

## Iowa Core Science Standards Review Team

November 4, 2014 9:00 a.m. -- 4:00 p.m.

Science Center of Iowa  
401 W. Martin Luther King Jr. Parkway  
Des Moines, Iowa

### Meeting Notes

*Notes submitted by Susan Peterson*

#### **Attendees:**

Science Team Members: John Bedward, Pam Elwood, Robin Habeger, Renee Harmon, Kris Kilibarda, Rob Kleinow, Lisa Krapfl, Chris Kurtt, Jon Markus, Jim Pifer, Abby Richenberger, Ed Saehler, Tamera Trinder, Courtney Van Wyk, Wade Weber

Facilitators: Marian Godwin, Susan Peterson

DE Staff Observers: Rita Martens, Phil Wise, Brad Buck, Yvette McCulley

#### **Notes:**

The meeting convened at 9:00 a.m.

#### **Agenda Item: Welcome, Introductions, Agenda, Norms, Timeline and Processes**

Dr. Brad Buck welcomed the Science Team. The team reviewed the agenda, meeting norms, timeline for the work to be done, and rating processes to be used for the day. Questions from the team members were addressed.

#### **Agenda Item: Review and ratings of various K-12 Science Standards**

Team members began by sharing their thoughts regarding the current Iowa Core Essential Concepts/Skills for Science. Members identified what they perceive to be both the strengths of and concerns with the current standards. They are as follows:

<b>Iowa Core Science Standards</b>	
<b>Pros/Strengths</b>	<b>Cons/Concerns</b>
<p>Appreciate the quadrants.</p> <p>Science should not be everyone doing the same thing – the Iowa Core lets grayness in and allows for open interpretations. People decide. .</p> <p>We have supports in place for teachers to interpret the Core.</p> <p>Inquiry – process of science is embedded. Science is a way of knowing by . . . As a separate single piece at each level. Not intended to be a stand-alone.</p> <p>Inquiry is a hot topic.</p> <p>Need to be balanced.</p> <p>These standards are easily attained through literacy.</p>	<p>Not understanding what “understanding” meant. Terms are too open. What does that mean? What should I be teaching?</p> <p>Learning taxonomy is at the lowest level. Raise the level of rigor.</p> <p>Too much in Core for individual interpretation. Not enough structure for teachers. Elementary teachers may not have a science background.</p> <p>Plethora of assessments given because of the vagueness of the standards.</p> <p>Verbs are too general.</p> <p>Underestimate the level of rigor young children can work at. Level can be higher.</p> <p><i>Understand</i> turns out to be a huge issue.</p> <p><i>Fordham is looking at content-specific. Not process (problem-solving).</i></p> <p>Inquiry as a separate piece is taught separately and not throughout each piece. Inquiry is implied to teach throughout, but not always interpreted this way.</p> <p>Teach it so everyone can have the common language, so from then on, everyone uses it. – Not everyone does this.</p> <p>Inquiry is a hot topic.</p> <p>Do we have information that teachers interpret and teach inquiry in isolation?</p> <p>Need to be balanced.</p> <p>The standards allow elementary teachers to not teach science.</p>

A Proposal Rating Sheet was then used to determine if the members wished to keep the current Iowa Core Essential Concepts/Skills as the Science Standards for the state of Iowa. This sheet is shown below:

All team members disagreed with submitting the current Iowa Core Essential Concepts/Skills for Science as the recommendation for the State of Iowa K-12 Science Standards. Eleven members were in disagreement with this, and four members were in strong disagreement with this. Several members cited a concern of the current standards as being too vague.



The **Iowa Core Essential Concepts/Skills for Science** should remain as they are and be submitted as the recommendation for the State of Iowa K-12 Science Standards

**Do you agree?** Fill your one dot below & sign on the right.

Strong Agreement	Agreement	Neutral	Disagreement	Strong Disagreement	Confusion
○○○○○○○○○○	○○○○○○○○○○	○○○○○○○○○○	●●●●●●●●	●●●○○○○○	○○○○○○○○○○
○○○○○○○○○○	○○○○○○○○○○	○○○○○○○○○○	●○○○○○○○○	○○○○○○○○○○	○○○○○○○○○○
○○○○○○○○○○	○○○○○○○○○○	○○○○○○○○○○	○○○○○○○○○○	○○○○○○○○○○	○○○○○○○○○○

**Strengths & Opportunities**

**Concerns & Weaknesses**  
Too vague - " " "

**Signatures**

Sheet # 1    Date: 11-04-2014    Organization/Event: Iowa Core Science Standards Review Team

Team members were then asked to suggest sets of science standards to the group which they found to be worthy of a closer look. The six shown below were proposed, along with Oregon and Washington. The members then examined the standards at their tables in their content area groups. Note: They were examining the standards with regards to all content areas, not just their particular content area.

Each group then rated each set of standards with regards to Content, Process, Performance Expectations, and Format. The groups gave each of these characteristics a vote of general approval, general disapproval, or a neutral rating. Team members were in agreement that Oregon and Washington science standards were essentially the Next Generation Science Standards, so those two sets of standards were not rated by the group.

	IOWA CORE	NEXT GENERATION	MASSACHUSETTS	OHIO	8 PLUS 1	TIMSS
CONTENT	0 0 0 0	+ + + +	-	- - -	- - -	- - -
PROCESS	0 0 0 0	+ + + +	0	- - -	- - -	- - -
PERFORMANCE EXPECTATIONS	- - - -	+ + + +	-	+ + +	- - - -	- -
FORMAT	+ + 0 0	- - - -	+	+ + +	- - - -	- - -
		+ APPROVAL				
		0 NEUTRAL				
		- DISAPPROVAL				

The above table shows the number of approval, disapproval, or neutral ratings given by the four content area groups. Note: Some sets of standards did not receive a rating by every group, because the groups did not feel like they had examined them enough to give an accurate rating.

*The groups were neutral towards the content and process of the current Iowa Core standards, disapproved of the performance expectations, and were split between approving of and being neutral toward the format. All members approved of the content, process and performance expectations of the Next Generation Science Standards, but disapproved of the format of these standards. Only one group had input for the Massachusetts standards, and disapproved of the content and performance expectations, was neutral towards the process, and approved of the format of these standards. Three groups rated the Ohio standards, and all disapproved of the content and process, but all approved of the performance expectations and format of these standards. No groups approved of the 8Plus1 and TIMSS standards in any of the four areas.*

Each of these sets of standards was then rated by all team members on a Proposal Rating Sheet. Team members rated their level of agreement with using each set of standards as a working document to modify into a document for the state of Iowa. These sheets are shown below:

One team member was in agreement with using the current Iowa Core Standards as a working document, ten members were in disagreement or strong disagreement, and four members were neutral.



<p>The <b>Iowa Core Essential Concepts/Skills for Science</b> should be the working document chosen to <b>modify</b> into a document to be submitted as the recommendation for the State of Iowa K-12 Science Standards</p>						<p>Signatures</p>
<h2>Do you agree?</h2> <p><i>Fill your one dot below &amp; sign on the right:</i></p>						
<p><b>Strong Agreement</b></p> <p>○○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p><b>Agreement</b></p> <p>●○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p><b>Neutral</b></p> <p>●●●○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p><b>Disagreement</b></p> <p>●●●●○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p><b>Strong Disagreement</b></p> <p>●●○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p><b>Confusion</b></p> <p>○○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	
<p><b>Strengths &amp; Opportunities</b></p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>			<p><b>Concerns &amp; Weaknesses</b></p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>			

Sheet # 2      Date: 11-04-2014      Organization/Event: Iowa Core Science Standards Review Team

Twelve members were in strong agreement or agreement with using the Next Generation Science Standards as a working document, two members showed disagreement, and one member was neutral.



<p>The <b>Next Generation Science Standards</b> should be the working document chosen to <b>modify</b> into a document to be submitted as the recommendation for the State of Iowa K-12 Science Standards</p>						<p>Signatures</p>
<p><b>Do you agree?</b> <small>Fill your one dot below &amp; sign on the right.</small></p>						
<p><b>Strong Agreement</b></p> <p>●●●●●●●●●●</p> <p>○○○○○○○○○○</p> <p>○○○○○○○○○○</p>	<p><b>Agreement</b></p> <p>●●●○○○○○○○</p> <p>○○○○○○○○○○</p> <p>○○○○○○○○○○</p>	<p><b>Neutral</b></p> <p>●○○○○○○○○○</p> <p>○○○○○○○○○○</p> <p>○○○○○○○○○○</p>	<p><b>Disagreement</b></p> <p>●○○○○○○○○○</p> <p>○○○○○○○○○○</p> <p>○○○○○○○○○○</p>	<p><b>Strong Disagreement</b></p> <p>○○○○○○○○○○</p> <p>○○○○○○○○○○</p> <p>○○○○○○○○○○</p>	<p><b>?</b></p> <p><b>Confusion</b></p> <p>○○○○○○○○○○</p> <p>○○○○○○○○○○</p> <p>○○○○○○○○○○</p>	
<p><b>Strengths &amp; Opportunities</b></p> <p>.....</p>			<p><b>Concerns &amp; Weaknesses</b></p> <p>.....</p>			
<p>Sheet #      Date: 11-04-2014      Organization/Event: Iowa Core Science Standards Review Team</p>						

Six members were in strong disagreement with using the Massachusetts standards as a working document, seven members were neutral, and one member rated themselves confused since they had not yet studied these standards.



The **Massachusetts Science Standards** should be the working document chosen to **modify** into a document to be submitted as the recommendation for the State of Iowa K-12 Science Standards

**Do you agree?** Fill your one dot below & sign on the right:

Strong Agreement	Agreement	Neutral	Disagreement	Strong Disagreement	Confusion
○○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○	○○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○	●●●●●●●● ●●●●●●●● ●●●●●●●●	○○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○	●●●●●●●● ●●●●●●●● ●●●●●●●●	●○○○○○○○○ ○○○○○○○○ ○○○○○○○○

**Strengths & Opportunities**

**Concerns & Weaknesses**  
*didn't get to this one*

**Signatures**  
*[Handwritten signatures in various colors]*

Sheet #      Date: 11-04-2014      Organization/Event: Iowa Core Science Standards Review Team

Eight members were in agreement or strong agreement with using the Ohio standards as a working document, four members showed disagreement, and three members were neutral.



<p>The <b>Ohio</b> Science Standards should be the working document chosen to <b>modify</b> into a document to be submitted as the recommendation for the State of Iowa K-12 Science Standards</p>						<p>Signatures</p>
<p><b>Do you agree?</b> <small>Fill your one dot below &amp; sign on the right:</small></p>						
<p><b>Strong Agreement</b></p> <p>●○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○</p>	<p><b>Agreement</b></p> <p>●●●●●○○○○○ ○○○○○○○○○ ○○○○○○○○○</p>	<p><b>Neutral</b></p> <p>●●●○○○○○○○ ○○○○○○○○○ ○○○○○○○○○</p>	<p><b>Disagreement</b></p> <p>●●●○○○○○○○ ○○○○○○○○○ ○○○○○○○○○</p>	<p><b>Strong Disagreement</b></p> <p>○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○</p>	<p><b>Confusion</b></p> <p>⓪○○○○○○○○○ ○○○○○○○○○ ○○○○○○○○○</p>	
<p><b>Strengths &amp; Opportunities</b></p> <p>.....</p>			<p><b>Concerns &amp; Weaknesses</b></p> <p>.....</p>			
<p>Sheet #      Date: 11-04-2014      Organization/Event: Iowa Core Science Standards Review Team</p>						



Eight members were in disagreement or strong disagreement with using the TIMSS Framework standards as a working document, one member was in agreement, two members were neutral, and four members rated themselves confused since they had not yet studied these standards.

↓

<p>The <b>TIMSS Framework Science Standards</b> should be the working document chosen to <b>modify</b> into a document to be submitted as the recommendation for the State of Iowa K-12 Science Standards</p>						<p>Signatures</p>
<p><b>Do you agree?</b> <small>Fill your one dot below &amp; sign on the right:</small></p>						
<p><b>Strong Agreement</b></p>	<p><b>Agreement</b></p>	<p><b>Neutral</b></p>	<p><b>Disagreement</b></p>	<p><b>Strong Disagreement</b></p>	<p><b>?</b> <b>Confusion</b></p>	
<p>○○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p>●○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p>●●○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p>●●●●●●○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p>●○○○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	<p>●●●●○○○○○○○ ○○○○○○○○○○ ○○○○○○○○○○</p>	
<p><b>Strengths &amp; Opportunities</b></p>			<p><b>Concerns &amp; Weaknesses</b></p>			
<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>			<p>.....</p> <p>didn't get to Pt. ....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>			
<p>Sheet #      Date: 11-04-2014      Organization/Event: Iowa Core Science Standards Review Team</p>						

The team members agreed that they will study the Ohio and Next Generation Science Standards in greater depth before the December 4th meeting, and at that time will attempt to reach a consensus as to which set of standards will be used for modification for the state of Iowa. Note: Members are also encouraged to let the group know if they come across any other standards which they would like the group to study and consider at the December meeting.

**Agenda Item: Guidance for small group work by the team members**

Rita Martins and Phil Wise addressed the group; Nichole Proesh was unable to attend the meeting. Team members were given guidelines to follow when the time comes for them to meet and work in smaller Content Area Groups.

Content Area Groups were advised to give the Iowa Department of Education a 24 hour notice before meeting, and a phone line must be available for the Department of Education to listen in. No public input will be given at these meetings, but at a later time there will be plenty of opportunities for public feedback. All group work is considered public, and there are to be no sidebar meetings.

**Agenda Item: Expectations for December Meeting**

Team members were instructed to study the top two standards in greater depth (Ohio and Next Generation Science Standards), document the strengths and weaknesses of each, bring their findings to the December 4th meeting, and be prepared to make a final decision regarding the set of science standards to be chosen as a starting/working document for Iowa's science standards. Members were reminded to let the group know if they come across any other standards which they would like the group to study and consider at the December meeting.

**Agenda Item: Meeting Adjourns**

The meeting was officially adjourned at 3:30 pm. Some members stayed longer to make plans for small group work.