

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

## Criterion B: Inquiring and designing Maximum: 8

At the end of year 1, students should be able to:

- i. outline problems that can be observed during assigned natural disaster
- ii. outline a testable prediction on how to stay safe during assigned natural disaster using scientific reasoning
- iii. outline situations to ensure safety during the natural disaster, and outline how data within the PSA
- iv. design a natural disaster situation with a PSA

Achievement level	Level descriptor
0	The student <b>does not</b> reach a standard described by any of the descriptors below.
1–2	The student is able to: <ol style="list-style-type: none"> <li>i. <b>select</b> a problem that can be observed during a natural disaster</li> <li>ii. <b>select</b> a testable prediction on how to stay safe during assigned natural disaster</li> <li>iii. <b>state</b> a problem that can arise during the natural disaster</li> <li>iv. design a natural disaster PSA <b>method with limited success</b>.</li> </ol>
3–4	The student is able to: <ol style="list-style-type: none"> <li>i. <b>state</b> a problem that can be observed during a natural disaster</li> <li>ii. <b>state</b> a testable prediction on how to stay safe during assigned natural disaster</li> <li>iii. <b>state</b> problems that can arise during the natural disaster, and <b>state</b> how <b>data</b> will be collected in the PSA</li> <li>iv. design a <b>safe method</b> in which he or she <b>selects materials and equipment</b> for the PSA</li> </ol>
5–6	The student is able to: <ol style="list-style-type: none"> <li>i. <b>state</b> a problem that can be observed during a natural disaster</li> <li>ii. <b>outline</b> a testable prediction on how to stay safe during assigned natural disaster</li> <li>iii. <b>outline</b> problems that can arise during the natural disaster, and <b>state</b> how <b>relevant data</b> will be collected in the PSA</li> <li>iv. design a <b>complete and safe method</b> in which he or she <b>selects appropriate materials and equipment</b> for the PSA</li> </ol>
7–8	The student is able to: <ol style="list-style-type: none"> <li>i. <b>outline</b> a problem that can be observed during a natural disaster</li> <li>ii. <b>outline</b> a testable prediction on how to stay safe during assigned natural disaster <b>using scientific reasoning</b></li> <li>iii. <b>outline</b> problems that can arise during the natural disaster, and <b>outline</b> how <b>sufficient, relevant data</b> will be collected</li> <li>iv. design a <b>logical, complete and safe method</b> in which he or she <b>selects appropriate materials and equipment</b> for the PSA</li> </ol>

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## Criterion C: Processing and evaluating Maximum: 8

At the end of year 1, students should be able to:

- i. present collected and transformed data within the PSA
- ii. interpret data collected from previous natural disasters and outline results using within the PSA
- iii. discuss the validity of being safe during a natural disaster based on the outcome of the background research
- iv. discuss the validity of the safety measures in the PSA
- v. describe improvements or extensions to the PSA

Achievement	Level descriptor
0	The student <b>does not</b> reach a standard described by any of the descriptors below.
1–2	The student is able to: <ol style="list-style-type: none"> <li>i. <b>collect and present</b> data in numerical and/or visual forms in the PSA</li> <li>ii. <b>interpret</b> data in the PSA</li> <li>iii. <b>state</b> the validity of being safe during a natural disaster based on the outcome of a scientific investigation, <b>with limited success</b></li> <li>iv. <b>state</b> the validity of the safety measures in the PSA based on the outcome of a scientific investigation, <b>with limited success</b></li> <li>v. <b>state</b> improvements or extensions to the PSA that would benefit the scientific investigation, <b>with limited success</b>.</li> </ol>
3–4	The student is able to: <ol style="list-style-type: none"> <li>i. <b>correctly collect and present</b> data in numerical and/or visual forms in the PSA</li> <li>ii. <b>accurately interpret</b> data and <b>outline</b> results in the PSA</li> <li>iii. <b>state</b> the validity of being safe during a natural disaster based on the outcome of a scientific investigation</li> <li>iv. <b>state</b> the validity of the safety measures based on the outcome of a scientific investigation</li> <li>v. <b>state</b> improvements or extensions to the PSA that would benefit the scientific investigation.</li> </ol>
5–6	The student is able to: <ol style="list-style-type: none"> <li>i. <b>correctly collect, organize and present</b> data in numerical and/or visual forms in the PSA</li> <li>ii. <b>accurately interpret</b> data and <b>outline</b> results <b>using scientific</b> reasoning in the PSA</li> <li>iii. <b>outline</b> the validity of being safe during a natural disaster based on the outcome of a scientific investigation</li> <li>iv. <b>outline</b> the validity of the safety measures based on the outcome of a scientific investigation</li> <li>v. <b>outline</b> improvements or extensions to the PSA that would benefit the scientific investigation</li> </ol>
7–8	The student is able to: <ol style="list-style-type: none"> <li>i. <b>correctly collect, organize, transform and present</b> data in numerical and/ or visual forms in the PSA</li> <li>ii. <b>accurately interpret data</b> and <b>outline</b> results <b>using correct scientific reasoning</b> in the PSA</li> <li>iii. <b>discuss</b> the validity of being safe during a natural disaster based on the outcome of a scientific investigation</li> <li>iv. <b>discuss</b> the validity of the safety measures based on the outcome of a scientific investigation</li> <li>v. <b>describe</b> improvements or extensions to the PSA that would benefit the scientific investigation.</li> </ol>

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## Criterion D: Reflecting on the impacts of science Maximum: 8

At the end of year 1, students should be able to:

- i. summarize the ways in which science is applied and used to address safety measures during natural disasters
- ii. describe and summarize the various implications of using science and its application in finding solutions to stay safe during natural disasters
- iii. apply scientific language effectively
- iv. document the work of others and sources of information used.

Achievement	Level descriptor
0	The student <b>does not</b> reach a standard described by any of the descriptors below.
1–2	The student is able to, <b>with limited success</b> : i. You were barely able to <b>state</b> how the PSA helps you understand the impact of natural disasters. ii. You were barely able to <b>state</b> how the PSA helps you understand the relationship of natural disasters to humans. iii. You were barely able to <b>apply</b> the PSA to discuss challenges for scientists studying natural disasters iv. document sources on your poster.
3–4	The student is able to: i. You were barely able to <b>state</b> how the PSA helps you explained the impact of natural disasters on humans. ii. You were barely able to <b>state</b> the implications of PSA's on human activity. iii. You were able to <b>sometimes apply</b> the PSA to discuss challenges for scientists studying natural disasters iv. <b>sometimes</b> document sources correctly on your poster.
5–6	The student is able to: i. <b>outline</b> the ways in how the PSA helps you explain the impact of natural disasters on humans. ii. <b>outline</b> the implications of PSA's on human activity. iii. <b>usually apply</b> the PSA to discuss challenges for scientists studying natural disasters <b>clearly and precisely</b> iv. <b>usually</b> document sources correctly on your poster.
7–8	The student is able to: i. <b>summarize</b> the ways in how the PSA helps you explain the impact of natural disasters on humans ii. <b>describe and summarize</b> the implications of PSA's on human activity iii. <b>consistently apply</b> the PSA to discuss challenges for scientists studying natural disasters <b>clearly and precisely</b> iv. document sources <b>completely</b> on your poster.

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

Student Reflection:

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Recommended Area(s) for Growth:

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