CT NGSS Item Cluster Development Template

The original template headers (Jeff Greig, CSDE) had been used during AIR CT development in 2019. This template has been modified (blue sub text and template design) by Susan Meabh Kelly (2019) to provide guidance that leverages NGSS Assessment Tools.

Grade:

Name of Developers:

Title of Item: *(include PE reference (e.g. HS-ESS1-2)*

*Copy and paste performance expectation, science and engineering practices, disciplinary core ideas, and cross -cutting concepts by copying/pasting text from grade-level Connecticut item specifications located in the development guidelines link.*

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| Performance Expectation |
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| Science and Engineering Practices | Disciplinary Core Ideas | Cross-Cutting Concepts |
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*Using check list and sample phenomena in development guidelines links as reference (phenomena check list and item specifications), brainstorm multiple potential scientific phenomena. Envision and record grade level explanations and/or models of each phenomenon. Note any resources you identified (e.g. online databases, videos, informative text) associated with the phenomena. Evaluate which phenomenon best aligns with phenomenon check list.*

Scientific Phenomena

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| --- | --- | --- | --- |
|  | Phenomenon 1 | Phenomenon 2 | Phenomenon 3 |
| Phenomenon |  |  |  |
| Student Explanation/Model |  |  |  |
| Resources |  |  |  |

*After identifying a phenomenon that best meets criteria, develop a draft item cluster. This will be an iterative process as the items need to be coherently linked to phenomenon, item specifications, and each other. Before embarking on this component, it may be helpful to review some grade-level sample item clusters published in the CT NGSS assessment portal.*

*Instructions to access:*

[*https://ct.portal.airast.org/core/fileparse.php/51/urlt/CT\_NGSS\_Science-Sample-Items\_Brochure.pdf*](https://ct.portal.airast.org/core/fileparse.php/51/urlt/CT_NGSS_Science-Sample-Items_Brochure.pdf)

*Portal link:* [*https://login11.cloud1.tds.airast.org/student/V336/Pages/LoginShell.aspx?c=Connecticut\_PT*](https://login11.cloud1.tds.airast.org/student/V336/Pages/LoginShell.aspx?c=Connecticut_PT) *)*

*The item cluster stimulus and cluster task statement can be found on the left panel of the item cluster. The stimulus presents the phenomenon and provides any information all students are not be expected to know. Text should be written at or (ideally) two years below grade level. This can be checked via free online tools (e.g.* [*https://datayze.com/readability-analyzer.php*](https://datayze.com/readability-analyzer.php) *(click on ?)).*

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| Item Cluster Stimulus |
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*The task statement briefly presents what students will do/demonstrate. The task statement is typically written in active voice and communicated in one or two sentences.*

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| Cluster Task Statement |
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*Review task demands in the item specification links. Choose at least two to four relevant and related task demands to include in the item cluster. Choose task demands that can be best elicited through your chosen phenomenon and the three associated components (SEP, DCI, CCC) in the item specifications. Copy and paste task demands into template. You may find it helpful to note which task demand would most easily elicit the SEP, DCI, and CCC in item specifications.*

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| Task Demand 1 |
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| Task Demand 2 |
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| Task Demand 3 |
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| Task Demand 4 |
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*Develop a sequence of four item interactions that coherently relate to each task demand, each other, the phenomenon, science and engineering practices, disciplinary core ideas, and cross-cutting concepts. Template color refers each of the three dimensions (SEP (blue), DCI (orange), CCC (green),to ensure each dimension is represented at least once in the item cluster.*

*Sequence can be arranged in any way that supports coherence. Review item interaction types in the development guidelines link. Keep in mind that students will be expected to complete each item interaction in approximately two minutes, and each item interaction is designed to assess a minimum of two of the three dimensions.*

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| Item Interaction (SEP) |
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| Item Interaction (DCI) |
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| Item Interaction (CCC) |
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| Item Interaction |
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*Note links and comments to keep track of resources, idea, and questions (e.g. illustrations located online, authentic data).*

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| Resources/Notes |
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