

If working with a group, each student must turn in an individually written, separate Science Background Paper and Artist’s Statement. Students must also justify why a team was needed and document the roles fulfilled by each team member, to be included in the Artist’s Statement.

Category Requirements – 30%	
10 pts.	<p>Artist’s statement (1-5 pages) Provide insight into the work. This could include (but is not limited to) the following: What provided the inspiration for the work? Why was the work made? What was the purpose? What are ideas that are conveyed? What references are made? What do you hope listeners will get out of the piece? What did you learn about science from doing this work? If you worked with a group, why was a group needed? What role did each member of the group fulfill?</p>
20 pts.	<p>Lyrics/Score - Concept and Form The music should communicate your stated goals, and the form selected should enhance your message. Options:</p> <ol style="list-style-type: none"> 1) Original score only, no lyrics <i>In this case, the Musician’s Statement must be 5 pages, and Science Background 8-12 pages.</i> 2) Original score and original lyrics: Create <i>at least</i> one 3-minute song 3) Original lyrics but set to existing music: Create a suite of <i>at least</i> 4 3-minute songs

Science Content– 20%	
20 pts.	<p>Science Background Paper (5-10 pages) What are the main scientific concepts that your art is based on? For example, if your piece references stem cells, provide information on the science of stem cells. Demonstrate a mastery of relevant scientific ideas by accurately explaining difficult concepts in terms a layperson could understand. The work should provide an appropriate combination of explanations, examples, and details that are specific, clear, and relevant to the topic. The content of your work should reflect critical thinking about the topic.</p>

Use of Resources and General Written Requirements – 20%	
10 pts.	<p>Effort in Use of Resources Include 1-2 typed pages describing the resource(s) you put the most effort into using. More weight is given in judging to those students who put more effort into locating and using available resources. A good use of resources may include working with an advisor or mentor, making arrangements to tour a company, interviewing an adult in your field, or other sources. What did you learn? How did this resource help you? An interview with an adult in the field carries far more weight than a Google search.</p> <p>If a qualified adult (i.e your Expo Advisor or Mentor, someone you interviewed or a tour guide at site visit) significantly helped you with your project, please include:</p> <ol style="list-style-type: none"> a) The person’s name, title and contact information. b) Dates you emailed, talked on the phone or met. c) Your thoughtful reflections on the experience of working with that person.
5 pts.	<p>Paper Format Provide a typed Cover Sheet including name, title, category, teacher, grade level, school, and date. Papers should be typed/word processed on white letter-sized paper, with one-inch margins. Use an easily readable font such as Times Roman or Arial, 10-12 point, double-spaced. If included, illustrations must be neat and applicable, with a title and a source. Number your pages and label section headings. Consistently follow the rules of Standard English for usage, spelling, capitalization, and punctuation. If you are using Windows <i>Vista</i>, please use the ‘save as’ function</p>

	to save your paper as a "Word 97-2003 Document".
5 pts.	Annotated bibliography in standard MLA or APA format Use a minimum of 5 sources (3 must be non-internet sources). Journals published in hard copy as well as online can count as non-internet sources. For each source, provide one reason why you believe the source is credible and describe how it was used in your project.

Creativity -- 10%	
10 pts.	Creativity The most successful projects have been ones that are not simply 'reports', but look at careers and the biotechnology/biomedical industry in unique ways. Show your ability to creatively approach or solve a problem, or present evidence of your understanding in ways that are novel or unique. Your project should reflect your special insights and abilities.

Poster/Interview at Expo Event – 20%	
5 pts.	Poster Music Projects should have posters that are more like advertisements/promotions for their work (such as one would see to promote a CD or show) Posters should convey important information about your project in a visually appealing manner. Displays must be freestanding and have the following maximum dimensions: 4 feet width, 2.5 feet depth, and 3 feet height (from table).
15 pts.	Interview <i>Judges will be looking at your effectiveness in communicating your project to them, and your understanding of your topic.</i> Your judge will want an overview of your project - practice giving a short (2-3-minute) 'walk-through' of your project that explains it in straightforward terms. Be prepared to provide a 5-minute 'mini-performance' for the judges and any interested viewers. You will receive written feedback from your judge regarding the strengths of your project, and how you could make it even better in the future. <i>The following are samples of the types of additional questions a judge might ask you: Why were you interested in this topic? What did you learn from doing your project? What was the most enjoyable/difficult aspect of doing this project? What else would you like to find out about this topic?</i>
100 points total	

What you need to submit for the Expo Prejudging
<input type="checkbox"/> Cover Sheet <input type="checkbox"/> Artist's Statement <input type="checkbox"/> Science Background Paper <input type="checkbox"/> Lyrics/Score <input type="checkbox"/> Music on CD, and in .wma, mpeg or wmv formats for electronic versions <input type="checkbox"/> Bibliography + description of Effort in use of Resources <input type="checkbox"/> <i>Provide one hard copy and one electronic copy.</i> <input type="checkbox"/> <i>Please combine your files into a single Word PC File or PDF.</i> <input type="checkbox"/> Label your file MU_SchoolAbbreviation_LastName Example = MU_BA_Smith (note that there are no spaces, only underscores, in the file name). Check with your teacher for school abbreviations.

What you need to bring to the Expo

- Cover Sheet**
- Artist's Statement**
- Science Background Paper**
- Lyrics/Score**
- Music on CD**
- Any instruments, CD players, or sound equipment you might need.**
Each music entry may actually perform during their judging time, so be prepared!
- Bibliography + description of Effort in use of Resources**
- Poster**

Music Tips

Music From a Place of Knowledge

"Our poets do not write about it; Our artists do not try to portray this remarkable thing. I don't know why. Is no one inspired by our present picture of the universe? The value of science remains unsung by singers: you are reduced to hearing not a song or poem, but an evening lecture about it. This is not yet a scientific age."¹
--Richard Feynman

This project is similar to the art category in that it is concerned with using artistic expression to communicate about science. Students who feel that their strongest talents lie in the musical realm are encouraged to participate in this category.

Students either work alone, or in groups of 2 or 3. The work should make reference to biotechnology through a theme (cloning, DNA structure, the Human Genome Project, etc.) that is described in detail in the artist's statement. Because of the subjective nature of music, the artist's statement is a critical part of this project.

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Projects with both original lyrics and score are strongly encouraged.

The top 2-3 semifinalists will have a chance to perform a short segment of their music (approximately 5 minutes) for the audience at the Expo.

Potential Resources

Science Entertainment: <http://www.scientainment.com/khowto1.html>

Music About Science: <http://www.edu-cyberpg.com/IEC/iecscience.html>

Science Song Music (lots from Science Groove):
<http://faculty.washington.edu/crowther/Misc/Songs/music.shtml>

Science Songwriter's Association
<http://www.science-groove.org/SSA/resource.html>

MASSIVE: Math And Science Song Information
<http://www.science-groove.org/MASSIVE/>

¹ <http://www.science-groove.org/SSA/>
Student Bio Expo 2010

