

Student Scientific Analysis and Interpretation (Written Report)					38 points
<b>Scoring Codes</b>  O = Outstanding AA = Above Average A = Average BA = Below Average NE = No evidence					
	O	AA	A	BA	NE
<b>(1) Organization</b>					
<ul style="list-style-type: none"> <li>Title</li> <li>Author(s)</li> <li>Teacher's Name</li> <li>School</li> <li>Grade</li> </ul>	-	1	-	-	0
<ul style="list-style-type: none"> <li>Visually appealing (Easily readable, organized into paragraphs, etc.)</li> <li>Organized: <ul style="list-style-type: none"> <li>Report Template has been used, <i>or</i></li> <li>All required sections are clearly labelled</li> </ul> </li> </ul>	-	1	-	-	0
<b>(2) Introduction</b>					
<b>(2a)</b> Description/introduction to the Critical Zone	2	1.5	1	0.5	0
<b>(2b)</b> Background information describing the dataset for "non-experts," which includes <u>connection</u> to Critical Zone.	2	1.5	1	0.5	0
<b>(2c)</b> The <u>research question</u> students were trying to answer is clearly stated.	2	1.5	1	0.5	0
<b>(3) Data Representation &amp; Description (Understanding the Data)</b>					
<b>(3a)</b> Students include visual representation(s) of their selected variables. The visualization(s) include: <ul style="list-style-type: none"> <li>Appropriate selection of visualization type (bar chart, histogram, scatterplot, etc.)</li> <li>Clearly and accurately labeled axes (with units), a title, legends (if applicable)</li> </ul>	4	3	2	1	0
<b>(3b)</b> Students clearly <u>define</u> the selected variables they have chosen to investigate in their project.	2	1.5	1	0.5	0
<b>(4) Data Trends, Patterns, Comparisons (Interpreting the Data)</b>					
Students clearly describe: <ul style="list-style-type: none"> <li>Trends and/or patterns evident in the data. <ul style="list-style-type: none"> <li><i>Example: The average annual blue crab population increased over time from 158 to 2,703 crabs/m<sup>2</sup>.</i></li> </ul> </li> <li>Variability in the data (if present) <ul style="list-style-type: none"> <li><i>Example: Despite the <u>overall increase</u> (trend) in pearly mussel population from 1995-2010, the mussel population</i></li> </ul> </li> </ul>	6	4.5	3	1.5	0

<i>sharply dropped (variability) in 2003.</i>					
<b>(5) Data Analysis (CER/J)</b> Students analyze the observed trends, patterns, and variability described in the previous section. Students reference their data visualization to support their analysis. This includes:					
<b>(5a)</b> A claim that is clearly stated and which answers the research question.	2	1.5	1	0.5	0
<b>(5b)</b> An <u>explanation</u> for the trends, patterns, and variability in their data. <ul style="list-style-type: none"> <li><i>Why are these trends, patterns, or variability present?</i></li> </ul>	4	3	2	1	0
<b>(5c)</b> A justification of why the trends, patterns, and/or variability in their data is important in answering their research question. <ul style="list-style-type: none"> <li><i>This is/will include the scientific reasoning or ideas that support the ideas addressed in 5a and 5b.</i></li> </ul>	6	4.5	3	1.5	0
<b>(6) New Wondering &amp; Hypothesis</b>					
Based on their data interpretation, students will: <ul style="list-style-type: none"> <li>List one wondering they have about this data set, and</li> <li>Transform that wondering into an official hypothesis.</li> </ul>	2	1.5	1	0.5	0
<b>(7) References</b>					
Students include works cited in their report which includes at least two (2) additional resources that they used to support their written report and creative project.	4	3	2	1	0
<b>(8) Link to Creative Project (NO SCORE)</b>					
If there is a link to your project, make sure to include it at the end of your written report.	-	-	-	-	-
	TOTAL _____ / 38				
<b>Comments:</b>					

<b>Student Creative Project</b>	<b>28 points</b>					
<b>Scoring Codes</b> O = Outstanding AA = Above Average A = Average BA = Below Average NE = No evidence						
	<table border="1"> <tr> <td>O</td> <td>AA</td> <td>A</td> <td>BA</td> <td>NE</td> </tr> </table>	O	AA	A	BA	NE
O	AA	A	BA	NE		
<b>(1) Project Quality &amp; Organization</b>						

Project demonstrates effort.	4	3	2	1	0
<b>(2) Creativity</b>					
The project is interesting, new, or inspired, and makes an original contribution to the field of environmental art and/or communication. <i>Please note: The art can be abstract - creativity and thinking outside of the box is encouraged! Just be sure to include a written or verbal explanation of how it is representing the story of the data.</i>	4	3	2	1	0
<b>(3) Description of the project</b>					
Student includes a clearly described explanation of the project, which includes, but is not limited to: <ul style="list-style-type: none"> <li>Who is the audience, and what assumptions are you making about them? <i>Example: It is assumed that the adults engaging with the game have an understanding of the vocabulary words deciduous forest, producers, primary consumers, and secondary consumers.</i></li> <li>List/description of abstract characters, art, or other elements of the project that may not be immediately obvious to the audience.</li> </ul>	2	1.5	1	0.5	0
<b>(4) Data Incorporation</b>					
Data is <u>clearly represented in the project</u> in a way that is easily understandable to non-experts.	4	3	2	1	0
The creative project accurately portrays the data trends, patterns, and/or variation that the student identified in their analysis and interpretation.	6	4.5	3	1.5	0
The creative project references specific data to demonstrate accurate portrayal of the trend (e.g., physical model contains a scale or legend; reference is made to particular data in a poem).	8	6	4	2	0
	TOTAL _____ / 28				
<b>Comments:</b>					