

Problem Solving Process and TEKS Process Standards



Action	TEKS Process Standard	Puzzle Talks & Extensions	Facilitation Questions
Notice & Wonder	<p>1.A: Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>1.B: Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p>	<p>Focus thinking on what is important, make connections to prior knowledge. Pause & take notice of the information given, make sense of the problem, identify the question, & connect to previous knowledge.</p>	<ul style="list-style-type: none"> • What do you notice? • What do you wonder? • What question is the problem asking?
Predict & Justify	<p>1.B: Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>1.C: Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>1.G: Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p>	<p>Uncover students' thinking around how they plan to address the problem; where they will enter the problem; name the strategy; what they think will happen and why; and what a reasonable solution should look like.</p>	<ul style="list-style-type: none"> • What is your strategy? • What do you think will happen when you try it? • How can you model your thinking using a math tool or mat?
Test & Observe	<p>1.D: Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.</p>	<p>Engage in thinking & processing the results of employing the strategy to gain understanding before analyzing.</p>	<ul style="list-style-type: none"> • Try your strategy. • Describe what happened.
Analyze & Learn	<p>1.E: Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>1.F: Analyze mathematical relationships to connect and communicate mathematical ideas.</p>	<p>Facilitate thinking around evaluating strategy, analyzing feedback/results & revising understanding. Examine thinking, reinforce strategies, or examine errors & learning from mistakes.</p>	<ul style="list-style-type: none"> • What did you learn? • How will you use what you learned?
Connect & Extend	<p>1.F: Analyze mathematical relationships to connect and communicate mathematical ideas.</p>	<p>Stretch thinking & make connections with what was learned to existing schemas. Deepen understanding of the concept & apply learning to novel situations</p>	<ul style="list-style-type: none"> • How does what you learned support/challenge your understanding of (the concept)? • What would happen if...? • How would you apply this concept to (this) situation?

*All the standards are inherent in this process depending on the problem that you are solving. The standards listed here are provided as an example.