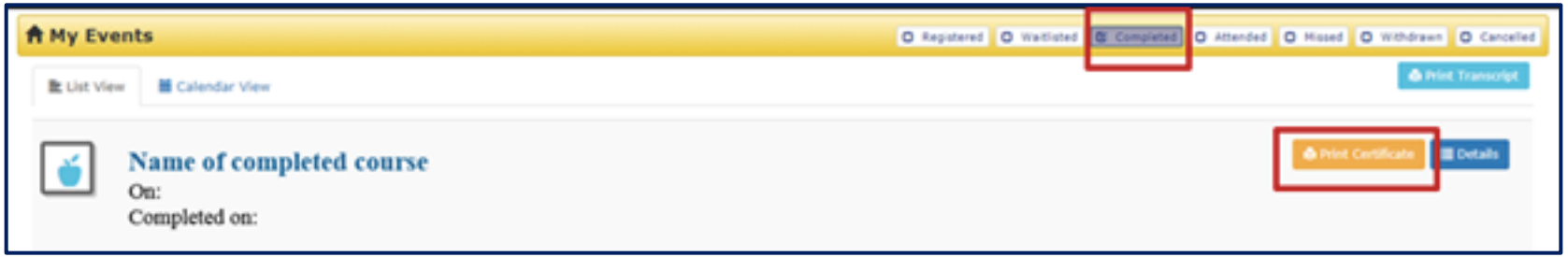
WELCOME!

Please review this information while we wait for all to join!

Attendance, Resources & PD Clock Hours

- **You must stay on the whole time- 1 hour- to receive credit**
- **YOU print your certificate through ADE Connect- please wait 24-48 hours of webinar before printing certificates**



- **AFTER WEBINAR- you will receive PDF of presentation and resource page**

A Look at Arizona's New Science Standards

Webinar Goals:

- Explain the instructional shifts represented by Arizona's 2018 Science Standards.
- Discuss the implementation timeline.
- Define 3-Dimensional science instruction.
- Learn how to identify the 3-dimensions in the standard
- Q&A time

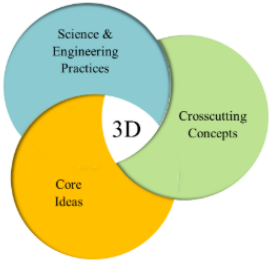
Scan me

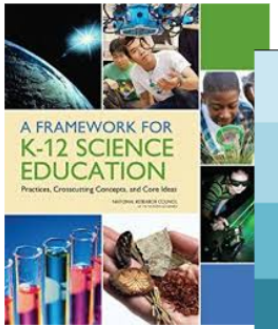
https://bit.ly/2AtlPRx

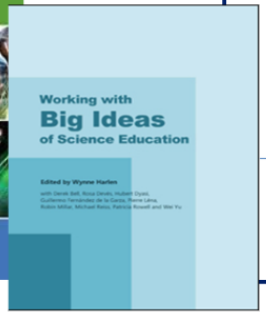
#K12AZPD
#K12Standards

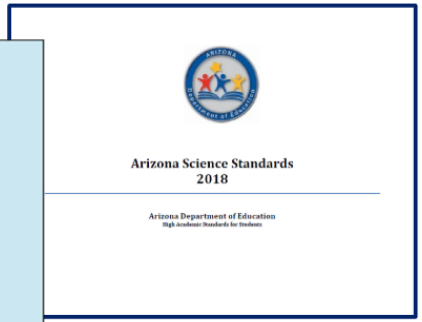
Arizona Department of Education

A Look at Arizona's New Science Standards







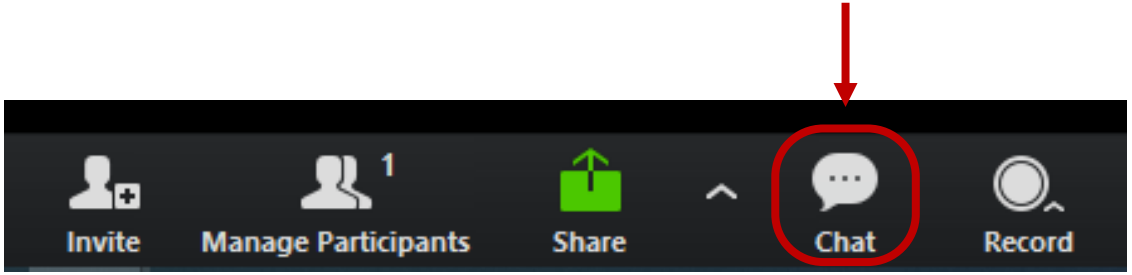


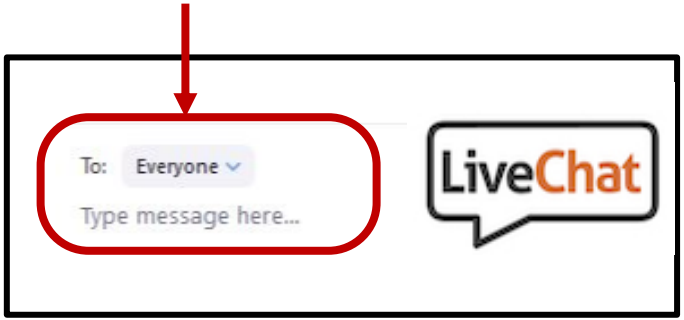
Hi!

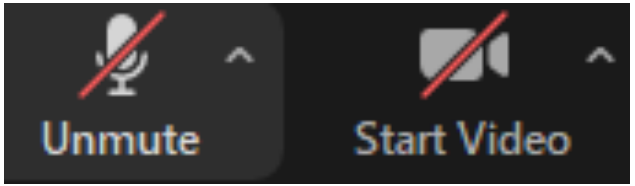
I'm Rebecca Garelli

ADE K-12 Science & STEM Specialist

Webinar Norms:







1. What is your current position or job title?

2. Have you had a chance to look at the new Arizona State Science Standards?

Objectives:
Introduction to the 2018 Science Standards

Educators will be able to:

- explain the instructional shifts represented by Arizona's 2018 Science Standards.
- discuss the implementation timeline.
- define 3-Dimensional science instruction.

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What instructional shi
NEW AZ Science

What would you see less of?

What would you see more of?

What are 3-5 items that resonate with you?

A New Vision for Science Education

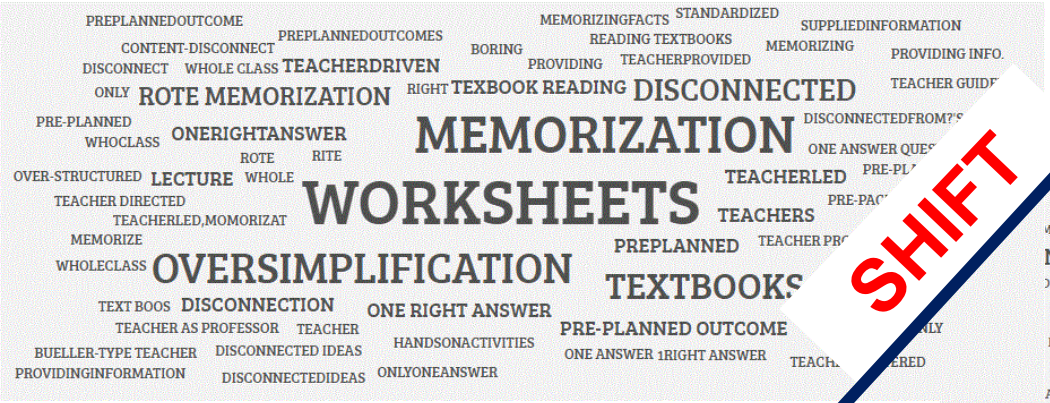
Implications of the Vision of the Framework for K-12 Science Education and the Arizona Science Standards

SCIENCE EDUCATION WILL INVOLVE LESS:	SCIENCE EDUCATION WILL INVOLVE MORE:
Rote memorization of facts and terminology	Facts and terminology learned as needed while developing explanations and designing solutions supported by evidence-based arguments and reasoning.
Learning of ideas disconnected from questions about phenomena	Systems thinking and modeling to explain phenomena and to give a context for the ideas to be learned
Teachers providing information to the whole class	Students conducting investigations, solving problems, and engaging in discussions with teachers' guidance
Teachers posing questions with only one right answer	Students discussing open-ended questions that focus on the strength of the evidence used to generate claims
Students reading textbooks and answering questions at the end of the chapter	Students reading multiple sources, including science-related magazine and journal articles and web-based resources; students developing summaries of information.
Pre-planned outcome for "cookbook" laboratories or hands-on activities	Multiple investigations driven by students' questions with a range of possible outcomes that collectively lead to a deep understanding of established core scientific ideas
Worksheets	Student writing of journals, reports, posters, and media presentations that explain and argue
Oversimplification of activities for students who are perceived to be less able to do science and engineering	Provision of supports so that all students can engage in sophisticated science and engineering practices

Source: National Research Council. (2015). *Guide to Implementing the Next Generation Science Standards* (pp. 8-9). Washington, DC: National Academies Press. http://www.nap.edu/catalog/18802/guide-to-implementing-the-next-generation-science-standards

Less of this….. More of this…..

In a science classroom you would see less of.....



LEARNING ABOUT

SHIFT

In a science classroom you would see more of.....

FIGURING OUT

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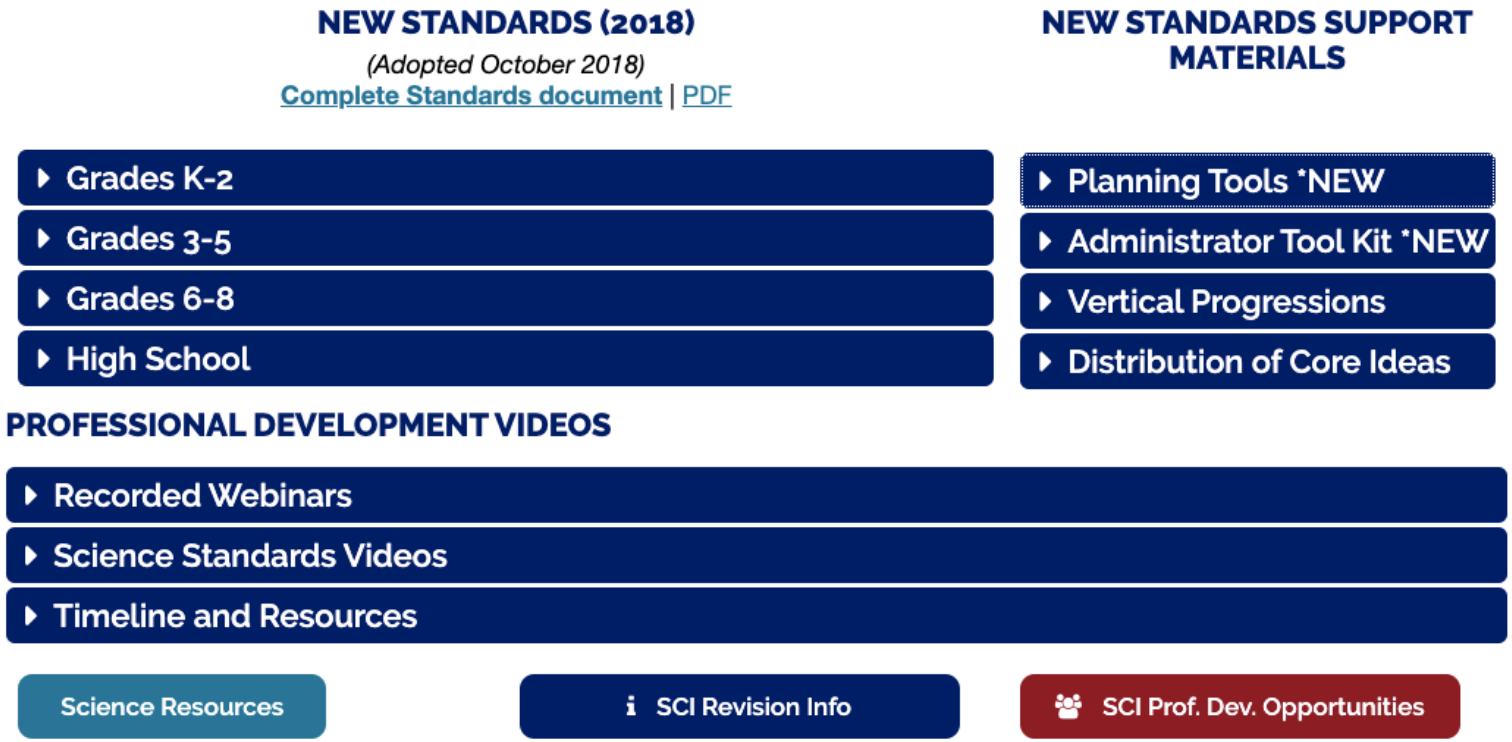
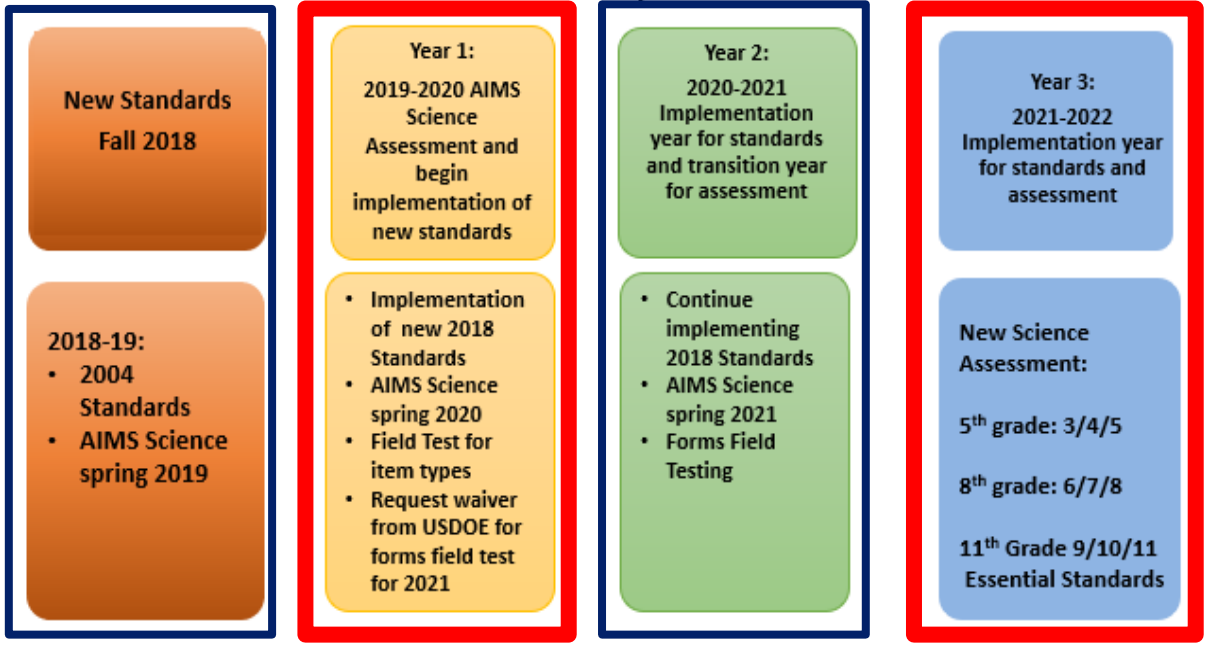
Science Standards Resources



https://www.azed.gov/standards-practices/k-12standards/standards-science/

Arizona Science Standards and Assessment Transition and Implementation



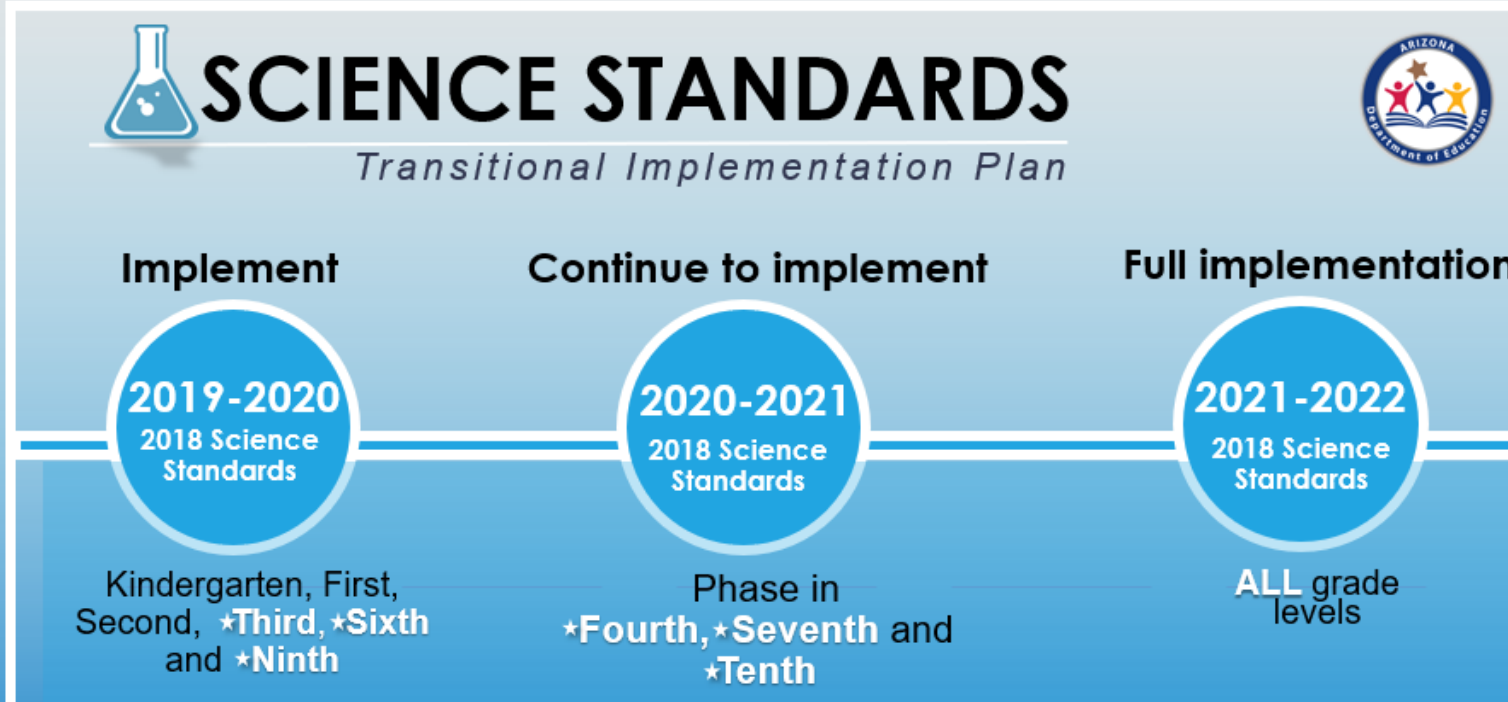
ADE: Provides Phase 1 of guidance implementation with documents and introductory webinars as professional development (January- April, 2019)

Updated: 11/1/18

- Please note the timeline for implementation of the new science standards and science assessment is tentative. As the implementation process evolves, ADE will solicit input from various stakeholders and share information regarding updates as necessary.

SCIENCE STANDARDS

Transitional Implementation Plan



⋆ It is suggested that **all grades should be at full implementation in the 2019-2020** school year. If a transitional implementation plan is necessary, a suggested plan is listed above.

How Does It All Work?

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.

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.

Try to explain the difference in 9 words or less.

The New Arizona Science Standards

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	Performance Objectives
• Broad and overarching	• Small scope
• Higher depth of knowledge	• Lower depth of knowledge
• Open-ended questions	• Teacher-generated questions
• Evidence-based, connected answers	• Limited Answers
• Deep and connected learning	• Shallow knowledge
• Reoccurring	• One-and-done
• Spiral	• Linear
• Multiple opportunities for assessment	• Single opportunity for assessment

What stands out to you as a big difference between a standard and a performance objective? What are the implications?

Compare the 2004 Science Standards to the 2018 Standards

Concept 3: Energy and Magnetism Investigate different forms of energy.
PO 1. Demonstrate that electricity flowing in circuits can produce light, heat, sound, and magnetic effects.
PO 2. Construct series and parallel electric circuits.
PO 3. Explain the purpose of conductors and insulators in various practical applications.
PO 4. Investigate the characteristics of magnets (e.g., opposite poles attract, like poles repel, the force between two magnet poles depends on the distance between them).
PO 5. State cause and effect relationships between magnets and circuitry.

Physical Science Standards
4.P4U1.1
Develop and use a model to demonstrate how a system transfers energy from one object to another even when the objects are not touching.
4.P4U1.2
Develop and use a model that explains how energy is moved from place to place through electric currents.
4.P2U1.3
Develop and use a model to demonstrate magnetic forces.
4.P4U3.4
Engage in argument from evidence on the use and impact of renewable and nonrenewable resources to generate electricity.

Objectives:
Introduction to the 2018 Science Standards

Educators will be able to:

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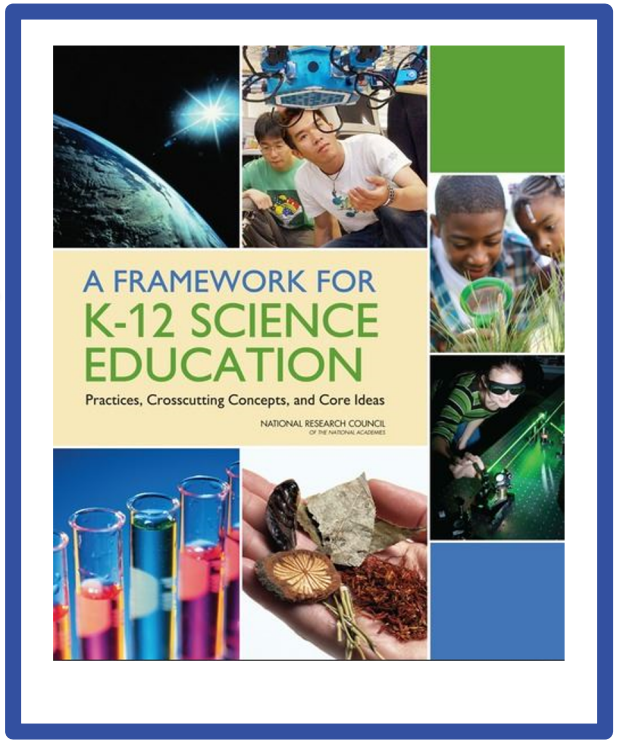
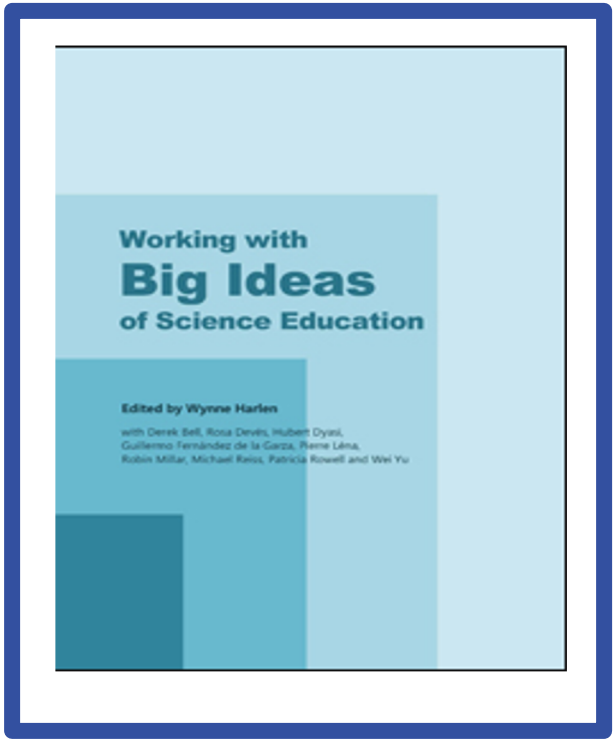
NGSS



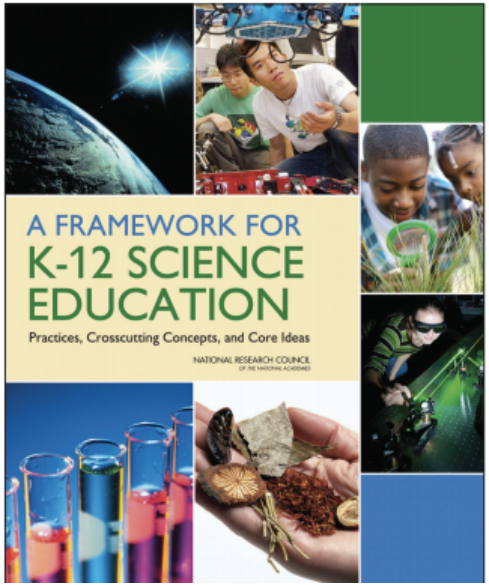
AzSS

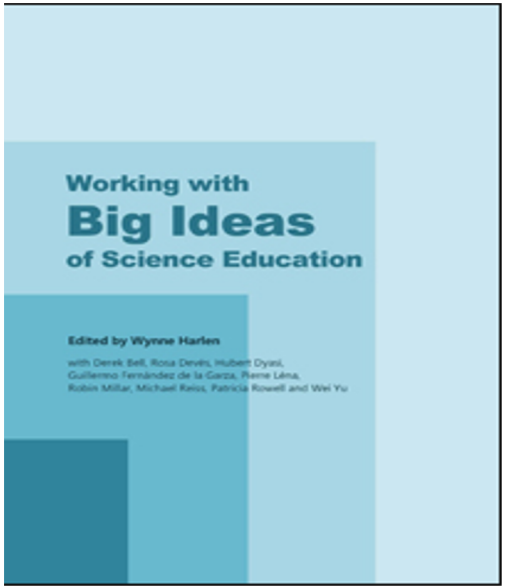


AzSS

Arizona Science Standards (AzSS)

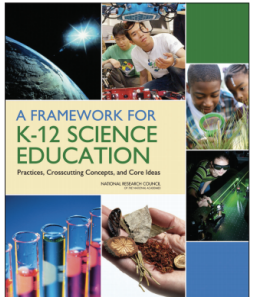
What Is 3-Dimensional Science Instruction?



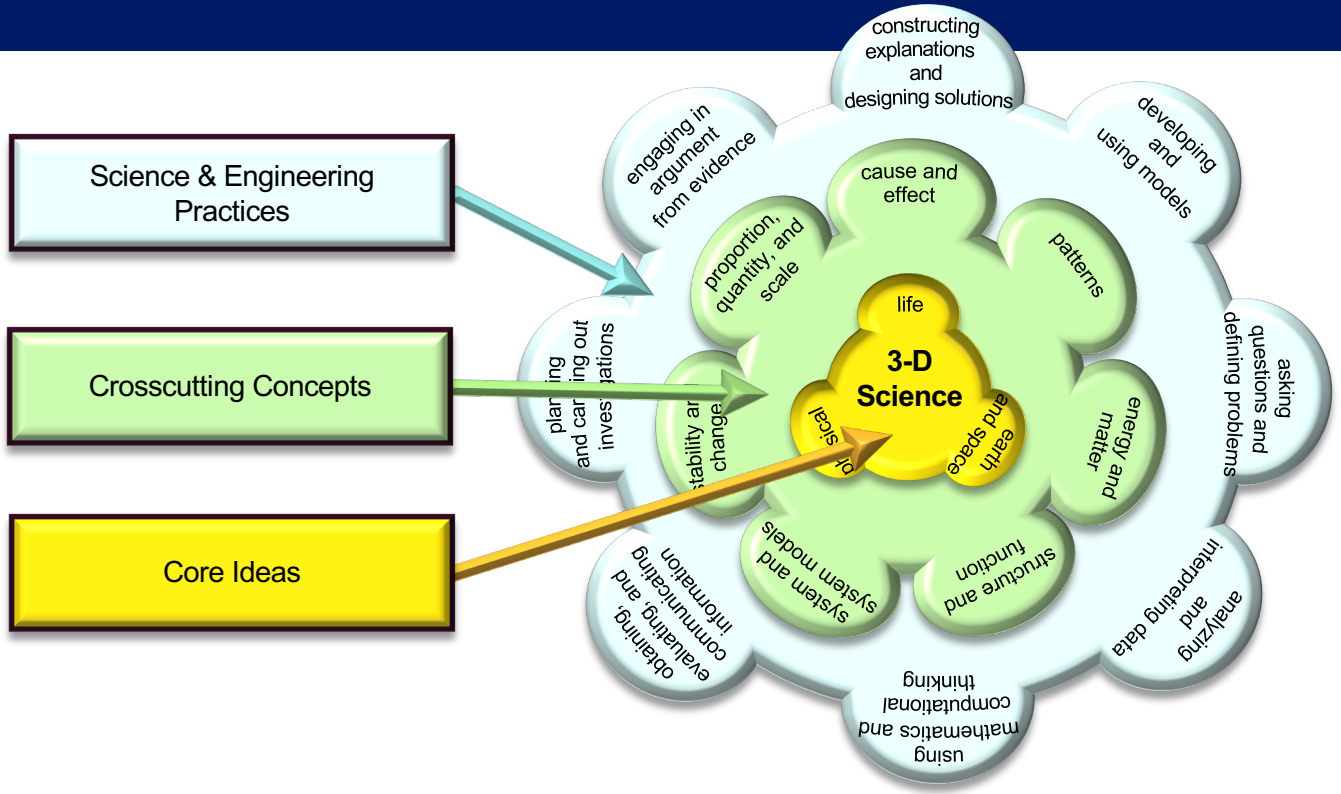


FREE DOWNLOADS! I WILL ALSO SEND TO YOU☺

What Is 3- Dimensional Science Instruction?

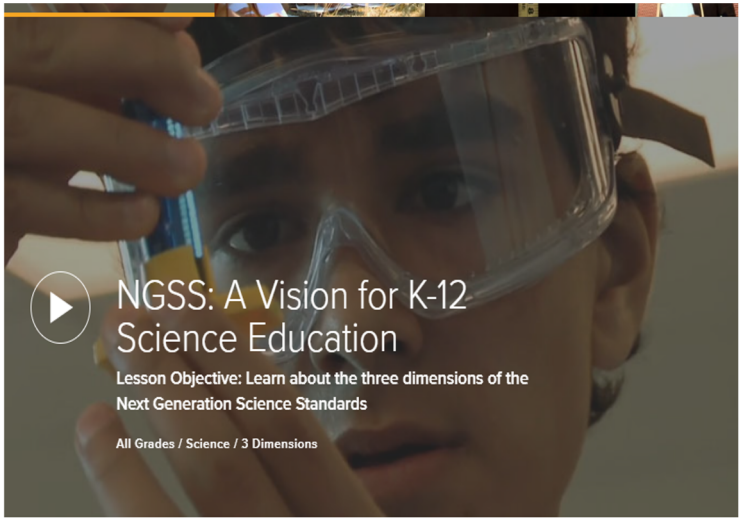


What is 3-Dimensional Science Instruction?



What Is 3-Dimensional Science Instruction

- How do the Arizona Science Standards represent a shift in science education?
- What do the teachers in this video learn from engaging with 3-dimensional science instruction?
- How do the three dimensions work together?



What Is 3-Dimensional Science Instruction?

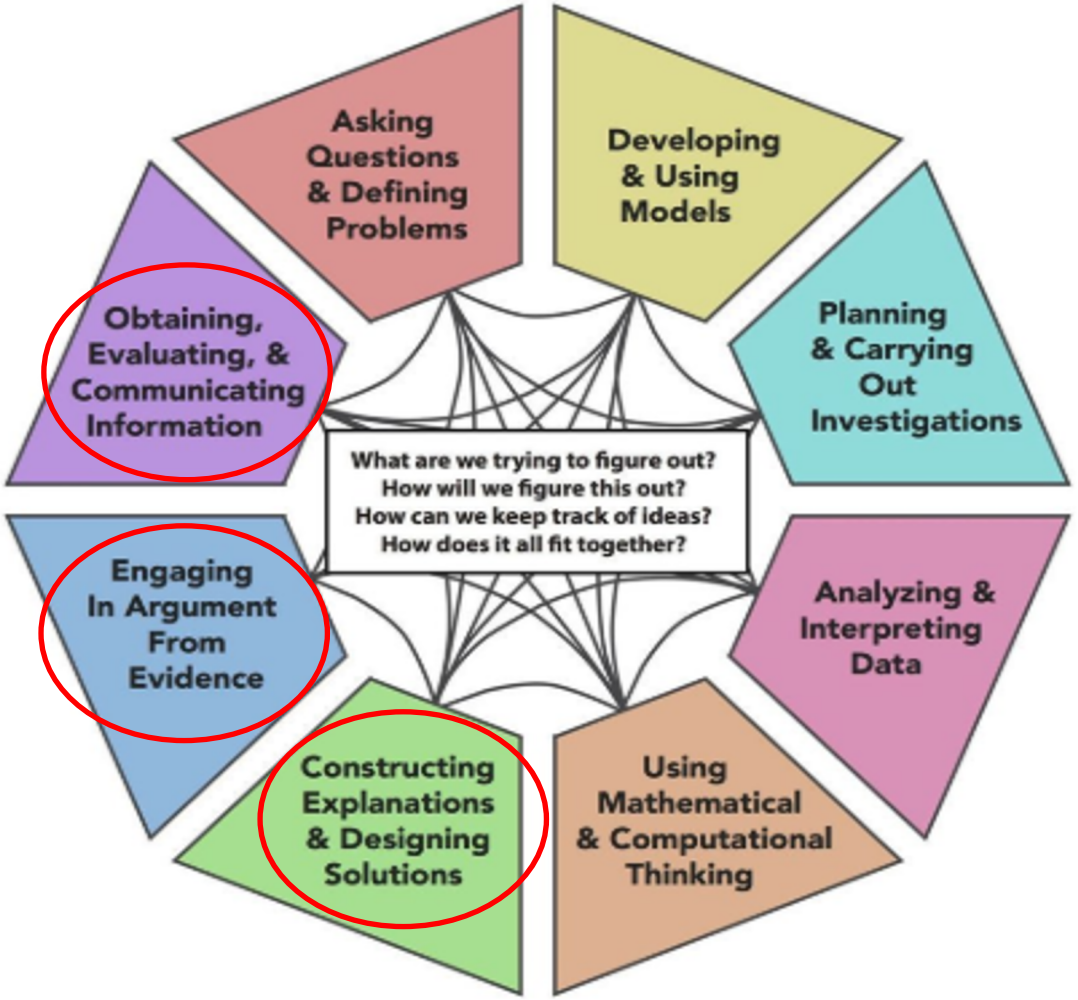
1. **How do the Arizona Science Standards represent a shift in science education?**
2. **What do the teachers in this video learn from engaging with 3-dimensional science instruction?**
3. **How do the three dimensions work together?**

Science and Engineering Practices

Dimension 1
What we do

1. Asking Questions and Defining Problems
2. Developing and Using Models
3. Planning and Carrying Out Investigations
4. Analyzing and Interpreting Data
5. Using Mathematics and Computational Thinking
6. Constructing Explanations and Designing Solutions
7. Engaging in Argument from Evidence
8. Obtaining, Evaluating, and Communicating Information

National Research Council. (2012). A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas. Committee on a Conceptual Framework for New K-12 Science Education Standards. Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press



Schwarz, C. V., Passmore, C. M., & Reiser, B. J. (2017). Moving beyond "knowing" science to making sense of the world. In C. V. Schwarz, C. M. Passmore & B. J. Reiser (Eds.), *Helping students make sense of the world through next generation science and engineering practices* (pp. 3-21). Arlington, VA: NSTA Press.

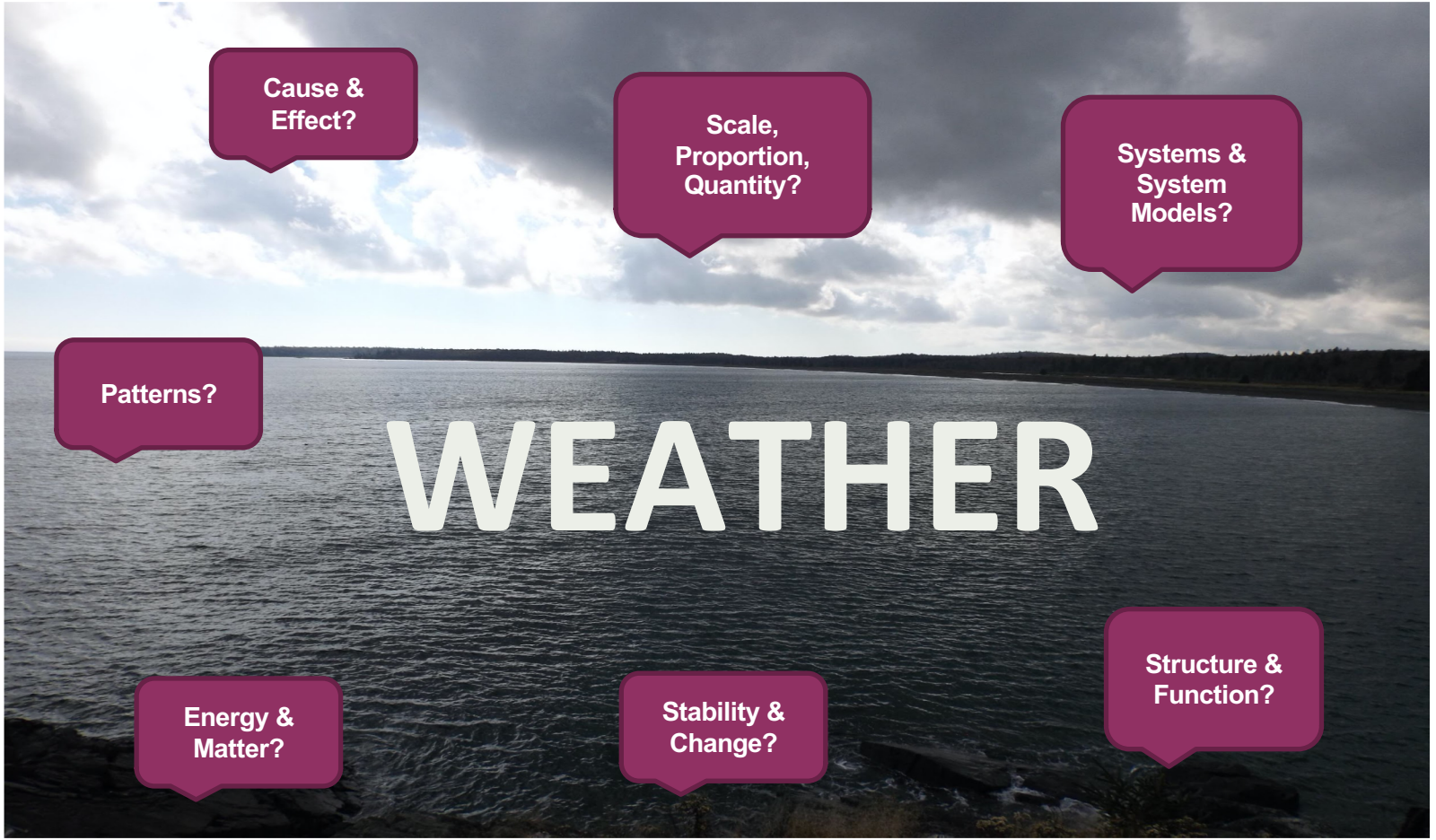
Crosscutting Concepts

Dimension 2

How we think

1. Patterns
2. Cause and effect
3. Structure and Function
4. Energy and Matter
5. Systems and System Models
6. Scale, Proportion and Quantity
7. Stability and Change

National Research Council. (2012). A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas. Committee on a Conceptual Framework for New K-12 Science Education Standards. Board on Science Education, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press


Cause & Effect?
Scale, Proportion, Quantity?
Systems & System Models?
Patterns?
WEATHER
Energy & Matter?
Stability & Change?
Structure & Function?

Dimension 3: Core Ideas for Knowing Science

What We Learn

Physical Science

- P1: All matter in the Universe is made of very small particles.
- P2: Objects can affect other objects at a distance.
- P3: Changing the movement of an object requires a net force to be acting on it.
- P4: The total amount of energy in a closed system is always the same but can be transferred from one energy store to another during an event.

Earth and Space

- E1: The composition of the Earth and its atmosphere and the natural and human processes occurring within them shape the Earth's surface and its climate.
- E2: The Earth and our solar system are a very small part of one of many galaxies within the Universe.

Life Science

- L1: Organisms are organized on a cellular basis and have a finite life span.
- L2: Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms.
- L3: Genetic information is passed down from one generation of organisms to another.
- L4: The unity and diversity of organisms, living and extinct, is the result of evolution.

*Adapted from *Working with Big Ideas in Science Education*

Dimension 3: Core Ideas for Using Science

- U1: Scientists explain phenomena using evidence obtained from observations and or scientific investigations. Evidence may lead to developing models and or theories to make sense of phenomena. As new evidence is discovered, models and theories can be revised.

- U2: The knowledge produced by science is used in engineering and technologies to solve problems and/or create products.

- U3: Applications of science often have both positive and negative ethical, social, economic, and/or political implications.

*Adapted from *Working with Big Ideas in Science Education*

SEPs

The core ideas of Knowing science (CIs)

CCCs

Arizona Science Standards unique Using Science (CIs)

AzSS Snapshot: What You Should See Students "Doing," "Thinking," "Knowing," and "Using" in Science

A Framework/Big Ideas for K-12 Science Instruction's 3-Dimensions and AzSS Using Science

DO — Dimension 1: The Science and Engineering Practices

1. Asking questions and defining pr… s (p. 54)*
2. Developing and using mode…
3. Planning and carrying out investig… s (p. 59)*
4. Analyzing and interpreting data (p… *
5. Using mathematics and computat… thinking (p. 64)*
6. Constructing explanations and de…g solutions (p. 67)*
7. Engaging in argument from evidence (p. 71)*
8. Obtaining, evaluating, and communicating information (p. 74)*

THINK — Dimension 2: The Crosscutting Concepts

1. Patterns (p. 85)*
2. Cause and effect (p. 87)*
3. Scale, proportion, and quantity …
4. Systems and system model… …)*
5. Energy and matter (p. 9…
6. Structure and function (p. 96)*
7. Stability and change (p. 98)*

KNOW — Dimension 3: The Core Ideas of Knowing S… ence and The Core Ideas of Using Science

The Core Ideas of Knowing Science

P: Physical Science (p. 105)*

P1: All matter in the Universe is made of very small particles. (p. 20)**
P2: Objects can affect other objects at a distance. (p. 21)**
P3: Changing the movement of an object requires a net force to be ac… it. (p. 22)**
P4: The total amount of energy in a closed system is always the same but can be transferred from one energy store to another during an event. (p. 23)**

E: Earth and Space Science (p. 171)*

E1: The composition of the Earth and its atmosphere and the natural and human processes occurring within them shape the Earth's surface an… climate. (p. 24)**
E2: The Earth and our solar system are a very small part of one of many galaxies within the Universe. (p. 25)**

L: Life Science (p. 142)*

L1: Organisms are organized on a cellular basis and have a finite life span. (p. 26)**
L2: Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms. (p. 27)**
L3: Genetic information is passed down from one generation of organisms to another. (p. 28)**
L4: The unity and diversity of organisms, living and extinct, is the result of …

USE

The Core Ideas of Using Science

U1: Scientists explain phenomena using evidence obtained from observations and or scientific investigations. Evidence may lead to developing models and or theories to make sense of phenomena. As new evidence is discovered, models and theories can be revised. (p. 30 & 31)**

U2: The knowledge produced by science is used in engineering and technologies to solve problems and/or create products. (p. 32)**

U3: Applications of science often have ethical, social, economic, and/or political implications. (p. 23)**

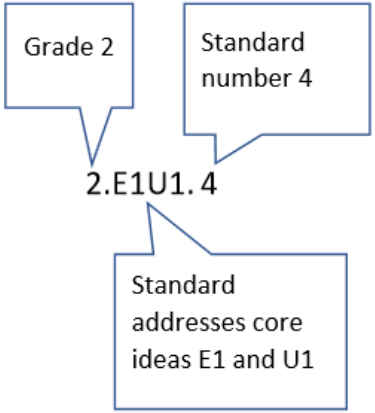
*A Framework for K-12 Science Education **Working with Big Ideas of Science Education

Updated: 3/4/20

The Coding – How To Read It And How It's Useful

Earth and Space Standards
K.E1U1.3
Observe, record, and ask questions about temperature, precipitation, and other weather data to identify patterns or changes in local weather.

Earth and Space Standards
2.E1U1.4
Observe, describe, and predict how wind and water change the shape of the land resulting in a variety of landforms.



2.E1U1.4. Observe, describe, and predict how wind and water change the shape of the land resulting in a variety of landforms.

AzSS Snapshot: What You Should See Students "Doing," "Thinking," "Knowing," and "Using" in Science

A Framework/Big Ideas for K-12 Science Instruction's 3-Dimensions and AzSS Using Science

Dimension 1: The Science and Engineering Practices

DO

1. Asking questions and defining problems (p. 54)*
2. Developing and using models (p. 56)*
3. Planning and carrying out investigations (p. 59)*
4. Analyzing and interpreting data (p. 61)*
5. Using mathematics and computational thinking (p. 64)*
6. Constructing explanations and designing solutions (p. 67)*
7. Engaging in argument from evidence (p. 71)*
8. Obtaining, evaluating, and communicating information (p. 74)*

Dimension 2: The Crosscutting Concepts

THINK

1. Patterns (p. 85)*
2. Cause and effect (p. 87)*
3. Scale, proportion, and quantity (p. 89)*
4. Systems and system models (p. 91)*
5. Energy and matter (p. 94)*
6. Structure and function (p. 96)*
7. Stability and change (p. 98)*

Dimension 3: The Core Ideas of Knowing Science and The Core Ideas of Using Science

The Core Ideas of Knowing Science

KNOW

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U3: Applications of science often have ethical, social, economic, and/or political implications. (p. 23)**

*A Framework for K-12 Science Education **Working with Big Ideas of Science Education

Updated: 3/4/20

Grade 2

Standard number 4

2.E1U1.4

Standard addresses core ideas E1 and U1

2.E1U1.4. Observe, describe, and predict how wind and water change the shape of the land resulting in a variety of landforms.

Reading a Standard

Breaking the Standard Apart

Knowing Science

Using Science

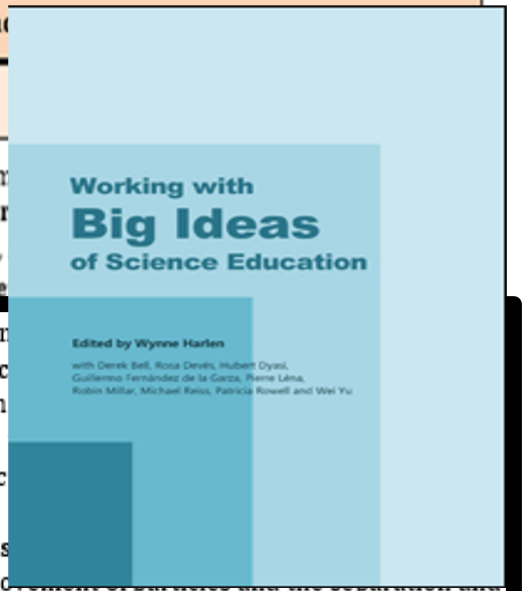
SEP

Core Idea

Crosscutting Concepts

Physical Sciences: Students develop an understanding of how Earth's resources can be transformed into different forms of energy. Students develop a better understanding of electricity and magnetism.

Physical Science Standards	Learning Progressions, Key Terms, an
4.P4U1.1	
Develop and use a model to demonstrate how a system transfers energy from one object to another even when the objects are not touching.	**Energy** is present whenever there are m objects **collide**, energy can be **transfer** changing their motion. In such collisions, the surrounding air; as a result, the air ge
4.P4U1.2	
Develop and use a model that explains how energy is moved from place to place through electric currents.	If a **substance** could be divided into sm to be made of very, very small **partic microscope**. These particles are not in particles of a particular substance are substances. The particles are not static at which they move is experienced differences between substances in the s terms of the speed and range of the mo strength of the attraction between neighboring particles. All materials, anywhere in the universe, living and non-living, are made of a very large number of basic 'building blocks' called **atoms**, of which there are about 100 different kinds. The properties of different materials can be explained in terms of the behavior of the atoms and groups of atoms of which they are made. 2 (p. 20)
4.P2U1.3	
Develop and use a model to demonstrate magnetic forces.	



Physical Sciences: Students develop an understanding of how Earth's resources can be transformed into different forms of energy. Students develop a better understanding of electricity and magnetism.

NEW

Physical Science Standards	Crosscutting Concepts & Background Information for Educators
4.P4U1.1 Develop and use a model to demonstrate how a system transfers energy from one object to another even when the objects are not touching.	**Crosscutting Concepts:** Patterns, Cause and Effect, Scale, Proportion and Quantity; **Systems and System Models**; **Energy and Matter**; Structure and Function; **Stability and Change**[4] **Background Information:** **Energy** is present whenever there are moving objects, sound, light, **or** heat. When objects **collide**, energy can be **transferred** from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. Light also transfers energy from place to place. For example, energy **radiated** from the sun is transferred to Earth by light. When this light is absorbed, it warms Earth's land, air, and water and facilitates plant growth. Energy can also be transferred from place to place by **electric currents**, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy (e.g., moving water driving a spinning turbine which generates electric currents).[4 (p. 125)] The faster a given object is moving, the more energy it possesses. Energy can be moved from place to place by moving objects or through sound **or** light. (Boundary: At this grade level, no attempt is made to give a precise or complete definition of energy.)[4(p.122)] For example, energy radiated from the sun is transferred to Earth by light. When this light is absorbed, it warms Earth's land, air, and water and facilitates plant growth.[4(p.125)] The expression "produce energy" typically refers to the **conversion of stored** energy into a desired form for practical use—for example, the stored energy of water behind a dam is released so that it flows downhill and drives a turbine generator to produce **electricity**. Food and fuel also release energy when they are digested or burned. When machines or animals "use" energy (e.g., to move around), most often the energy is transferred to heat the surrounding environment. The energy released by burning fuel or digesting food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water). (Boundary: The fact that plants capture energy from sunlight is introduced at this grade level, but details of photosynthesis are not.) It is important to be able to **concentrate energy** so that it is available for use where and when it is needed. For example, **batteries** are physically transportable energy **storage** devices, whereas electricity generated by power plants is transferred from place to place through distribution systems.[4 (p. 129)]
4.P2U1.3 Develop and use a model to demonstrate magnetic forces.	
4.P4U3.4 Engage in argument from evidence on the use and impact of renewable and nonrenewable resources to generate electricity.	

How does it work?
Essential and Plus Standards for High School

Essential

Space – Earth and the Solar System	**Earth and Space Science Essential Standards** HS Essential Standards are intended for ALL students to learn across 3 credits of high school science courses and are on the state assessment.	**Learning Progressions, Key Terms and Crosscutting Concepts**
	Essential HS.E2U1.16 **Construct an explanation** of how gravitational forces impact the evolution of planetary motion, structure, surfaces, atmospheres, moons, and rings.	Planetary motions around the sun can be predicted using **Kepler's three empirical laws**, which can be explained based on **Newton's theory of gravity**. These orbits may also change somewhat due to the **gravitational effects** from, or collisions with, other bodies. [4] (p. 175)
	Earth and Space Science Plus (+) Standards HS+ Standards are designed for students taking a high school earth and space (E) or honors earth and space. **Plus HS+E.E2U1.9** + **Analyze and interpret data** showing how gravitational forces are influenced by mass, and the distance between objects. **Plus HS+E.E2U1.10** + **Use mathematics and computational thinking** to explain the movement of planets and objects in the solar system.	Crosscutting Concepts: Patterns; Cause and effect; Scale, Proportion and Quantity; Systems and System Models; Energy and Matter; Stability and change; Structure and function [4]

Essential vs. Plus Standards for High School

High School **Essential** Standards

- Intended for all student to have learned by the end of three credits of high school science courses
- May be assessed on the state science assessment
- Goal to prepare students for adult science literacy

High School **Plus** Standards

- Supporting standards designed to be used with the essential standards
- For students taking a specific course in physics, chemistry, earth/space, and/or biology to prepare students for college-level courses
- May be assessed by districts but not by state

K-2 Band: 2.P1U1.2 Plan and carry out investigations to gather evidence to support an explanation on how heating or cooling can cause a phase change in matter.

6-8 Band: 6.P1U1.1 Analyze and interpret data to show that changes in states of matter are caused by different rates of movement of atoms in solids, liquids, and gases (Kinetic Theory).

Plus HS+C.P1U1.3 Analyze and interpret data to develop and support an explanation for the relationships between kinetic molecular theory and gas laws. (Note: The plus standards are used to create a high school chemistry class, they are not honors only)

Crosscutting Concepts:

1. Patterns
2. Cause and effect
3. Structure and Function
4. Energy and Matter
5. Systems and System Models
6. Scale, Proportion and Quantity
7. Stability and Change

LiveChat

Pick one grade band and see if you can identify:

1. **Science & Engineering Practice (SEP)**
2. **Core Idea for Knowing (Life, Physical, Earth)**
3. **Core Idea for Using (U1, U2, U3)**
4. **Crosscutting Concept (CCC)**

Cause & Effect

K-2 Band: 2.P1U1.2 Plan and carry out investigations to gather evidence to support an explanation on how heating or cooling can cause a phase change in matter.

6-8 Band: 6.P1U1.1 Analyze and interpret data to show that changes in states of matter are caused by different rates of movement of atoms in solids, liquids, and gases (Kinetic Theory).

Cause & Effect

Energy & Matter

Patterns

Cause & Effect

Stability & Change

Systems & System Models

Plus HS+C.P1U1.3 Analyze and interpret data to develop and support an explanation for the relationships between kinetic molecular theory and gas laws.

(Note: The plus standards are used to create a high school chemistry class, they are not honors only)

Knowing Science	Knowing Science	K	1	2	3	4	5	6	7	8	HS
P1 Physical Science	All matter in the Universe is made of very small particles.										
P2: Physical Science	Objects can affect other objects at a distance.										
P3: Physical Science	Changing the movement of an object requires a net force to be acting on it.										
P4: Physical Science	The total amount of energy in a closed system is always the same but can be transferred from one energy store to another during an event.										

Knowing Science	Knowing Science	K	1	2	3	4	5	6	7	8	HS
E1 Earth & Space Science	E1: The composition of the Earth and its atmosphere and the natural and human processes occurring within them shape the Earth's surface and its climate.										
E2: Earth & Space Science	E2: The Earth and our solar system are a very small part of one of many galaxies within the Universe.										

Knowing Science	Knowing Science	K	1	2	3	4	5	6	7	8	HS
L1 Life Science	Organisms are organized on a cellular basis and have a finite life span.										
L2: Life Science	Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms.										
L3: Life Science	Genetic information is passed down from one generation of organisms to another.										
L4: Life Science	The unity and diversity of organisms, living and extinct, is the result of evolution.										

Almost done!

Two Emails

1. **From EMS with a survey- MUST be filled out to receive PD Clock hours**

2. **From ME☺ with resources and this presentation & upcoming PD opportunities**

Title	Date	Time	Cost	Type
Crosscutting Concepts: 1 of the 3 Dimensions of the AZ Science Standards	6/4/2020	9:00am – 10:00am	FREE	W
STEM Series: Meet Computer Science Standards with Code.org	6/4/2020	4:00pm – 5:00pm	FREE	W
Science & Engineering Practices: 1 of the 3 Dimensions of the AZ Science Standards	6/5/2020	9:00am – 10:00am	FREE	W
5-E Instructional Model & Science Notebooks	6/9/2020	4:00pm – 5:00pm	FREE	W
#SciencingAndEngineering with @TheSTEMAZingPro and @RobotGeneral5- Session 2	6/10/2020	4:00pm – 5:00pm	FREE	W
STEM Series: Meet Computer Science Standards with Code.org	6/11/2020	4:00pm – 5:00pm	FREE	W
Phenomena-Based 3-D Instruction	6/16/2020	4:00pm – 5:00pm	FREE	W
#SciencingAndEngineering with @TheSTEMAZingPro and @RobotGeneral5- Session 3	7/1/2020	4:00pm – 5:00pm	FREE	W
#SciencingAndEngineering with @TheSTEMAZingPro and @RobotGeneral5- Session 4	7/22/2020	4:00pm – 5:00pm	FREE	W
#SciencingAndEngineering with @TheSTEMAZingPro and @RobotGeneral5- Session 5- Early Childhood	8/12/2020	4:00pm – 5:00pm	FREE	W

Thanks!

Any questions?

Please contact:

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