Baltimore Data Jam Competition

Middle School Student Guide

Bringing socio-ecological data to "life" for non-scientist audiences

Guidelines for the Spring 2020 Competition

Hello Baltimore Data Jam Competitor!

The Baltimore Ecosystem Study welcomes you to join the 2020 Baltimore Data Jam Competition. We need your creativity and scientific know-how to help inform non-scientists about the ecology of the Baltimore region.

Your challenge, should you choose to accept it, is to delve into a data set, or two, of ecological data about Baltimore. Identify trends or comparisons and then get your creative juices flowing! Build an interactive model, write a song, perform a skit or create a video to tell the story of your data. Visit the Baltimore Data Jam website for step by step instructions on how to enter the competition https://baltimoreecosystemstudy.org/data-jam/

Below is a guide for how your report and creative project will be scored. Each teams' entry will be judged by at least three different people ranging in background from scientist to educator to artist. The rubric on the following pages will ensure that you have completed each component of the competition to the best of your ability. You may ask an adult to review your entry, but remember, this is a student competition and your final submission must reflect the work of yourself and your teammates.

For questions regarding the competition or your entry, contact Bess Caplan at caplanb@caryinstitute.org.

www.baltimoreecosystemstudy.org – The Baltimore Ecosystem Study

Baltimore Data Jam Competition – Judging Rubric

Does your project include…

1) **A written scientific report?** ☐ **Yes** ☐ **No**
2) **An interpretive creative component?** ☐ **Yes** ☐ **No**

Overall Content & Organization - 10 points						
	Outstanding	Above Average	Average	Below Average	Poor	No Evidence
1. Project includes a clear and engaging title, names of all student authors, grade(s) and school name(s).	1					0
2. Report organization, mechanics, & style. Report is typed in a readable font, easy to read and understand, neat, free from spelling and grammatical errors.	5	4	3	2	1	0
3. Report completeness. All of the components of the report are included (*listed below*). This piece should be scored as follows: a. Outstanding: addresses all **9** report components b. Above Average: addresses **8** report components c. Average: addresses **6-7** report components d. Below Average: addresses **5 or fewer** report components	4	3	2	1		0

Check Mark	**Report Components**
	1. Team Information --- with student names, grades, and school
	2. Background Information – background, question and claim about the data
	3. Data Analysis– description of variables and methods used, data source
	4. Data representation(s) – graphs, charts, or other type of data summary
	5. Data trend(s) or comparison(s) – described, referring to representation(s)
	6. Explanation of *why* data trends occurred
	7. New questions and hypotheses
	8. Reflection on Data Jam experience
	9. Explanation of creative project
	10. Reference List – include at least 1 reference, properly cited

Scientific Merit of the Written Report - 50 points						
NOTE: Each category corresponds to a section of the DJ Report. Each section should be a paragraph of text (2-7 sentences).	Outstanding	Above Average	Average	Below Average	Poor	No Evidence
1.Team Info Project includes names of all team members, team advisors, and school name(s).	1					0
2.Background Information a. Includes background information needed by someone unfamiliar with the science topic to understand the project. b. Dataset(s) are described accurately and clearly including: • Methods used to collect the data • Who collected the data, • Where and when data were collected, • Source of data (ex: NOAA, HRECOS, Cary Institute).	5	4	3	2	1	0
3. Data Analysis a. Research question and null and alternative hypotheses are clearly stated b. Identifies the variables in the dataset(s) c. Variables are identified accurately and explained clearly. Ex: The independent variable measured in this experiment was time and the dependent variable was blue crab density.	10	8	6	4	2	0
4. Data Representation(s) Graph(s), table(s) or other type of summary includes: • Clearly displayed data (points, bars, etc.) • Labeled axes	8	7	5	3	1	0
5. Data Trends or Comparisons a. Trend(s) or comparison(s) are described accurately, using basic descriptive statistics (ex: mean, standard deviation). Ex: The average annual blue crab population increased over time from 158 to 2703 crabs/m^2. b. If two or more datasets were used, students describe how data are similar and different c. Describes whether data supports hypothesis	10	8	6	4	2	0
6. Explanation (Data Interpretation) a. Uses reasoning to explain the trend or comparison discovered b. Discusses why the trend or comparison is interesting c. Uses basic descriptive statistics (mean, standard deviation, t-test, etc.) to describe variability d. Explains potential sources of variability	10	8	6	4	2	0
7. New Hypotheses & Questions Includes at least two additional ideas for future scientific research.	2		1			0
8. Reflection Student reflects on their personal Data Jam experience.	1					0
9. Explanation of Creative Project Explains why students chose a particular medium and what	1					0

message they hope audience will learn from their creative project.						
10. Reference List Project clearly and accurately cites 1 outside source besides the dataset and metadata.	2		1			0

Creativity In Communicating Data						**40 points**
	Outstanding	Above Average	Average	Below Average	Poor	No Evidence
Creativity Project idea (ex: poem, skit, video) is creative and original.	10	8	6	4	2	0
Message Project has a message that is easily understandable for a non-scientist audience.	10	8	6	4	2	0
Craftsmanship Materials, media or resources are used skillfully and effectively to create an appealing project.	10	8	6	4	2	0
Data Incorporation The creative product accurately portrays the trend(s) in the data.	10	8	6	4	2	0

Dates to remember:

- Register by **May 6, 2020**
- Submit signed Parental Consent form by **May 20, 2020**
- Projects must be submitted electronically by **May 27, 2019** (contact Bess Caplan at caplanb@caryinstitute.org to arrange delivery of physical models or sculptures).
- Data Jam Announcement of Winners – **June 19, 2020** – winners will be announced online.

Best of Luck!