



## ARIZONA PROFESSIONAL SKILLS

### **STANDARD 3: THINKING AND INNOVATION**

The Workplace Professional Skills should be used in tandem with the technical standards. The Core Actions are descriptions of the Measurement Criteria. High School students should strive to meet the Level One-Novice descriptions. Level Two through Level Four offer teachers and students the accomplishments to be obtained beyond the Novice level. The aim of this standard is to enable the individual to integrate expertise in technical knowledge and skills with thinking and reasoning strategies to create, innovate, and devise solutions.

Measurement Criteria	Core Actions	Level One Novice	Level Two Approaching Proficiency	Level Three Proficient	Level Four Expert/Leader
1.0 Defines a problem in the workplace	1.1 Describes	Recognizes a problem while it occurs	Provides a general description of the problem	Articulates the problem or opportunity with specificity, taking all factors into account	Persuades others that problem is described accurately
	1.2 Diagnoses	Detects non-routine incidents or situations	Explores potential causes of incident or situation, e.g., runs tests to collect more data, reviews operational manuals	Analyzes evidence to determine cause of incident or situation, e.g., connects similar situations to issue, recognizes anomalies in the data	Intuits (expert deduction) cause of incident or situation, e.g., diagnoses problem when system says it is fine; does not rely on automation
	1.3 Uses resources to define a problem	Uses available technology, tools, and approaches to collect data	Searches for new technology, tools, and approaches to collect and process data	Applies new technology, tools, and approaches with conventional wisdom synthesized from multiple resources to define a workplace problem	Creates new technology, tools, approaches to collect and synthesize data
2.0 Practices inquiry and reflection (I/R) to take action in the workplace	2.1 Maintains attitude of openness	Expresses curiosity about the entire work environment, e.g., asks questions about workplace practices, the field/industry, and the work at hand	Seeks multiple viewpoints for processing one's work, e.g., learns from novices as well as experts, reads industry articles, asks for explanation of opposing opinions	Requests constructive criticism of one's work, i.e., accepts challenges to one's own understanding, knowledge; considers improvements for next iteration of a project or product	Interacts with others to improve workplace I/R practices and procedures

	2.2 Explores for deeper understanding	Inquires into specific aspects of workplace practices, the field/industry, and the work at hand	Seeks rationale behind workplace practices and policies, i.e., the reason things are done in one way rather than another	Adjusts work behaviors to demonstrate deeper understanding of workplace practices and policies	Evaluates workplace practices in light of impact on the organization, e.g., relates to policies and procedures
	2.3 Uses resources for I/R	Identifies resources for I/R, e.g., industry events and organizations (trade shows, roundtable discussions, sensitivity training); industry-related articles; industry technology trends	Selects resources for I/R, e.g., seeks continuing education opportunities; reads divergent & unrelated materials (to one's field) to make intellectual connections	Integrates resources into ongoing I/R practices, e.g. relates new learning to workplace events and current work; incorporates informal learning into job, such as coffee breaks, lunch	Ensures I/R resources are available to others in the workplace, e.g., reports, newsletters, workshops
	2.4 Evaluates self	Describes activities performed to meet job expectations, e.g., states what was done to meet timelines	Conducts self-assessment, e.g., gathers input on work performance from supervisor and customers; identifies gaps in personal skills	Implements a self-improvement plan	Incorporates practices for continuous improvement
3.0 Takes action supported by evidence and reasoning to explain conclusions and accomplish work	3.1 Composes a plan	Clarifies the problem or opportunity that requires a course of action	Proposes possible courses of action to address the problem or opportunity, taking into account existing solutions	Selects a course of action after assessing potential alternatives	Establishes a process for planning in the workplace, e.g., template, procedure, process map
	3.2 Constructs a model (visual, symbolic, or linguistic)	Identifies factors/patterns related to the problem or opportunity in the work environment, e.g., a chef is missing one ingredient but has extra of another; a retail sales person is overwhelmed with customers and needs a quick solution; an auto tech's diagnostic	Provides a model (visual, symbolic, or linguistic representation) of the key factors/patterns in the problem or opportunity, e.g., creates a diagram, flow chart, map, software program, outlines a recipe, SWAT team diagrams a situation	Uses the model to propose solutions to the problem or opportunity, e.g., changing the recipe, developing a new software, adjusting pattern of workflow	Transfers model to other applications in the workplace

		equipment is not working			
	3.3 Makes decisions	Responds only to information in the immediate environment when taking action, i.e., takes the problem or opportunity at face value	Considers multiple sources of information before taking action, e.g., reviews company policies, consults resources on hand, calculates time-on-task required, compares similar problems /opportunities	Acts in a timely manner after evaluating sufficiency and relevance of information and potential consequences	Evaluates consequences of decision on the organization, e.g., checks against policies and procedures
	3.4 Uses tools strategically	Uses tools designated for workplace tasks	Develops knowledge of the strengths and weaknesses of various approaches, tools, and strategies for analyzing problems and opportunities in the workplace, e.g., divergent/convergent thinking exercises, computational modeling, visual mapping	Matches approaches, tools, and strategies to workplace problems and opportunities to optimize productivity	Creates tools, approaches, and strategies to accomplish work
	3.5 Argues a case	Documents data, patterns, and research needed to support an argument	Analyzes information and context to construct an argument	Makes a well-reasoned case: drawing upon evidence, knowledge of patterns, research, understanding of audience, and connections made to prior experience, e.g., report, presentation	Anticipates challenges to an argument
4.0 Transfers knowledge and skills from one work situation to another	4.1 Builds capacity to transfer skills	Recognizes skills and knowledge required in a new work situation	Compares repertoire of skills and knowledge used in current work situation to the requirements of a new work situation	Applies skills and knowledge to a new work situation	Analyzes commonalities (patterns) in skills required for different work situation
5.0 Creates/innovates to improve workplace productivity	5.1 Builds capacity to create/innovate	Selects familiar approaches to address workplace challenges	Proposes multiple approaches to address workplace challenges, e.g., uses a variety of creative processes	Generates alternative solutions and ideas to address workplace challenges, e.g. looks	Builds a culture for innovation in the workplace

				past established boundaries/patterns	
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