NGSS Transition Planning 6-12

Taking Time to Get it Right
Developing a Purposeful Plan for Transitioning to NGSS
Considerations for NGSS Transition Planning

- The NGSS present a new vision for science education, one that aims to develop student proficiency in doing science.

- While it is important to think about goals for eventual course offerings, it is critical that we
  - Getting to know the NGSS
  - Integration of the three dimensions
  - Analyze our current practice
  - Utilize current local data
Considerations for NGSS Transition Planning

- Teachers are encouraged to get to know the NGSS and the Framework well enough to analyze current practice in light of the NGSS.

- First and second year goals should focus on implementing the NGSS practices and crosscutting concepts.

- Teachers are encouraged to take advantage of professional development that will support careful transition planning.

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Key Message for NGSS Transition Planning

- We have time for
  - course redesign,
  - development of curricular plans, and
  - common local assessments

- **After** we (teachers) know more about
  - the standards (scope, intent, opportunities)
  - how well their current plans align with the standards
  - the impact of the NGSS on instruction and student achievement
  - plans and supports for NGSS assessment

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Getting to Know the NGSS
Building on Today’s Learning

- Download the Topic Arrangement of the NGSS, read the introductory material and supporting appendices.
- Review the matrices that provide an overview of the practices, disciplinary core ideas, and crosscutting concepts.
- Review the K-12 topic progressions, and grade band standards/performance expectations (PEs).
- Review the Topic Comparison of NGSS with GLCE/HSCE

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Getting to Know the NGSS

- Consider topics and PEs already being addressed in current courses/curricula, using planning tools provided.

- Identify areas/units that align, select topics or clusters of PEs to use in planning ways to better address the associated practices and crosscutting concepts.

- Use today’s Main Messages document (from Breakout 1) to take a closer look at the PEs.

- Consider implications for adjusting instruction to reflect the NGSS.
Beginning to Plan for Transition

Sometime later, perhaps in SY 2013-14, EACH DISTRICT (local control), **IF adopted**, must consider the following:

- Recommended/provided model course descriptions (included in Appendix K and in the Model Course Mapping resources provided).

- How do current course offerings reflect NGSS structure?

- Consider implications for adjusting instruction to reflect the NGSS. What PD will be required?

- Begin to plan for a workable transition to NGSS, including plans for rearranging course offerings, professional development for teachers and administrators, communicating with parents & stakeholders, and building coherent K—12 plan for meeting the NGSS.

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## Middle School Mapping Multiple Models

<table>
<thead>
<tr>
<th>Model</th>
<th>6th Grade</th>
<th>7th Grade</th>
<th>8th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual Progression (Appendix K)</td>
<td>Physical Science (+)</td>
<td>Life Science (+)</td>
<td>Earth Systems Science (+)</td>
</tr>
<tr>
<td>Physics First Conceptual Model Expanded to 4 Years HS Science</td>
<td>Physical Science</td>
<td>Life Science</td>
<td>Earth Systems Science - Since HS ESS after MME, add some HS ESS to 8th</td>
</tr>
<tr>
<td>Integrated ESS</td>
<td>Physical Science</td>
<td>Life Science</td>
<td>Earth Systems Science OR Integrated Science</td>
</tr>
<tr>
<td>Multi-Topic Science Similar to MS GLCE and as in other countries</td>
<td>Physical Science</td>
<td>Physical Science</td>
<td>Physical science</td>
</tr>
<tr>
<td></td>
<td>Life Science</td>
<td>Life Science</td>
<td>Life science</td>
</tr>
<tr>
<td></td>
<td>Earth/Space</td>
<td>Earth/Space</td>
<td>Earth/space</td>
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</tbody>
</table>

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# High School Mapping Multiple Models

<table>
<thead>
<tr>
<th>Model</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual Progression (Appendix K)</td>
<td>Physical Science (+)</td>
<td>Biology (+)</td>
<td>Earth Systems Science (+)</td>
</tr>
<tr>
<td>Physics First Conceptual Model</td>
<td>Physics</td>
<td>Chemistry</td>
<td>Biology</td>
</tr>
<tr>
<td>Expanded to 4 Years HS Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated ESS</td>
<td>Physics (Astronomy)</td>
<td>Chemistry and Biology (Biochemistry)</td>
<td>Biology Earth Systems Science (Environmental, History of Earth)</td>
</tr>
<tr>
<td>Multi-Topic Science</td>
<td>Physics (Astronomy)</td>
<td>Chemistry and Biology</td>
<td>Environmental Biology Earth Systems Science (Evolution, climate change, human impact)</td>
</tr>
<tr>
<td>Similar to MS GLCE and as in other countries</td>
<td>Geology (Macro)</td>
<td>(Biochemistry)</td>
<td>[:omit Plate tectonics ]</td>
</tr>
</tbody>
</table>

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Beginning to Plan for Transition

- What supports will your teachers need?
- What supports will your administrators need?
- What about students and parents?

What questions will be important to ask?

How well is our current curriculum aligned with the NGSS?

Might we work in teams within our school to identify a unit or series of lessons teachers can adapt as they learn more about the NGSS?

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Beginning to Plan for Transition

Who will provide the necessary professional development?

- Michigan Mathematics and Science Centers
- Intermediate School District Science Consultants
- Michigan Science Teachers Association
- National Science Teachers Association
- University Partners like CREATE 4 STEM
- MI STEM Partners
- Multi-State Partners
Examples from the Field

- PD example from Genessee
- Participation in public comment for initial drafts
- MSTA conference offering: NGSS Bootcamp
- NSTA NGSS townhall and breakout sessions
- Analyzing current practice and how they can modify a current lesson to address cross-cutting concepts and Science & Engineering Practices.
- Attended a Michigan Mathematics and Science Center Network public review of the NGSS drafts.

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Resources

- “Developing Understandings” Main Messages
- Topic Progression Comparison of NGSS with Michigan GLCE/HSCE
- Model Course Mapping Document

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Q & A

- Please write your question/s on an index card
- Leave your email address so that someone can follow up with you in the event that it is not answered today.
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