

# State of Science – District Planning Tool

|                       |                         |
|-----------------------|-------------------------|
| <b>DISTRICT NAME</b>  | <b>SCHOOL/SITE NAME</b> |
| <b>DATE COMPLETED</b> | <b>TEAM MEMBERS</b>     |

## Purpose of Tool

This document outlines indicators for successful science teaching and learning. **The State of Science tool is intended to guide districts in reflecting on their support systems, classroom practices, and teacher development.** By reviewing the current State of Science program implementation against the criteria below, districts can identify areas of strength and weakness to help develop targeted improvement strategies. This tool is designed to support your district, school, and educators in setting goals and prioritizing needs. This tool is not intended to be punitive in nature, but rather a conversation tool for identifying areas of strengths and opportunities for growth.

## How to Use this Tool

**Sections:** The document has **four sections** with specific indicators/criteria.

- **Sections 1 and 2** are to be completed by **district leadership**.
- **Sections 3 and 4** are to be completed by **individual schools/sites**.
- The final page includes an 'Aspirations for Extended Programming' section with extra indicators of successful science implementation and a place to formulate goals.

**Current Status:** Use the provided current status to rate each criterion as Established, Developing, or Pending.

**Analysis:** Use results to identify strengths and areas for improvement, guiding goal development and strategy enhancement.

| Current Status                            | CRITERIA   |
|---|--|
| <b>Established/<br/>Fully in Place</b>    | <p><b>Description:</b> The implementation is complete and fully operational. Initiatives have been executed, and the system or process functions as intended.</p> <p><b>Indicators:</b></p> <ul style="list-style-type: none"> <li>- Comprehensive plan and execution.</li> <li>- Full resource allocation and utilization.</li> <li>- High level of stakeholder engagement and training.</li> </ul>   |
| <b>Developing/<br/>Partially In Place</b> | <p><b>Description:</b> Some aspects of the implementation have begun but still need to be completed. There may be initial steps taken, but significant work remains.</p> <p><b>Indicators:</b></p> <ul style="list-style-type: none"> <li>- Initial phases of implementation are underway.</li> <li>- Initial planning and resource allocation.</li> <li>- Some stakeholder engagement and training.</li> </ul>  |
| <b>Pending/<br/>Does not apply</b>        | <p><b>Description:</b> At this level, the implementation has yet to start. There may be awareness of the need for implementation, but concrete steps still need to be taken.</p> <p><b>Indicators:</b></p> <ul style="list-style-type: none"> <li>- Planning or strategy has yet to be developed.</li> <li>- Resources have yet to be allocated.</li> <li>- Stakeholders have yet to be engaged.</li> <li>- The district has yet to address this item.</li> <li>- The district is not currently moving forward with this.</li> </ul> |

*\*This document was a collaborative effort created by district science leaders in Arizona. The document outlines key indicators as recommendations for successful teaching and learning in science.*

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| SECTION 1: District Implementation and Leadership   |  |                                |
|---|--|--------------------------------|
| INDICATORS/CRITERIA   | CURRENT STATUS   | COMMENTS & SUPPORTING EVIDENCE |
| <b>1A: VISION AND MISSION</b>   |  |                                |
| <ul style="list-style-type: none"> <li>- The district has a shared vision and goals for three-dimensional science instruction.</li> <li>- The shared vision and goals have been communicated with community stakeholders.</li> </ul>  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>1B: DATA ANALYSIS</b>  |  |                                |
| <ul style="list-style-type: none"> <li>- Schools are held accountable for science performance, and science is part of the district accountability framework.</li> <li>- The district produces sufficient information that can be used together to provide stakeholders with a complete and actionable view of student, classroom, and school progress in science achievement.</li> <li>- Common assessment scores are disaggregated by subgroup.</li> </ul> | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>1C: LEADERSHIP SCIENCE PROFESSIONAL DEVELOPMENT</b>  |  |                                |
| <ul style="list-style-type: none"> <li>- A high-quality professional learning system about practical science instructional practices and three-dimensional teaching and learning is created specifically for school leaders who consistently participate in these opportunities.</li> </ul>   | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>1D: TEACHER RECRUITMENT AND RETENTION</b>  |  |                                |
| <ul style="list-style-type: none"> <li>- There are strategies and practices to recruit, hire, and retain highly qualified, appropriately certified, experienced science teachers.</li> </ul>  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>1E: SAFETY</b>   |  |                                |
| <ul style="list-style-type: none"> <li>- The district has an appropriate chemical hygiene plan, student science safety contracts, and dedicated science safety training, equipment, and support.</li> </ul>   | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>1F: SCIENCE LEADERSHIP</b>   |  |                                |
| <ul style="list-style-type: none"> <li>- There is a dedicated district science leader to support science curriculum and instruction (Coordinator, Coach, TOA, etc.).</li> <li>- There are site-specific instructional specialists or science-supportive roles at the site level.</li> <li>- Science leaders collaborate with other science leaders across the county/state.</li> </ul>  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>1G: COMMUNITY PARTNERSHIPS</b>   |  |                                |
| <ul style="list-style-type: none"> <li>- Science-related community partnerships are established and supported at the district level.</li> <li>- The district engages students with phenomena and facilitates their curiosity about real-world, local community problems.</li> <li>- There are partnerships to support professional learning opportunities.</li> </ul>   | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |

# State of Science – District Planning Tool

| SECTION 2: Planning  |   |                                |
|--|---|--------------------------------|
| INDICATORS/CRITERIA  | CURRENT STATUS  | COMMENTS & SUPPORTING EVIDENCE |
| <b>2A: ADOPTED CURRICULA</b>   |   |                                |
| - Every grade/course has Arizona Science Standards-aligned, three-dimensional, adopted curricula resources.  | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>2B: PHENOMENA and 3-DIMENSIONAL LEARNING</b>  |   |                                |
| <ul style="list-style-type: none"> <li>- Phenomena are utilized throughout science instruction.</li> <li>- Students generate questions about the phenomenon, which drives the inquiry and investigations.</li> <li>- Three-dimensional learning and instructional practices are the foundation of science instruction.</li> </ul>  | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>2C: COURSE SEQUENCING</b>   |   |                                |
| <p><b>K-5, 6-8</b></p> <ul style="list-style-type: none"> <li>- Students can access instructional materials and science classes that meet Arizona grade-level standards.</li> </ul> <p><b>9-12</b></p> <ul style="list-style-type: none"> <li>- Secondary course offerings align with graduation requirements.</li> <li>- Secondary course offerings position students to meet admission requirements to four-year universities.</li> <li>- High school science course pathways ensure students receive instruction on all 28 AZ High School Essential Standards.</li> </ul> | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>2D: CURRICULUM MAPS AND PACING GUIDES</b>   |   |                                |
| - There are curriculum maps and pacing guides for each grade/course.   | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>2E: FUNDING</b>   |   |                                |
| - Funding sources are dedicated to supporting both consumable and non-consumable science materials.  | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>2F: DEDICATED SPACE</b>   |   |                                |
| <ul style="list-style-type: none"> <li>- Schools have appropriate classroom or lab space to effectively and safely conduct investigations.</li> <li>- The district and/or sites have dedicated space to safely and effectively store science materials.</li> <li>- Sites and classrooms have dedicated space to display science content and student science work.</li> </ul>   | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>2G: COMMON ASSESSMENTS</b>  |   |                                |
| <ul style="list-style-type: none"> <li>- There are formative and summative classroom assessments in all science courses.</li> <li>- Common district assessments are delivered to all students enrolled in science courses.</li> </ul>  | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |

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## SECTION 3: School Implementation and Family Engagement

| INDICATORS/CRITERIA   | CURRENT STATUS   | COMMENTS & SUPPORTING EVIDENCE |
|---|--|--------------------------------|
| <b>3A: DEDICATED SCIENCE INSTRUCTION TIME</b>   |  |                                |
| <p><b>K-5</b></p> <ul style="list-style-type: none"> <li>- Science appears on the school's master schedule with the state-recommended minutes.</li> <li>- Students have science experiences and/or investigations every day.</li> <li>- Students are being taught science every year, beginning in kindergarten.</li> </ul> <p><b>6-8, 9-12</b></p> <ul style="list-style-type: none"> <li>- Science instruction is departmentalized in middle school classrooms.</li> <li>- Science appears on the school's master schedule with the state-recommended minutes.</li> </ul> | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>3B: ACCESS TO SCIENCE INSTRUCTION</b>  |  |                                |
| <ul style="list-style-type: none"> <li>- All students have equal access to science instruction.</li> <li>- All subgroups of students receive dedicated science instruction daily (SpED, EL, Gifted, etc.).</li> <li>- There is a culture of collaboration between general education teachers and specialized instruction teachers to support science achievement.</li> </ul>  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>3C: WALKTHROUGHS and EVALUATIONS</b>   |  |                                |
| <ul style="list-style-type: none"> <li>- Evaluators at the school are confident with three-dimensional science teaching and learning.</li> <li>- Walkthroughs occur during science instruction.</li> <li>- Teachers are formally evaluated during their science instruction.</li> <li>- Science-specific walk-through rubrics/documents are used to give feedback to teachers on their science instruction.</li> </ul>  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>3D: FIELD TRIPS AND EXPERIENCES</b>  |  |                                |
| <ul style="list-style-type: none"> <li>- Students in various grades take science standards-related field trips.</li> <li>- There are guest speakers or on-site events that engage students in science careers and activities.</li> </ul>  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>3E: SCHOOL EVENTS</b>  |  |                                |
| <ul style="list-style-type: none"> <li>- There are school/community events that highlight science instruction.</li> </ul>   | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>3F: AFTER-SCHOOL PROGRAMS</b>  |  |                                |
| <ul style="list-style-type: none"> <li>- The school has after-school programming that extends science learning beyond the school day.</li> </ul>  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>3G: FAMILY ENGAGEMENT</b>  |  |                                |
| <ul style="list-style-type: none"> <li>- Families are engaged with science instruction.</li> <li>- Teachers frequently communicate the goals/learning targets to families.</li> </ul>   | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |

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| SECTION 4: Instruction and Learning  |   |                                |
|--|---|--------------------------------|
| INDICATORS/CRITERIA  | CURRENT STATUS  | COMMENTS & SUPPORTING EVIDENCE |
| <b>4A: SCIENCE UNITS OF STUDY</b>  |   |                                |
| <ul style="list-style-type: none"> <li>- Students move through a unit of study that follows a coherent instructional sequence where each learning opportunity builds on the previous one.</li> <li>- Students are presented with phenomena or observable events that occur in nature (science) or designed systems (engineering), and they have to figure out how to scientifically explain and/or develop solutions to solve problems.</li> </ul> | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>4B: THREE DIMENSIONS OF SCIENCE LEARNING</b>  |   |                                |
| <ul style="list-style-type: none"> <li>- Students use the eight Science and Engineering Practices (SEPs).</li> <li>- Students use the seven Crosscutting Concepts (CCCs).</li> <li>- Students use the ten Core Ideas of Knowing and three Core Ideas of Using Science (CIs).</li> </ul>  | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>4C: MAKING STUDENT THINKING VISIBLE</b>   |   |                                |
| <ul style="list-style-type: none"> <li>- Students have many ways to show their learning (i.e. notebooks, gallery walks, posters, models, scientist circles, etc.).</li> <li>- Students share and revise their science ideas through representations using words and visuals.</li> </ul>  | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>4D: STUDENT DISCOURSE</b>   |   |                                |
| <ul style="list-style-type: none"> <li>- Students talk about science, sharing ideas, predictions, and explanations with each other and the teacher.</li> <li>- Strategies are used to elicit ideas from all students, such as talk protocols to provide structure and routines.</li> </ul>   | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>4E: CLASSROOM ASSESSMENTS</b>   |   |                                |
| <ul style="list-style-type: none"> <li>- Students engage in three-dimensional or two-dimensional assessments.</li> <li>- Assessments match state and local standards and are used appropriately to plan instruction and evaluate understanding.</li> <li>- Assessments are designed and used to monitor student progress toward proficiency in the Arizona Science Standards.</li> </ul>   | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>4F: TEACHER PROFESSIONAL GROWTH</b>   |   |                                |
| <ul style="list-style-type: none"> <li>- Teachers have access to science-specific professional development during contract time.</li> <li>- Teachers can access professional development from outside resources.</li> <li>- Teachers have a voice in science professional development.</li> </ul>  | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |
| <b>4G: TEACHER PROFESSIONAL COLLABORATION</b>  |   |                                |
| <ul style="list-style-type: none"> <li>- Teachers have the opportunity to collaborate about science with other teachers (at their site, with other schools, etc.).</li> <li>- Teachers have (and use) the opportunity to observe other teachers teaching science.</li> </ul>   | <input type="checkbox"/> Established<br><input type="checkbox"/> Developing<br><input type="checkbox"/> Pending |                                |

# State of Science – District Planning Tool

## Aspirations for Extended Programming

| INDICATORS/CRITERIA   | CURRENT STATUS   | COMMENTS & SUPPORTING EVIDENCE |
|---|--|--------------------------------|
| <b>CONTENT INTEGRATION</b>  |  |                                |
| - There is a coordinated placement of science standards and skills into other courses.  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>EVENTS, CAREERS, AND AT-HOME OPPORTUNITIES</b>   |  |                                |
| - There are opportunities for students to demonstrate their understanding and passion for science through events (e.g., competitions, community collaboration, science fairs, capstone projects, etc.). | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| - There are opportunities for career-connected learning.  | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| - There are opportunities for families to extend science learning through at-home activities.   | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |
| <b>TEACHER COLLABORATION</b>  |  |                                |
| - There are opportunities for teachers to collaborate with colleagues outside their district.   | <input type="checkbox"/> <b>Established</b><br><input type="checkbox"/> <b>Developing</b><br><input type="checkbox"/> <b>Pending</b> |                                |

Upon completion of this document, please outline your strategic priorities for the next phase.

- What are your key priorities for future progress?
- How will you leverage this document to achieve your objectives?
- What are your next steps for success?

## Goal Setting

### IDENTIFY DISTRICT AND/OR SITE-BASED GOALS

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