controls, analysis, etc) which is in many ways more important than learning scientific facts. We ask for your assistance in helping your child understand that this is part of the learning process that "cannot be taught out of textbooks".

Thank you
Jigmey, Tenzin

Project Title : _____

Parent Signature:_____
Parent Email : ----------

Student Signature: _____

Period: _____

Comments or questions: