Arizona Science Standards Revision Working Group







Housekeeping

- 1. Sign in
- 2. Parking validation
- 3. Restrooms
- 4. Breaks/Lunch
- 6. Travel Questions Fill out W9 if needed
- 7. Sign non-disclosure form All members

Cell phones should only be used during breaks and lunch. If you need to take a call, please go to the break room. Please check text and email only during break due to non-disclosure.





Biggest Thank You!







Housekeeping

Dr. Eugene Judson

Associate Professor - Science Education Arizona State University



ASU Research project – IRB consent

Participation in this research project is completely voluntary and does not impact your participation in standards work.





Introductions

Introduce yourself by telling everyone in the group:

- 1. Your name
- 2. Your school/district
- 3. Your current position





Standards Review - Structure

Arizona State Board of Education

Decision-making body for standards

Arizona Department of Education K-12 Standards Section

Manages the Standards revision process Facilitates working group meetings

Science Standards Review and Revision Work Groups

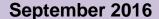
Fluid groups of diverse grade level content experts responsible for creating working drafts

Public feedback, current research, and professional experience and knowledge informs revisions to drafts.





Science Standard Revision and Implementation Timeline



Revision process opened with the State Board of Education

October - December 2016

ADE collected public feedback on existing standards

January 2017 – Spring 2018

ADE convenes working groups of educators, content experts, community members, and parents

Anticipated Spring 2018

ADE presents standard to State Board of Education for adoption

Transition and Implementation

Summer 2018 ADE develops support documents

2018-2019 Transition Year 2019-2020 Transition Year 2020-2021 Implement ation Year Spring 2021
Administer science assessment aligned to new standards





Working Group Norms

- Actively engage in all discussions
- Be open-minded
- Have an attitude that fosters collaboration, agreement, and consensus
- Be mindful of timelines and scope of work
- Cell phone/email checks are limited to breaks (non-disclosure)





ADE Directive for the Science Standards

- Arizona standards, written for Arizona teachers and students, by Arizona educators and content experts
- Write grade-level standards and not performance objectives





Standards, Curriculum, & Instruction

Standards – What a student needs to know, understand, and be able to do by the end of each grade. Standards build across grade levels in a progression of increasing understanding and through a range of cognitive demand levels. Standards are adopted at the state level by the State Board of Education.







Standards, Curriculum, & Instruction

Curriculum – The resources used for teaching and learning the standards. Curricula are adopted at a local level by districts and schools.

Instruction – The methods used by teachers to teach their students. Instructional techniques are employed by individual teachers in response to the needs of the students in their classes to help them progress through the curriculum in order to master the standards.



This is the "HOW"



Standards versus Performance Objectives

Content Standards

Standards are what students need to know, understand, and be able to do **by** the end of each grade level. Standards build across grade levels in a progression of increasing understanding and through a range of cognitive demand levels.

Performance Objectives

Performance Objectives are incremental steps toward mastery of individual content standards.

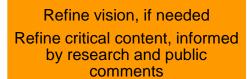
Performance Objectives are knowledge and skills that a student must demonstrate at each grade level. Performance objectives do not imply a progression of learning and, because they are discrete skills, reach a limited level of cognitive demand.





Standards Review - Structure

(January 2017)
Establish vision of standards
Identify critical content (the 'know and understand') at each grade band



Articulate critical content from grade bands to grade levels
Refine, informed by research and public comments

Identify critical process skills (the "do") at each grade Refine, informed by research and public comments Release DRAFT for public feedback
(Anticipated Dec 2017)

Refine language of standards using established criteria

Prepare introduction and glossary

Review standards for vertical and horizontal alignment, and connections to other content areas

Refine standards, informed by research and public comment

Write grade level standards incorporating what students need to know, understand, and do.

Incorporate crosscutting concepts, as appropriate

Refine DRAFT, informed by public feedback and additional research



Prepare standard for State Board Adoption (Anticipated spring 2018)

Today's Tasks



Individually read the standards document. Record any comments on the recording sheet.

- Intro
- Grade band/grade intros
- Appendix

Do not focus on wording of standards at this time.

Strengths? Weaknesses? Edits?





Today's Tasks



Share out major ideas

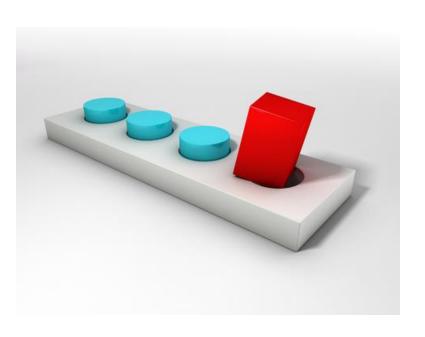
- Intro
- Grade band/grade intros
- Appendix

Strengths?
Weaknesses?
Edits?





Today's Tasks - #1



Individually read your assigned part of the document.

Does the standard really match the core idea?

Recommend:

Reword to match core idea

OR

Realign to match wording





Today's Tasks - #1

Table discussion to reach consensus on actions needed

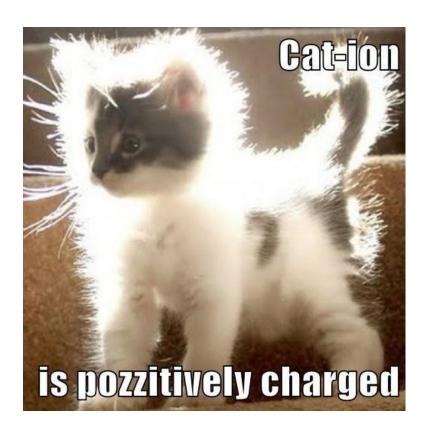
Jigsaw: Members from Tables 4, 5, and 6 join tables 1, 2, and 3 to present and explain recommendations







Today's Tasks - #2



Tables 1-3

Make edits to standards based on all feedback

Tables 4-6
Review and edit
introductory materials
and appendices



