

# Arizona Science Standards Revision Working Group



May 30, 2018

# Arizona Science Standards Revision Working Group

Today we will continue to review public  
comment from the Survey

**EXTENDED**

**Comment Period for  
Proposed Science Standards**

**Extended**

**New Deadline:  
12 p.m. on May 31, 2018**



# Housekeeping

1. Sign in
2. Parking validation
3. Restrooms
4. Breaks/Lunch
5. Travel Questions – Fill out W9 if needed
6. Sign forms – 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.***

# 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.**

# Biggest Thank You!

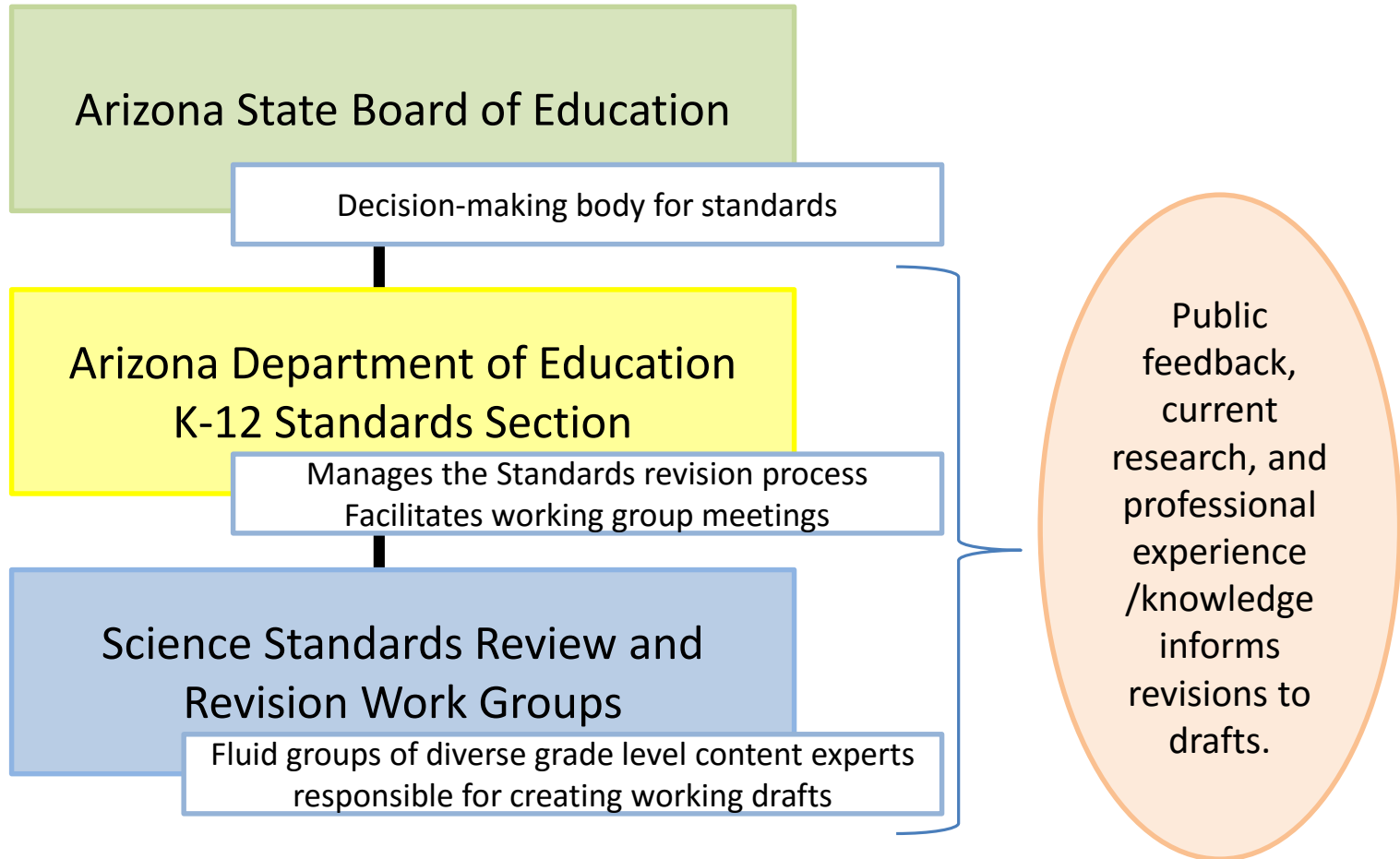


# Introductions

Introduce yourself by telling everyone in the group:

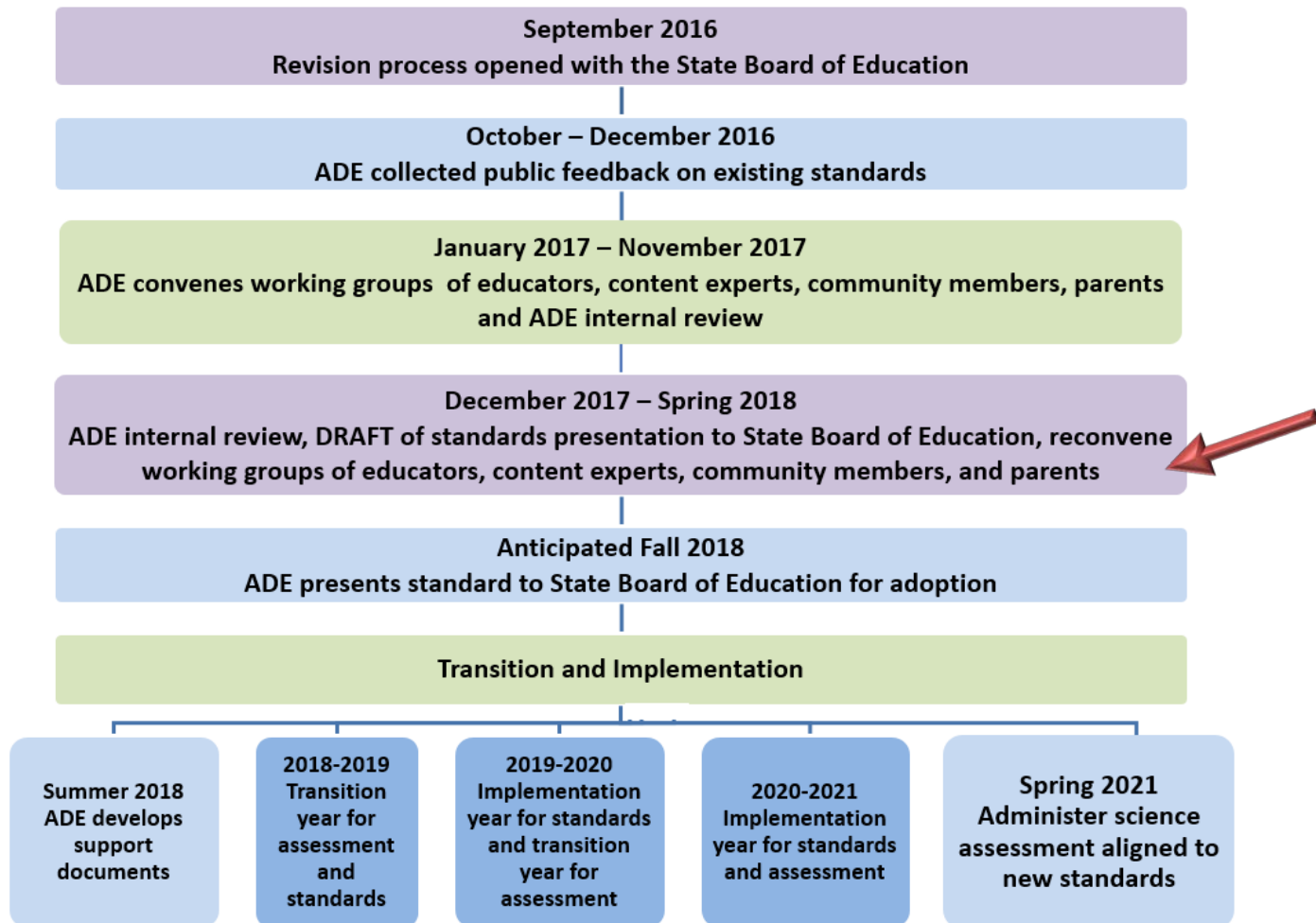
1. Your name
2. Your school/district
3. Your current position

# Standards Review - Structure



# Science Standard Revision and Implementation Timeline

## Science Standards Revision and Tentative Implementation Timeline





# 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**

# Working Group Norms

## No "I" Statements



# 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.



**This is the “WHAT”**



# 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”**



# Learning Progressions

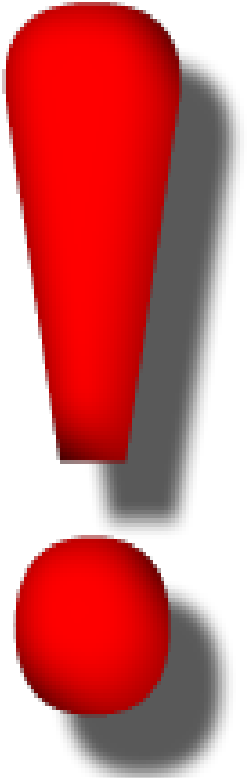
Physical Science Standards	Learning Progressions, Key Terms, and Crosscutting Concepts
<p><b>2.P1U2.1</b></p> <p><b>Plan and carry out an investigation</b> to determine that matter has mass, takes up space, and is recognized by its observable properties; use the collected evidence to <b>develop and support an explanation.</b></p>	<p>All the ‘stuff’ encountered in everyday life, including <b>air</b>, water and different kinds of <b>solid substances</b>, is called <b>matter</b> because it has <b>mass</b>, and therefore <b>weight</b> on Earth, and takes up space. Different materials are recognizable by their properties, some of which are used to classify them as being in the <b>solid, liquid</b> or <b>gas state.</b></p> <p>Crosscutting Concepts: <b>energy and matter, systems and system models</b>, patterns, cause and effect, stability and change</p>
<p><b>2.P1U2.2</b></p> <p><b>Plan and carry out investigations</b> to gather evidence to support an explanation on how heating or cooling can cause a transformation (solid, liquid, gas).</p>	<p>Crosscutting Concepts: <b>energy and matter, systems and system models</b>, patterns, cause and effect, stability and change</p>
<p><b>2.P4U1.3</b></p> <p><b>Gather, reason, and communicate</b> information about ways heat energy can cause change in objects or materials.</p>	<p>There are various ways of causing an event or bringing about change in objects or materials. Heating can cause <b>change</b>, as in cooking, <b>melting solids</b> or changing water to <b>vapor.</b></p> <p>Crosscutting Concepts: <b>energy and matter, systems and system models</b>, patterns, cause and effect, stability and change, structure and function</p>

# Today's Tasks



Reminder:  
Keep in mind our work  
product is public record.

# Today's Tasks



Items that are not actionable:

- Curriculum
- Instruction
- Funding/Budget
- Assessment

Actionable:

Specific actionable comments related to

- Standard
- Organization
- Introduction

Etc....

# Today's Tasks

## Public Survey Review



You can jot ideas or make notes on your own document if you like.

\*Groups final comments from discussion should be on Master and on Excel Spreadsheet – hopefully you have room to write on the master sheets now!

-sorry





# Today's Tasks



- Determine if the comment /feedback is actionable or not
- What item the comment/feedback addresses (see suggested list)
- Potential changes the group agrees should be made

# Today's Task Example

51. What would you like the working group to consider as they revise the Seventh Grade Science Standards?					
Survey Question					
Comment #	Public Comment	Actionable Yes/No	Item Addressed	Suggested Changes	Committee Notes
7	Should focus on earth science.	No	K-12 Progression		Too broad
46	Remove key concepts				Discussed on comment number 12
65	There needs to be clearer emphasis on the use of the metric system in all data collection and analysis in science at all levels.	Yes	Other	Add into/storyline or an appendix. Possible addition to standard wording.	

# Today's Tasks



- In your groups select one recorder to write on the Master Copy and one recorder to type into the public comment Excel spreadsheet
- Write all group members names on the “master” packet

# Grade Level Standards

Read your grade level draft standards that correspond with your working group today.

Begin when your group is ready!

- Grade level survey 1st (K-2, 3-5)
- Other survey categories as assigned
  - Organization
  - Intro/Appendix
  - Etc



A cartoon-style illustration of a wooden sign. The sign is rectangular with a light brown wood grain pattern and a darker brown shadow on its right side, giving it a 3D effect. It is hanging from a dark grey nail at the top center. Two thin black lines represent the string or wire holding the sign. The text on the sign is in a bold, dark brown font with a white outline. The words 'Out to' are on the top line, and 'LUNCH!' is on the bottom line in a larger font size.

**Out to  
LUNCH!**

# Today's Tasks

Public Review – Non-survey  
format and Technical Review



You can jot ideas or make notes  
on your own document if you like.

# Non-Survey Example

Public Comment Non-Survey	Public comment received outside of the survey				
Comment #	Public Comment	Actionable Yes/No	Item Addressed	Suggested Changes	Committee Notes
A-1	I would call them [ big ideas] "bad ideas," and are nothing more than the progressives push to change how our children are being taught and it is adding to the "deliberate dumbing down of America" that we continue to see with Common Core in English Language Arts and Mathematics which are in our current Arizona K-12 Standards.				
A-2	The science standards are more than just standards because they call out specific methods to be used to teach science - modeling thought the standards!				
	<b>Record the comment</b>				
B -3.5	3.L1U1.5 <b>Obtain, evaluate, and communicate</b> how the human body has different systems <b>and information processing</b> that carry out life processes.		Standard		

# Technical Review has its own Excel Sheet

Public Comment Non-Survey	Public comment received outside of the survey					
Category	Specific Standard if Appropriate	Reviewer name and comment	Actionable Yes/No	Item Addressed	Suggested Changes	Committee Notes
Introduction Section		<b>Record the comment</b>				
Appendix Section						
Standards Section by Grade Level						
K-2 Band						
Kindergarten						
1st grade						
2nd grade						
3-5 Band						
3rd grade						
4th grade						
5th grade						



# Final Thoughts

