

# FRIDAY FOCUS: AZSCI PERFORMANCE LEVEL DESCRIPTORS

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This webinar will be recorded and posted on the ADE Assessments webpage at <https://www.azed.gov/assessment>.

Please enter your First and Last Name in the Chat for tracking purposes for the live event.

We will also be capturing the chat questions. ADE will compile and create a FAQ list which will then be posted on our website. The FAQ will only include those questions that are relevant to the webinar topic. ADE will follow up with any other questions via e-mail.

# FRIDAY FOCUS WEBINAR #7

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AZSCI PERFORMANCE LEVEL DESCRIPTORS

# Overview

- ✓ AzSCI Background
- ✓ Performance Level Descriptors
- ✓ Resources and Supports
  - ✓ Item Specification Document
  - ✓ Practice Test



# Background

- AzSCI is administered online in Grades 5, 8, and 11 in grade bands
  - Grades 3-5, Grades 6-8 and Grades 9-11
- The test is designed to be aligned to the Arizona Science Standards Core Ideas, Science and Engineering Practices (SEPs) and Cross-Cutting Concepts (CCCs)
- AzSCI Prototype (2020), Field Test (2021) and the first operational assessment in 2022. Performance Levels were set through a Standard Setting in June of 2022
- AzSCI currently contributes to bonus point for participation for State Accountability

## □ Grade 3-5 Science Standards

<https://cms.azed.gov/home/GetDocumentFile?id=5bd338e11dcb250184c8cf04>

## □ Grade 6-8 Science Standards

<https://cms.azed.gov/home/GetDocumentFile?id=5bd338b81dcb250184c8cefc>

## □ High School Science Standards

<https://cms.azed.gov/home/GetDocumentFile?id=5bd339df1dcb250184c8cf1a>

**Arizona Science Standards**  
(Adopted October 2018)  
**RESOURCES | PROFESSIONAL LEARNING OPPORTUNITIES**  
Important message to read for information regarding the implementation of the 2018 Arizona Science Standards and the new science assessment, please click [here](#)  
**Complete Standards document | PDF**  
▶ **Grades Kindergarten - Highschool**  
**NEW STANDARDS SUPPORT MATERIALS**  
▶ **Planning Tools 'NEW**  
▶ **Administrator Tool Kit 'NEW**  
▶ **Vertical Progressions**  
▶ **Distribution of Core Ideas**  
▶ **Timeline and Graduation Requirements**  
**PROFESSIONAL LEARNING OPPORTUNITIES**  
▶ **Professional Development**  
▶ **Recorded Webinars**  
▶ **Science Standards Videos**

# EARTH AND SPACE STANDARD

Earth and Space Standards	Crosscutting Concepts & Background Information for Educators
<b>5.E2U1.7</b>  <u>Develop, revise, and use models</u> based on evidence to <u>construct explanations</u> about the movement of the Earth and Moon within our solar system.	<b>Crosscutting Concepts:</b> <b>Patterns, Cause and Effect, Scale, Proportion and Quantity;</b> Systems and System Models; Energy and Matter; Structure and Function; Stability and Change <sup>4</sup>  <b>Background Information:</b> The <b>Earth</b> moves round the <b>Sun</b> taking about a year for one orbit. The <b>Moon</b> orbits the Earth taking about four weeks to complete an orbit. The Sun, at the center of the solar system, is the only object in the solar system that is a source of visible light. The Moon reflects light from the Sun and as it moves round the Earth only those parts illuminated by the Sun are seen. The Earth rotates about an <b>axis</b> lying <b>north to south</b> and this motion makes it appear that the Sun, Moon and stars are moving round the Earth. <sup>4(p. 25)</sup> The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause <b>observable patterns</b> . Some objects in the solar system can be seen with the naked eye. Planets in the night sky change positions and are not always visible from Earth as they orbit the sun. Stars appear in patterns called constellations, which can be used for navigation and appear to move together across the sky because of Earth's rotation. <sup>4(p. 176)</sup>
<b>5.E2U1.8</b>  <u>Obtain, analyze, and communicate evidence</u> to support an explanation that the gravitational force of Earth on objects is directed toward the planet's center.	<b>Crosscutting Concepts:</b> <b>Patterns, Cause and Effect, Scale, Proportion and Quantity;</b> Systems and System Models; Energy and Matter; Structure and Function; Stability and Change <sup>4</sup>  <b>Background Information:</b> <b>Gravity</b> is the universal attraction between all objects, however large or small, although it is only apparent when one of the objects is very large. On the Earth it results in everything being pulled down towards the center of the Earth. We call this downward attraction the <b>weight</b> of an object. <sup>4(p. 21)</sup> Gravity holds Earth in orbit around the sun, and it holds the moon in orbit around Earth. <sup>4(p. 175)</sup> The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center. <sup>4(p. 117)</sup>



# PERFORMANCE LEVEL DESCRIPTORS

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## PERFORMANCE LEVEL DESCRIPTORS

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The Performance Level Descriptors (PLDs) are a series of statements that describe the level of knowledge and skills required at each performance level on the new assessment. PLDs serve a variety of purposes. They provide specific information about what each level means and indicate the progression of student knowledge, skill, and ability across the performance levels. PLDs provide detail on the spectrum, or range, of performance within each performance level. They define the processes, strategies, and knowledge students need in order to correctly answer test items.

# PROFICIENCY LEVELS

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## AzSCI Cut Scores Scale Score Ranges

AzSCI	Minimally Proficient	Partially Proficient	Proficient	Highly Proficient
Grade 5	1200 – 1299	1300 – 1349	1350 – 1394	1395 – 1500
Grade 8	1200 – 1299	1300 – 1349	1350 – 1398	1399 – 1500
Grade 11	1200 – 1299	1300 – 1349	1350 – 1401	1402 – 1500

Approved by Arizona State Board of Education, July 2022



# PERFORMANCE LEVEL DESCRIPTOR-CORE IDEA



## Science Grade Band 3–5 Performance Level Descriptors (PLDs)

	Minimally Proficient	Partially Proficient	Proficient	Highly Proficient
	The Minimally Proficient student strives to	The Partially Proficient student is able to	The Proficient student is able to	The Highly Proficient student is able to
Earth and Space Science Core Ideas/Claims				
E1	• identify that the sun is the primary source of energy for Earth • describe how seismic waves differentiate between weather and climate • identify how different types of weather affect Earth's surface • recognize the importance of water on Earth • recognize that Earth's surface is constantly changing	• identify the Earth's systems impacted by energy from the sun • recognize how seismic waves move through Earth • understand how geographic features affect weather and climate • identify water sources found on Earth • describe the geologic processes that change Earth's surface	• demonstrate how energy from the sun impacts Earth's systems • demonstrate seismic waves and their effect on Earth • demonstrate the interactions between Earth's major systems and the impact on Earth's surface materials and processes, weather, and climate • using evidence, argue the impact of the availability of water on life • demonstrate how geologic processes demonstrate that Earth's surface has changed over time	• understand how human processes change how energy from the sun impacts Earth systems • connect geologic processes to explain how Earth's surface has changed over time • understand how the interactions between Earth's major systems can be used to predict natural hazards and minimize the effect
E2	• identify that the Earth and moon move within the solar system • recognize that gravity pulls objects towards the center of Earth	• describe how long it takes for the moon and Earth to complete its orbit • identify that gravitational force is acting on everything on Earth	• demonstrate the movement (rotation and revolution) of Earth and the moon within our solar system. • using evidence, demonstrate the role of gravitational force on objects on Earth	• demonstrate how the movement of Earth and the moon impact each other • demonstrate how gravity impacts the movement and location of the Earth and the moon

# PERFORMANCE LEVEL DESCRIPTOR- CORE IDEA



Science Grade Band 3–5  
Performance Level Descriptors (PLDs)

	Minimally Proficient The Minimally Proficient student strives to	Partially Proficient The Partially Proficient student is able to	Proficient The Proficient student is able to	Highly Proficient The Highly Proficient student is able to
Earth and Space Science Core Ideas/Claims				
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.	<ul style="list-style-type: none"> <li>• identify that the sun is the primary source of energy for Earth</li> <li>• describe how seismic waves differentiate between weather and climate</li> <li>• identify how different types of weather affect Earth's surface</li> <li>• recognize the importance of water on Earth</li> <li>• recognize that Earth's surface is constantly changing</li> </ul>	<ul style="list-style-type: none"> <li>• identify the Earth's systems impacted by energy from the sun</li> <li>• recognize how seismic waves move through Earth</li> <li>• understand how geographic features affect weather and climate</li> <li>• identify water sources found on Earth</li> <li>• describe the geologic processes that change Earth's surface</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate how energy from the sun impacts Earth's systems</li> <li>• demonstrate seismic waves and their effect on Earth</li> <li>• demonstrate the interactions between Earth's major systems and the impact on Earth's surface materials and processes, weather, and climate</li> <li>• using evidence, argue the impact of the availability of water on life</li> <li>• demonstrate how geologic processes demonstrate that Earth's surface has changed over time</li> </ul>	<ul style="list-style-type: none"> <li>• understand how human processes change how energy from the sun impacts Earth systems</li> <li>• connect geologic processes to explain how Earth's surface has changed over time</li> <li>• understand how the interactions between Earth's major systems can be used to predict natural hazards and minimize the effect</li> </ul>
E2 The Earth and our solar system are a very small part of one of many galaxies within the Universe.	<ul style="list-style-type: none"> <li>• identify that the Earth and moon move within the solar system</li> <li>• recognize that gravity pulls objects towards the center of Earth</li> </ul>	<ul style="list-style-type: none"> <li>• describe how long it takes for the moon and Earth to complete its orbit</li> <li>• identify that gravitational force is acting on everything on Earth</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate the movement (rotation and revolution) of Earth and the moon within our solar system.</li> <li>• using evidence, demonstrate the role of gravitational force on objects on Earth</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate how the movement of Earth and the moon impact each other</li> <li>• demonstrate how gravity impacts the movement and location of the Earth and the moon</li> </ul>

# PERFORMANCE LEVEL DESCRIPTOR-CORE IDEA




Science Grade Band 3-5  
Performance Level Descriptors (PLDs)

	Minimally Proficient The Minimally Proficient student strives to	Partially Proficient The Partially Proficient student is able to	Proficient The Proficient student is able to	Highly Proficient The Highly Proficient student is able to
<b>Earth and Space Science Core Ideas/Claims</b>				
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.	<ul style="list-style-type: none"> <li>• identify that the sun is the primary source of energy for Earth</li> <li>• describe how seismic waves differentiate between weather and climate</li> <li>• identify how different types of weather affect Earth's surface</li> <li>• recognize the importance of water on Earth</li> <li>• recognize that Earth's surface is constantly changing</li> </ul>	<ul style="list-style-type: none"> <li>• identify the Earth's systems impacted by energy from the sun</li> <li>• recognize how seismic waves move through Earth</li> <li>• understand how geographic features affect weather and climate</li> <li>• identify water sources found on Earth</li> <li>• describe the geologic processes that change Earth's surface</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate how energy from the sun impacts Earth's systems</li> <li>• demonstrate seismic waves and their effect on Earth</li> <li>• demonstrate the interactions between Earth's major systems and the impact on Earth's surface materials and processes, weather, and climate</li> <li>• using evidence, argue the impact of the availability of water on life</li> <li>• demonstrate how geologic processes demonstrate that Earth's surface has changed over time</li> </ul>	<ul style="list-style-type: none"> <li>• understand how human processes change how energy from the sun impacts Earth systems</li> <li>• connect geologic processes to explain how Earth's surface has changed over time</li> <li>• understand how the interactions between Earth's major systems can be used to predict natural hazards and minimize the effect</li> </ul>
E2 The Earth and our solar system are a very small part of one of many galaxies within the Universe.	<ul style="list-style-type: none"> <li>• identify that the Earth and moon move within the solar system</li> <li>• recognize that gravity pulls objects towards the center of Earth</li> </ul>	<ul style="list-style-type: none"> <li>• describe how long it takes for the moon and Earth to complete its orbit</li> <li>• identify that gravitational force is acting on everything on Earth</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate the movement (rotation and revolution) of Earth and the moon within our solar system.</li> <li>• using evidence, demonstrate the role of gravitational force on objects on Earth</li> </ul>	<ul style="list-style-type: none"> <li>• demonstrate how the movement of Earth and the moon impact each other</li> <li>• demonstrate how gravity impacts the movement and location of the Earth and the moon</li> </ul>

# PLD - SCIENCE AND ENGINEERING PRACTICES

	<b>Minimally Proficient</b> The Minimally Proficient student strives to	<b>Partially Proficient</b> The Partially Proficient student is able to	<b>Proficient</b> The Proficient student is able to	<b>Highly Proficient</b> The Highly Proficient student is able to
<b>Science and Engineering Practices</b>				
Ask questions and define problems	<ul style="list-style-type: none"> <li>Identify questions about what would happen if a variable changed</li> <li>Identify problems that can be solved</li> </ul>	<ul style="list-style-type: none"> <li>Apply questions about what would happen if a variable changed</li> <li>Apply problems that can be solved</li> <li>Define a simple design problem that can be solved that includes minimal criteria and constraints</li> <li>Ask questions that can be investigated</li> </ul>	<ul style="list-style-type: none"> <li>Ask questions about what would happen if a variable is changed</li> <li>Identify testable and non-testable questions</li> <li>Ask questions that can be investigated and predict outcomes based on patterns</li> <li>Describe problems that can be solved</li> <li>Define a simple design problem that can be solved that includes several criteria for success and constraints</li> </ul>	<ul style="list-style-type: none"> <li>Analyze questions about what would happen if a variable changed</li> <li>Use prior knowledge to analyze problems that can be solved</li> <li>Ask questions and analyze predictions</li> <li>Define and analyze a simple design problem that can be solved that includes several criteria for success and constraints</li> </ul>
Develop and use models	<ul style="list-style-type: none"> <li>Revise, with support, a model that shows relationships among variables for frequent and regular occurring events</li> <li>Identify a model that represents a phenomenon</li> </ul>	<ul style="list-style-type: none"> <li>Develop and revise, with support, a model that shows relationships among variables for frequent and regular occurring events</li> <li>Identify a model that uses an analogy, example, or abstract representation to describe a scientific principle or design solution</li> <li>Identify a model that predicts a phenomenon</li> <li>Identify a model to explain cause-and-effect relationships in a system</li> </ul>	<ul style="list-style-type: none"> <li>Identify limitations of models</li> <li>Develop and/or revise, with support, a model based on evidence</li> <li>Develop a model using an analogy, example, or abstract representation to describe a scientific principle or design solution</li> <li>Develop and/or use models to describe and/or predict phenomena</li> <li>Develop a diagram and explain a proposed object, tool, or process</li> <li>Use a model to explain cause-and-effect relationships in a system</li> </ul>	<ul style="list-style-type: none"> <li>Analyze limitations of models</li> <li>Independently develop and/or revise a model based on evidence</li> <li>Analyze models using an analogy, example, or abstract representation to describe a scientific principle or design solution</li> </ul>
Plan and carry out investigations	<ul style="list-style-type: none"> <li>Identify appropriate methods and/or tools for collecting data</li> <li>Plan and conduct an investigation, with support, to produce data to serve as</li> </ul>	<ul style="list-style-type: none"> <li>Apply appropriate methods and/or tools for collecting data</li> <li>Identify variables that changed in an investigation</li> </ul>	<ul style="list-style-type: none"> <li>Plan and conduct an investigation, with support, to produce data to collect appropriate evidence, using fair tests in which variables are controlled and</li> </ul>	<ul style="list-style-type: none"> <li>Plan and conduct an investigation independently to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the</li> </ul>

# PLD - CROSSCUTTING CONCEPTS



	<b>Minimally Proficient</b> The Minimally Proficient student strives to	<b>Partially Proficient</b> The Partially Proficient student is able to	<b>Proficient</b> The Proficient student is able to	<b>Highly Proficient</b> The Highly Proficient student is able to
<b>Cross-cutting Concepts</b>				
Patterns	<ul style="list-style-type: none"> <li>recognize that patterns in the natural world can be used to classify objects</li> </ul>	<ul style="list-style-type: none"> <li>recognize that patterns in the natural world can be used to classify objects to explain phenomena and make predictions</li> </ul>	<ul style="list-style-type: none"> <li>identify similarities and differences in order to sort and classify</li> <li>identify patterns related to time and use the patterns to make predictions</li> </ul>	<ul style="list-style-type: none"> <li>demonstrate similarities and differences in order to sort and classify</li> <li>demonstrate patterns related to time and use to make predictions</li> </ul>
Cause and effect	<ul style="list-style-type: none"> <li>identify and test, with support, causal relationships</li> </ul>	<ul style="list-style-type: none"> <li>identify and test, with support, causal relationships and use these relationships to explain change</li> </ul>	<ul style="list-style-type: none"> <li>routinely identify and test causal relationships and use these relationships to explain change</li> <li>describe how events that occur together with regularity might or might not be a cause-and-effect relationship</li> </ul>	<ul style="list-style-type: none"> <li>identify whether or not events that occur together with regularity are an example of a cause-and-effect relationship</li> </ul>
Structure and function	<ul style="list-style-type: none"> <li>recognize that different materials have different structures</li> </ul>	<ul style="list-style-type: none"> <li>recognize that substructures have shapes and parts that serve functions</li> </ul>	<ul style="list-style-type: none"> <li>demonstrate that different materials have different substructures, which can sometimes be observed</li> <li>describe that substructures have shapes and parts that serve functions</li> </ul>	<ul style="list-style-type: none"> <li>demonstrate how substructures have different shapes and parts that are related to their function</li> </ul>
Systems and systems models	<ul style="list-style-type: none"> <li>identify a system from given information</li> </ul>	<ul style="list-style-type: none"> <li>describe the function of a given system</li> </ul>	<ul style="list-style-type: none"> <li>demonstrate that a system is a group of related parts that make up a whole and can carry out functions its individual parts cannot</li> <li>describe a system in terms of its components and their interactions</li> </ul>	<ul style="list-style-type: none"> <li>describe how two systems interact</li> </ul>
Stability and change	<ul style="list-style-type: none"> <li>identify that changes occur rapidly or slowly over time</li> </ul>	<ul style="list-style-type: none"> <li>demonstrate that some changes take place rapidly and others change slowly over time</li> </ul>	<ul style="list-style-type: none"> <li>measure change in terms of differences over time, and observe that change may occur at different rates</li> <li>demonstrate how some systems appear stable, but over long periods of time they will eventually change</li> </ul>	<ul style="list-style-type: none"> <li>describe stability and change of a system using measured change as evidence</li> </ul>
Scale, proportion, and quantity	<ul style="list-style-type: none"> <li>use relative scales to allow objects and events to be compared and described</li> </ul>	<ul style="list-style-type: none"> <li>differentiate very small scales from very large scales within observable</li> </ul>	<ul style="list-style-type: none"> <li>recognize that natural objects and observable phenomena exist from the</li> </ul>	<ul style="list-style-type: none"> <li>use models to explain phenomena using measurements as evidence</li> </ul>

QUESTIONS?

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# RESOURCES AND SUPPORTS

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# Tools for Teachers and Students

## AZ Grades 3–5 Item/Standard Specifications

Standard	<b>3.P2U1.1</b> <b>Ask questions and investigate</b> the relationship between light, objects, and the human eye
SEPs	<b>Asking Questions and Defining Problems</b>
CCs	Patterns, Cause and Effect, Scale, Proportion and Quantity; <b>Systems and System Models</b> ; Energy and Matter; <b>Structure and Function</b> ; Stability and Change
Clarifications	
Assessment Boundaries	
Stimulus Materials	Figures, Graphs, Tables
Item Types	MC, MR

Standard	<b>3.P2U1.2</b> <b>Plan and carry out an investigation</b> to explore how sound waves affect objects at varying distances.
SEPs	<b>Planning and Carrying Out Investigations</b>
CCs	Patterns, Cause and Effect, Scale, Proportion and Quantity; <b>Systems and System Models</b> ; Energy and Matter; <b>Structure and Function</b> ; Stability and Change
Clarifications	
Assessment Boundaries	The discussion at this grade level is qualitative only; it can be based on the fact that two different sounds can pass a location in different directions without getting mixed up.
Stimulus Materials	Figures, Graphs, Tables
Item Types	MC, MR, Inline Choice, Match - Table Grid

## STATE STANDARDS

- ALL SUBJECTS
- QUICK LINKS - FORMATIVE ASSESSMENTS RESOURCES

[HTTP://WWW.AZED.GOV/STANDARDS-PRACTICES/](http://www.azed.gov/standards-practices/)

## AZSCI ASSESSMENT RESOURCES TO SUPPORT INSTRUCTION

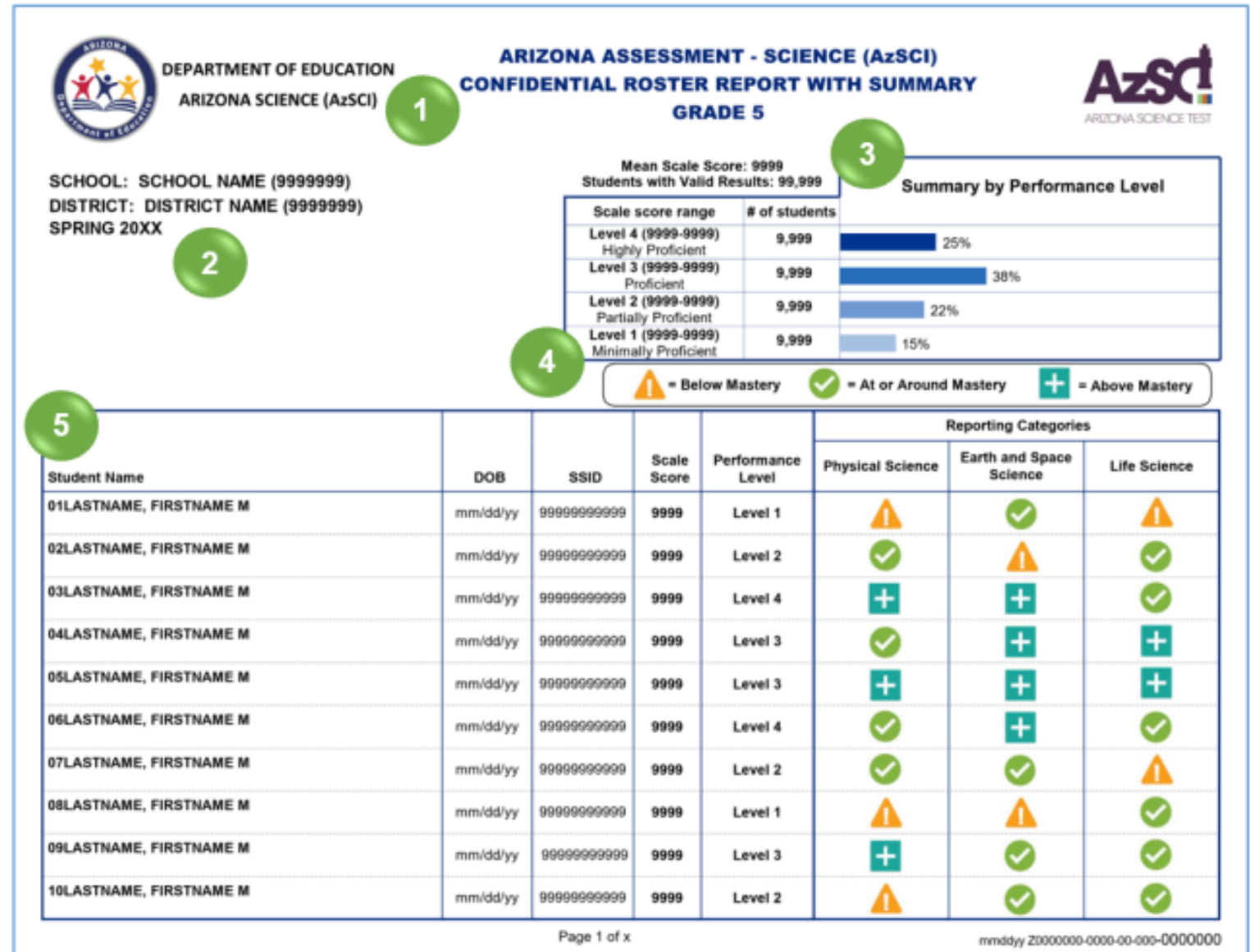
- ITEM SPECIFICATIONS
- ITEM TYPES
- SAMPLE TEST
- AZSCI SCORING GUIDES
- AZSCI EXHIBITS

[HTTPS://WWW.AZED.GOV/ASSESSMENT/SCI](https://www.azed.gov/assessment/sci)



# Tying it Together

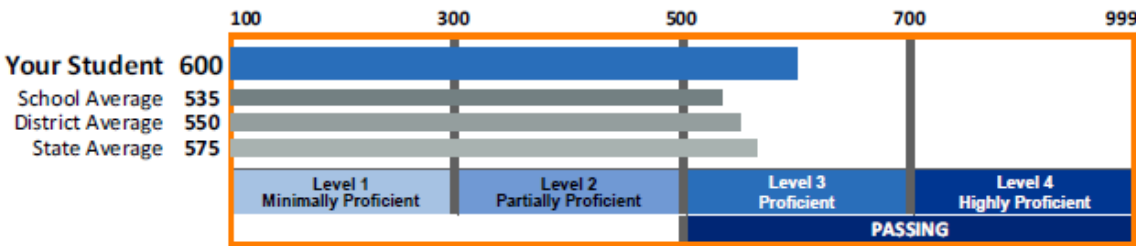
- Utilizing Data Reports to flag or bring attention to one of the reporting categories
- Examining existing lessons to ensure the lesson is targeting different levels
- Work with curriculum coaches



Roster Report with Summary allows an at-a-glance view of school and grade.

# FOR INDIVIDUAL STUDENTS

## FIRSTNAME's OVERALL RESULTS



**Performance Level Description:** A level 3 eighth grade student will effectively engage in multiple scientific practices as they gather information to ask questions and explain phenomena in the natural world. The student will develop models and explain patterns in data as evidence to support and communicate their understanding of earth's systems. A student will be able to use basic mathematical and computational thinking to analyze data and support arguments to identify patterns and cause and affect relationships in the natural world. The student will be able to identify criteria and constraints in an investigation in order to evaluate solutions.

FIRSTNAME M. LASTNAME  
Spring YYYY Grade: 8

**Legend: Reporting Categories**

- Below Mastery
- At/Near Mastery
- Above Mastery

Science and Engineering Practices and Crosscutting Concepts Reporting Categories		PERFORMANCE
Physical Science:	Students performing at this level show a good understanding of the three-dimensions in Physical Science content, including: <ul style="list-style-type: none"><li>All matter in the Universe is made of very small particles.</li><li>Objects can affect other objects at a distance.</li><li>Changing the movement of an object requires a net force to be acting on it.</li><li>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.</li></ul>	
Earth and Space Science:	Students performing at this level show a good understanding of the three-dimensions in Earth and Space Science content, including: <ul style="list-style-type: none"><li>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.</li><li>The Earth and our solar system are a very small part of one of many galaxies within the Universe.</li></ul>	
Life Science:	Students performing at this level likely need more support of the three-dimensions in Life Science content, including: <ul style="list-style-type: none"><li>Organisms are organized on a cellular basis and have a finite life span.</li><li>Organisms require a supply of energy and materials for which they often depend on, or compete with, other organisms.</li><li>Genetic information is passed down from one generation of organisms to another.</li><li>The unity and diversity of organisms, living and extinct, is the result of evolution.</li></ul>	

# WHERE TO FIND THESE RESOURCES

Home / Assessments / Welcome to Assessments

## Welcome to Assessments

The Assessment Section is responsible for statewide assessment of students enrolled in Arizona public schools. The section works closely with educators in the development and administration of our assessments. All Arizona public schools, including district schools and charter schools, are required to properly administer state and federally mandated assessments.

### Calendars for Statewide Testing

- [Assessments Overview 2022-2023](#) - 7-11-2022
- [Detailed Testing Calendar 2022-2023](#) - 7-21-2022

### 2022-2023 Statewide Assessments Infographics

- [AZELLA 2022-2023](#) - 8-15-2022
- [Alternate Assessments 2022-2023](#) - 8-15-2022

Accessibility

Assessments ▼

Assessments Conference ▼

District Test Coordinators ▼

**Educator Resources**

Parents and Students

Technical and Legal Resources

# AZSCI EDUCATOR RESOURCES

[Home](#) / [Assessments](#) / [Educator Resources](#)

## Educator Resources

### ▶ Educator Committees

#### AASA

- ▶ [AASA Testing Dates](#)
- ▶ [AASA Sample Test](#)
- ▶ [Grade 3 Oral Reading Fluency](#)
- ▶ [AASA Blueprints and Cut Scores](#)
- ▶ [AASA Item Specifications](#)
- ▶ [Performance Level Descriptors](#)
- ▶ [AASA Writing Resources](#)
- ▶ [AASA Additional ELA Resources](#)
- ▶ [AASA Additional Math Resources](#)

#### ACT Aspire

- ▶ [Testing Dates](#)
- ▶ [Resources](#)

#### AzSCI

- ▶ [AzSCI Testing Dates](#)
- ▶ [AzSCI Sample Test](#)
- ▶ [Blueprints and Item Specifications](#)
- ▶ [AzSCI Performance Level Descriptors](#)
- ▶ [AzSCI Cut Scores](#)
- ▶ [AzSCI Exhibits](#)
- ▶ [Additional Resources](#)

#### ACT

- ▶ [Testing Dates](#)
- ▶ [Resources](#)
- ▶ [ACT Cut Scores](#)

[Accessibility](#)

[Assessments](#) ▼

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[District Test Coordinators](#) ▼

[Educator Resources](#)

[Parents and Students](#)

[Technical and Legal Resources](#)

### Contact

**Testing Inbox**

(602) 542-5031

[testing@azed.gov](mailto:testing@azed.gov)

**AASA Inbox**

[AASA@azed.gov](mailto:AASA@azed.gov)

**AZELLA Inbox**

[azella@azed.gov](mailto:azella@azed.gov)

**AzSCI Inbox**

[AzSCI@azed.gov](mailto:AzSCI@azed.gov)

**Alternate Assessment Inbox**

[AssessingSWDs@azed.gov](mailto:AssessingSWDs@azed.gov)

<https://www.azed.gov/assessment/resources>

QUESTIONS?

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# SAMPLE TESTS AND SCORING GUIDES

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# AZSCI SAMPLE TEST

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## **Purpose:**

- To help students, teachers, and parents become familiar with the content, item types, and the tools in online test administration.
- Help students become comfortable with TestNav and reduce any anxiety they might have while taking a high-stakes test online.

## **What is it not used for?**

- They DO NOT include an item for each of the aligned Arizona Academic Standards and DO NOT provide scores for students.
- They should NOT be used to evaluate a student's proficiency level.

## **When?**

- Students should take the TestNav Tutorial and Sample Test prior to taking the Spring 2023 AzSCI tests.

# AZSCI SAMPLE TEST

- ✓ AZSCI SAMPLE TESTS
- ✓ TUTORIALS
- ✓ SCORING GUIDES

The items included in the AzSCI Sample Test Scoring Guides provide details about the items and item types, student response types, correct responses, and related scoring considerations for items.

- Static presentation of student response field (when appropriate)
- Answer key or scoring rubric

<https://www.azed.gov/assessment/aasa>

## ▼ AzSCI Sample Tests

[AzSCI Sample Tests and Tutorial](#)

**Directions:** Select *Arizona*, then click on "Mic Check and Sample Tests"

- Scoring Guides
  - [AzSCI Scoring Guide\\_Grade 5](#) - *Updated 10/24/22*
  - [AzSCI Scoring Guide\\_Grade 8](#) - *Updated 10/28/22*
  - [AzSCI Scoring Guide\\_Grade\\_11](#) - *Updated 10/25/22*



# Scoring Guides

Item Number	3
Item Title	The Red Car
Domain ( <i>Reporting Category</i> )	Physical Science
Science and Engineering Practices (SEP) Group ( <i>Reporting Category</i> )	Sensemaking
Content Standard	3.P4U1.3
SEP	Developing and Using Models
Crosscutting Concepts (CC)	Patterns
Phenomenon	A student sees a red car in a parking lot on a sunny 80-degree day. When the student touches the hood of the car it is hot.
TAGS	S2
Item Type	Bar Graph

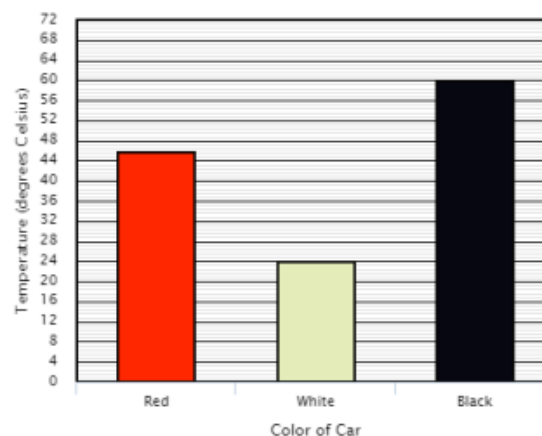
Item Details

The student puts a thermometer on the hood of each car to measure the amount of energy each hood is receiving from the sun.

The student records the temperatures 24°C, 46°C, and 60°C.

Use the bar graph to show the amount of energy each car hood is receiving from the sun. Drag the top of each bar to the correct height.

**Hood Temperatures**



Response

Score	Scoring Rubric
1	Student places bar height (from left to right) 46, 24, and 60
0	The response is incorrect or irrelevant.

Scoring

# HOW TO GET INTO THE SAMPLE TESTS



TestNav  
**Arizona**

Username

Password



Sign In

 Test Audio  
 Mic Check & Sample Tests

## Arizona Online Sample Tests and Assessment Tutorials

AASA TestNav Sample Tests

AzSCI TestNav Sample Tests

AzSCI TestNav8 Tutorial

AZELLA - Microphone Check

AZELLA - Sample Tests

AZELLA SAFT Practice Test

AZELLA TestNav8 Tutorial

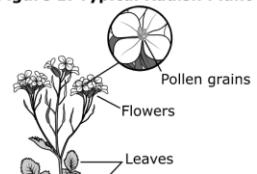
# TESTNAV TOOLS (WHAT AND HOW STUDENTS SEE THEM)

Figure 1: Typical Radish Plant and Table 1: Flower Color Percentages

Table 2: Honeybee Preferences

Radish plants (*Raphanus sativus*) have flowers. Figure 1: Typical Radish Plant shows what these flowers look like.

**Figure 1: Typical Radish Plant**



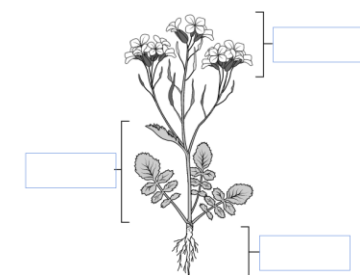
Pollen grains

Flowers

Leaves

Match each function of the radish plant to the plant structure that helps the radish plant population survive.

Move the answers to the correct boxes.



TestNav User

Previous MADE 05 SAMPLE TEST / SECTION 1 / 1 OF 17

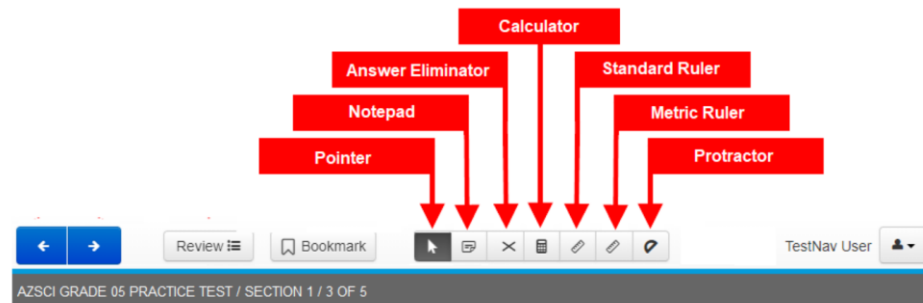
Review Bookmark

# AZSCI TEST TOOLBAR



## Toolbar Tools

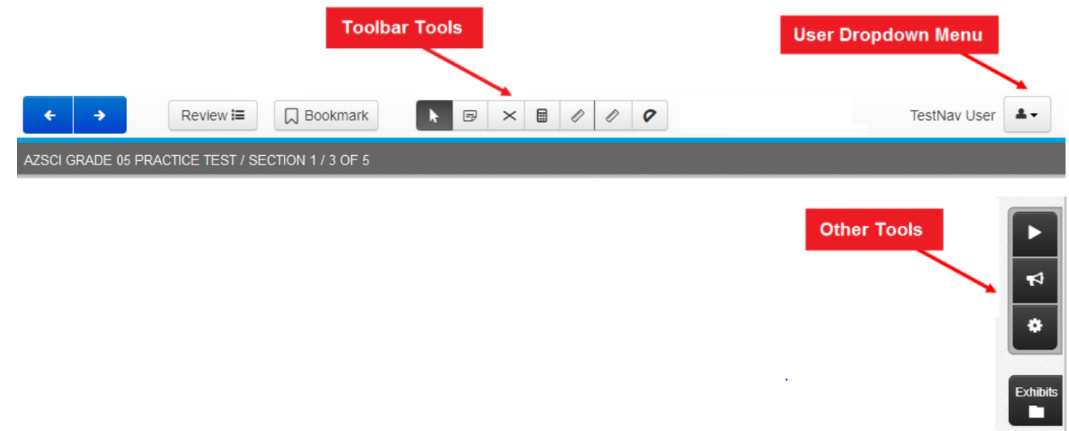
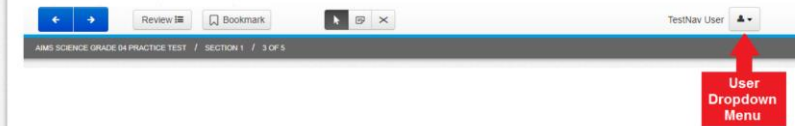
This picture shows the tools you can select from the toolbar.



## Using Tools in the Test

Some tools are selected from the **User Dropdown Menu**. Click on the **User Dropdown Menu** button to see which tools are available for the screen that you are on. Some tools are not needed for certain screens in the test.

Click on the **User Dropdown Menu** button to see the menu.





# Arizona Science Reference Sheet

## PERIODIC TABLE OF ELEMENTS

Period	1	<div>Key</div> <div><div><div></div>Metals</div><div><div></div>Metalloids</div><div><div></div>Non-metals</div></div> <div><div>6</div><div>C</div><div>12</div><div>Atomic Number</div><div>Symbol</div><div>Atomic Mass</div></div>																Group 18
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# Exhibits

# Grade 8: Periodic Table of Elements

# Grade 11: Periodic Table and Formula Reference Guide



## AzSCI Formula Reference Guide

Equation

$$\vec{v} = \lambda f$$

$$\vec{v} = \frac{\Delta \vec{x}}{\Delta t}$$

$$\vec{a} = \frac{\Delta \vec{v}}{\Delta t} = \frac{\vec{v}_f - \vec{v}_i}{\Delta t}$$

$$\vec{F}_{Net} = \vec{F}_1 + \vec{F}_2 + \vec{F}_3 + \dots$$

$$\vec{F}_{Net} = m\vec{a}$$

$$\vec{F}_{Net} = \frac{m\vec{v}^2}{r}$$

$$\vec{F}_g = m\vec{g}$$

$$\vec{F}_g = \frac{Gm_1m_2}{r^2}$$

$$\vec{E} = \frac{Kq_1q_2}{r^2}$$

$$\vec{F} = -k\Delta\vec{r}$$

$$\vec{p} = m\vec{v}$$

$$\Delta \vec{p} = \vec{F} \Delta t$$

$$\vec{F}\Delta t = m\Delta\vec{v} = m\vec{v}_f - m\vec{v}_i$$

$$E_{tot} = E_1 + E_2 + E_3 + \dots$$

$$PE_g = mgh$$

$$KE = \frac{1}{2} m \vec{v}^2$$

$$PE_E = \frac{1}{2}k\Delta\vec{x}^2$$

$$\Delta E = W = \bar{F} \Delta \vec{x}$$

$$P = \frac{\Delta E}{\Delta t}$$

### Constants

$$c = \text{Speed of light} = 3.00 \times 10^8 \frac{m}{s}$$

$$g_{Earth} = 9.8 \frac{m}{s^2}$$

Symbol	Meaning	Unit of Measurement
$\bar{v}$	Average velocity	$\frac{m}{s}$
$\Delta \bar{v}$	Change in velocity	$\frac{m}{s}$
$\bar{v}_i$	Initial velocity	$\frac{m}{s}$
$\bar{v}_f$	Final velocity	$\frac{m}{s}$
$\lambda$	Wavelength	$m$
$f$	Frequency	$Hz$ or $\frac{1}{s}$
$\Delta \vec{x}$	Horizontal displacement	$m$
$\Delta t$	Change in time	$s$
$\vec{a}$	Acceleration	$\frac{m}{s^2}$
$\vec{F}_{Net}$	Net force	$N$ or $\frac{kg \cdot m}{s^2}$
$\vec{F}_g$	Gravitational force	$N$ or $\frac{kg \cdot m}{s^2}$
$\vec{F}_e$	Electric force	$N$ or $\frac{kg \cdot m}{s^2}$
$\vec{F}_{sp}$	Force applied by a spring	$N$ or $\frac{kg \cdot m}{s^2}$
$m$	mass	$kg$
$r$	Distance between two objects	$m$
$\vec{g}$	Acceleration due to gravity	$\frac{m}{s^2}$
$h$	Height	$m$
$q$	Charge	$C$
$k$	Spring constant	$\frac{N}{m}$ or $\frac{kg}{s^2}$
$K$	Coulombs constant	$\frac{N \cdot m^2}{C^2}$
$\vec{p}$	Momentum	$kg \cdot \frac{m}{s}$ or $N \cdot s$
$E_{tot}$	Total energy	$J$
$PE_g$	Gravitational potential energy	$J$
$PE_E$	Elastic potential energy	$J$

# QUESTIONS?

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# EDUCATOR COMMITTEES

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## ASSESSMENT COMMITTEE

We are inviting content area teachers, teachers of students with disabilities, teachers of EL students, and instructional coaches/administrators to provide their perspective on the items and standards set on Arizona's statewide assessments. If you are interested in serving on an Assessment Educator Committee, please complete our Committee Application found at:

<https://www.azed.gov/assessment/assessment-educator-committee-application>





# Educator Committees

## EDUCATOR REVIEW COMMITTEE:

- A committee of Arizona Teachers review items for content, grade-level appropriateness, and bias. All approved items are moved forward to field testing.

## DATA REVIEW COMMITTEE:

- A committee of Arizona Teachers review Field test items data to ensure they perform appropriately.

We are also looking for Community Members (i.e., parents, grandparents, retired educators, businesses) for the Community Review Committees

Share this with your teachers  
Help us recruit teachers for these committees!



QUESTIONS?

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# THANK YOU!

For questions, please contact us at:

AzSCI@azed.gov



**AzSci**  
ARIZONA SCIENCE TEST