Defining the Domain: Washington State
Overall Claim

The student effectively applies science and engineering practices and crosscutting concepts to explain phenomena and design solutions to problems in the natural and the designed world.
Sub-Claims/Reporting Strands

- The student understands physical systems as demonstrated through the application of the Science and Engineering practices and the Crosscutting Concepts.

- The student understands Earth and space systems as demonstrated through the application of the Science and Engineering practices and the Crosscutting Concepts.

- The student understands living systems as demonstrated through the application of the Science and Engineering practices and the Crosscutting Concepts.
Contributing thinking

- Multidimensional standards needed multidimensional subscores
- Disentangling the dimensions for reporting is counter to item cluster development expectations
- Anticipated that subscores for each dimension would not be differentiated sufficiently
## Test Structure

### Grades 5 & 8

<table>
<thead>
<tr>
<th>Common for all Students</th>
<th>Stand Alone Items</th>
<th>Total</th>
<th>Field Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Clusters 1 through 5</td>
<td>8 to 13 items</td>
<td></td>
<td>Item Cluster 6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Points</th>
<th>Time (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>60</td>
</tr>
<tr>
<td>12-18</td>
<td>15</td>
</tr>
<tr>
<td>40</td>
<td>75</td>
</tr>
</tbody>
</table>

### Grade High School

<table>
<thead>
<tr>
<th>Common for all Students</th>
<th>Stand Alone Items</th>
<th>Total</th>
<th>Field Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Clusters 1 through 6</td>
<td>8 to 13 items</td>
<td></td>
<td>Item Cluster 7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Points</th>
<th>Time (Minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24-42</td>
<td>90</td>
</tr>
<tr>
<td>12-18</td>
<td>15</td>
</tr>
<tr>
<td>50</td>
<td>105</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Item Cluster 7</th>
<th>Stand Alone Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Points</td>
<td>4-7</td>
<td>2-3</td>
</tr>
<tr>
<td>Time (Minutes)</td>
<td>15</td>
<td>5</td>
</tr>
</tbody>
</table>
Coverage Specifications – Grade 5 Example

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Item Clusters</th>
<th>Stand-Alone Items</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCI domains</td>
<td>A PE from each DCI domain (ESS, PS, LS, and ETS) must be represented in at least one item cluster.</td>
<td>An additional 2 PEs from each DCI domain (ESS, PS, and LS) must be represented.</td>
<td>Each DCI domain (ESS, PS, and LS) must be represented by at least 7 points.</td>
</tr>
<tr>
<td>SEP coverage</td>
<td>A minimum of 3 SEPs</td>
<td>Used to increase SEP coverage to achieve overall expectations.</td>
<td>A minimum of 5 SEPs must be represented.</td>
</tr>
<tr>
<td>CCC coverage</td>
<td>A minimum of 2 CCCs</td>
<td>Used to increase CCC coverage to achieve overall expectations.</td>
<td>A minimum of 4 CCCs must be represented.</td>
</tr>
</tbody>
</table>

Note: All 45 PEs in grades 3-5 could be covered in three years with this design.