Lesson/Unit Name: Earth Systems Evolution  
Content Area: English language arts  
Grade Level: 10

Dimension I – Alignment to the Depth of the CCSS

<table>
<thead>
<tr>
<th>The lesson/unit aligns with the letter and spirit of the CCSS:</th>
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<tbody>
<tr>
<td>✓ Targets a set of grade-level CCSS ELA/Literacy standards.</td>
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<tr>
<td>✓ Includes a clear and explicit purpose for instruction.</td>
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<tr>
<td>✓ Selects text(s) that measure within the grade-level text complexity band and are of sufficient quality and scope for the stated purpose (e.g., presents vocabulary, syntax, text structures, levels of meaning/purpose, and other qualitative characteristics similar to CCSS grade-level exemplars in Appendices A &amp; B).</td>
</tr>
</tbody>
</table>

A unit or longer lesson should:

| ☑ Integrate reading, writing, speaking and listening so that students apply and synthesize advancing literacy skills. |
| ☑ (Grades 3-5) Build students’ content knowledge and their understanding of reading and writing in social studies, the arts, science or technical subjects through the coherent selection of texts. |

Standards:

The lesson targets the following Common Core State Standards: WHST.9-12.2, WHST.9-12.8, WHST.9-12.9 RST.9-12.1, RST.9-12.2, RST.9-12.7, RST.9-12.10 as well as an additional state standard (NY) and Next Gen Science Standards.

Purpose for Instruction:

The purpose for instruction is stated clearly and explicitly throughout the activity. An overview of the activity states that the lesson "introduces students to scientific knowledge and language related to Earth Science. Students will read content-rich texts, visit the David S. and Ruth L. Gottesman Hall of Planet Earth and use what they have learned to complete a CCSS-aligned writing task, creating an illustrated text about how Earth’s systems and life on Earth co-evolved to create an oxygen-rich atmosphere."

Additionally, the lesson is divided into 3 activities each stating an explicit purpose for instruction:

1. (Before the Visit) This part of the activity engages students in reading a non-fiction text about investigating Earth’s early atmosphere to learn how it changed over time. The reading will prepare students for their visit by introducing them to the topic and framing their investigation.
2. (During the Visit) This part of the activity engages students in exploring the Gottesman Hall of Planet Earth.
3. (Back in the Classroom) This part of the activity engages students in an informational writing task that draws on the pre-visit reading and on observations made at the Museum.

Text Complexity: Students will read "Footprints of the Air" which measures at the 11-12 gradeband with a Lexile level of 1360. The text quality and the scope of the reading that will take place at the museum (i.e. maps, displays, display descriptors) are appropriate given the tasks students will be asked to complete (i.e touring, observing, writing).

Suggestions:

Purposeful integration of multiple interdisciplinary standards is noted and commended. It is suggested that because the final performance task is a writing task, a writing standard be incorporated in the lesson to maintain focus on the overarching method of the manner by which content and learning mastery will be measured. Additionally, it would be helpful for end users to have an approximate idea of the lesson completion time frame.

Rating: 3 – Meets most to all of the criteria in the dimension

Overall Rating: E Exemplar
**Dimension III – Key Shifts the CCSS**

<table>
<thead>
<tr>
<th>The lesson/unit addresses key shifts in the CCSS:</th>
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<tbody>
<tr>
<td>✓ <strong>Reading Text Closely:</strong> Makes reading text(s) closely, examining textual evidence, and discerning deep meaning a central focus of instruction.</td>
</tr>
<tr>
<td>✓ <strong>Text-Based Evidence:</strong> Facilitates rich and rigorous evidence-based discussions and writing about common texts through a sequence of specific, thought-provoking, and text-dependent questions (including, when applicable, questions about illustrations, charts, diagrams, audio/video, and media).</td>
</tr>
<tr>
<td>✓ <strong>Writing from Sources:</strong> Routinely expects that students draw evidence from texts to produce clear and coherent writing that informs, explains, or makes an argument in various written forms (e.g., notes, summaries, short responses, or formal essays).</td>
</tr>
<tr>
<td>□ <strong>Academic Vocabulary:</strong> Focuses on building students’ academic vocabulary in context throughout instruction.</td>
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<tr>
<td>A <strong>unit or longer lesson should:</strong></td>
</tr>
<tr>
<td>□ <strong>Increasing Text Complexity:</strong> Focus students on reading a progression of complex texts drawn from the grade-level band. Provide text-centered learning that is sequenced, scaffolded and supported to advance students toward independent reading of complex texts at the CCR level.</td>
</tr>
<tr>
<td>✓ <strong>Building Disciplinary Knowledge:</strong> Provide opportunities for students to build knowledge about a topic or subject through analysis of a coherent selection of strategically sequenced, discipline-specific texts.</td>
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<tr>
<td>□ <strong>Balance of Texts:</strong> Within a collection of grade-level units a balance of informational and literary texts is included according to guidelines in the CCSS (p. 5).</td>
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<tr>
<td>✓ <strong>Balance of Writing:</strong> Include a balance of on-demand and process writing (e.g., multiple drafts and revisions over time) and short, focused research projects, incorporating digital texts where appropriate.</td>
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Throughout the lesson students are reading text closely and drawing evidence from the sources they read. Students are instructed to read and annotate an informational text prior to visiting the museum. The text provides a focus for investigation during the museum visit. Additionally, students are required to read information at the exhibit in order to answer questions developed specifically for the museum visit. The culminating assessment is an informational writing task, in which students must explain how the Earth’s atmosphere and existing life co-evolved to produce an oxygen-rich atmosphere. Much of the information used to support the writing will be gained through reading of the text and discussion of the information gathered at the exhibit. Text-dependent (or exhibit dependent) questions are provided to guide students through the exhibit. The expectation is for students to engage in discussions about the exhibit and questions in order to gain deeper levels of understanding.

Writing from sources: Students are expected to complete the guiding questions with evidence from the exhibit and from the reading. The material is unfamiliar to the students and requires students to gain insights and demonstrate comprehension through their responses. The illustrated essay students are asked to write provides students an opportunity to write from sources and to share text based evidence as they describe how the Earth’s systems and life on Earth co-evolved to create an oxygen-rich atmosphere.

Academic Vocabulary: Academic vocabulary is presented in context, but there is not an explicit teaching of vocabulary. The developers may want to consider incorporating such instruction due to the high-level, domain-specific language included within the activities. It is recommended that the lesson designer(s) collaborate to determine tier 2 and tier 3 words that need to be studied as well as the methodology that will be used to provide instruction.

**Rating: 3 – Meets most to all of the criteria in the dimension**

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**Dimension III – Instructional Supports**

<table>
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<tr>
<th>The lesson/unit is responsive to varied student learning needs:</th>
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<tbody>
<tr>
<td>✓ Cultivates student interest and engagement in reading, writing and speaking about texts.</td>
</tr>
<tr>
<td>✓ Addresses instructional expectations and is easy to understand and use.</td>
</tr>
</tbody>
</table>

Student engagement is created with the cold-read of the pre-reading material. The essential questions provided in the museum guide contribute further to the cultivation of student interest. The instructional expectations are clearly articulated and should be attainable for all levels of learners.

The lesson addresses instructional expectations, and the ease of use of the document is attributed to the layout, text features (headings, subheadings,
✓ Provides all students with multiple opportunities to engage with text of appropriate complexity for the grade level; includes appropriate scaffolding so that students directly experience the complexity of the text.
✓ Focuses on challenging sections of text(s) and engages students in a productive struggle through discussion questions and other supports that build toward independence.
☐ Integrates appropriate supports in reading, writing, listening and speaking for students who are ELL, have disabilities, or read well below the grade level text band.
☐ Provides extensions and/or more advanced text for students who read well above the grade level text band.

A unit or longer lesson should:
☐ Include a progression of learning where concepts and skills advance and deepen over time (may be more applicable across the year or several units).
☐ Gradually remove supports, requiring students to demonstrate their independent capacities (may be more applicable across the year or several units).
✓ Provide for authentic learning, application of literacy skills, student-directed inquiry, analysis, evaluation and/or reflection.
☐ Integrate targeted instruction in such areas as grammar and conventions, writing strategies, discussion rules and all aspects of foundational reading for grades 3-5.
☐ Indicate how students are accountable for independent reading based on student choice and interest to build stamina, confidence and motivation (may be more applicable across the year or several units).
✓ Use technology and media to deepen learning and draw attention to evidence and texts as appropriate.

Rating: 2 – Meets many of the criteria in the dimension

Dimension IV – Assessment

The lesson/unit regularly assesses whether students are mastering standards-based content and skills:
✓ Elicits direct, observable evidence of the degree to which a student can independently demonstrate the major targeted grade-level CCSS standards with appropriately complex text(s).
✓ Assesses student proficiency using methods that are unbiased and accessible to all students.

Student engagement is created with the cold-read of the pre-reading material. The essential questions provided in the museum guide contribute further to the cultivation of student interest. The instructional expectations are clearly articulated and should be attainable for all levels of learners.

The lesson addresses instructional expectations, and the ease of use of the document is attributed to the layout, text features (headings, subheadings, etc.), and streamlined focus on the content. The lesson is user-friendly and structured to support multiple interpretations and teaching methods. Multiple teaching strategies are suggested, for example, teachers may provide instruction while at the museum or allow students to work in teams to attain information. One of the supports included in the lesson is a color-coded map of the essential questions and where within the exhibit hall the answers can be found.

Suggestions:
While the texts are available to all and considered “on grade level”, efforts to support students who are EC, ELL, or below grade level could be strengthened. The suggestion is made to chunk the reading and allow wait time; however, more specific support will be needed by students who struggle as readers. It is noted that a statement is made at the opening of the lesson that UDL principles were considered and that IEPs need to be reviewed by teachers for students who are identified as special needs students. Extensions for students who are above grade level are not noted. It is recommended that the lesson developer(s) collaborate with and seek expert sources in order to better differentiate the content to meet needs of all learners.
Includes aligned rubrics or assessment guidelines that provide sufficient guidance for interpreting student performance. A unit or longer lesson should:

- Use varied modes of assessment, including a range of pre-, formative, summative and self-assessment measures.

Suggestions:
While the texts are available to all and considered “on grade level”, efforts to support students who are EC, ELL, or below grade level could be strengthened. The suggestion is made to chunk the reading and allow wait time; however, more specific support will be needed by students who struggle as readers. It is noted that a statement is made at the opening of the lesson that UDL principles were considered and that IEPs need to be reviewed by teachers for students who are identified as special needs students. Extensions for students who are above grade level are not noted. It is recommended that the lesson developer(s) collaborate with and seek expert sources in order to better differentiate the content to meet needs of all learners.

Rating: 3 – Meets most to all of the criteria in the dimension

Summary Comments

Strengths of the lesson:
- purpose for instruction is clearly stated, aligned to the CCSS and introduces scientific knowledge (see dimension 1 for more specifics)
- format is easy to use and directions are clearly articulated
- lesson includes complex texts in a variety of formats (print, non-print—diagrams, museum text, etc.)
- the instructional shifts are addressed throughout the lesson, especially with the focus on text-based evidence and writing from sources; the discussion with partners prompts careful thinking about the scientific topics explored at the museum
- student engagement with the hands-on museum visit includes an opportunity to deepen thinking about the topics at the exhibit.
- the summative essay writing task aligns well with the intended objectives for the lesson

Suggestions for improvement:
- incorporate a vocabulary component for academic and domain-specific terms
- consider extensions for advanced students (dimension 3)
- consider identifying the standards as Literacy Standards rather than English Language Arts standards
- addition of informational resources could increase the rigor
- provide supports for ELL and below grade-level readers

Rating Scales

| Rating Scale for Dimensions I, II, III, IV: |
| 3: | Meets most to all of the criteria in the dimension |
| 2: | Meets many of the criteria in the dimension |
| 1: | Meets some of the criteria in the dimension |
| 0: | Does not meet the criteria in the dimension |

Overall Rating for the Lesson/Unit:

- E: Exemplar – Aligned and meets most to all of the criteria in dimensions II, III, IV (total 11 – 12)
- E/I: Exemplar if Improved – Aligned and needs some improvement in one or more dimensions (total 8 – 10)
- R: Revision Needed – Aligned partially and needs significant revision in one or more dimensions (total 3 – 7)
- N: Not Ready to Review – Not aligned and does not meet criteria (total 0 – 2)

Rating Descriptors

Descriptors for Dimensions I, II, III, IV:

- 3: Exemplifies CCSS Quality - meets the standard described by criteria in the dimension, as explained in criterion-based observations.
- 2: Approaching CCSS Quality - meets many criteria but will benefit from revision in others, as suggested in criterion-based observations.
- 1: Developing toward CCSS Quality - needs significant revision, as suggested in criterion-based observations.
- 0: Not representing CCSS Quality - does not address the criteria in the dimension.

Descriptor for Overall Ratings:
E:  **Exemplifies CCSS Quality** – Aligned and exemplifies the quality standard and exemplifies most of the criteria across Dimensions II, III, IV of the rubric.

E/I:  **Approaching CCSS Quality** – Aligned and exemplifies the quality standard in some dimensions but will benefit from some revision in others.

R:  **Developing toward CCSS Quality** – Aligned partially and approaches the quality standard in some dimensions and needs significant revision in others.

N:  **Not representing CCSS Quality** – Not aligned and does not address criteria.