



Engage in Grade-Level Content: Core Instructional Actions

<h2>Sense-Making and Problem-Solving</h2> <p>Teachers implement tasks to promote sense-making, reasoning, and problem-solving through productive struggle.</p> <p>Teachers ask students to explain their thinking beyond just sharing the answers so <i>students develop sense-making skills, independently monitor and adjust ways of thinking, and solve problems with flexibility.</i></p>	<h2>Model with Mathematics</h2> <p>Teachers make the mathematics of the lesson explicit through the use of explanations, representations, tasks, and/or examples so <i>students solve mathematical problems by choosing strategies, representations, and algorithms with flexibility.</i></p> <p><i>*In grades K-2 prioritize Modeling with Mathematics as the instructional core action.</i></p>	<h2>Discourse</h2> <p>Teachers create the conditions for student conversations where students are encouraged to talk about each other's thinking so <i>they communicate precisely, construct viable arguments, and critique the reasoning of others using clear definitions, proper symbols, and notations. They develop growth mindsets that appreciate the diversity of thoughts instead of seeing math as a competition.</i></p>
<p>Promote Problem- Solving Skills</p> <ul style="list-style-type: none"> • Provide opportunities to solve tasks with familiar and unfamiliar contexts and multiple entry points and solutions. • Model/Encourage multiple strategies to solve problems and use worked problems. • Model using think-aloud • Use tools such as diagrams, sketches, technology, and hands-on materials to support learning math concepts. • Pose questions and problems that prompt students to explain their thinking about the content of the lesson (list of questions). <p>Promote independent and small group work:</p> <ul style="list-style-type: none"> • Implement structures like independent think time and work with a partner or small groups to explore the tasks. <p>Content and Language Development</p> <ul style="list-style-type: none"> • Focus on the context or language of each task and activate students' prior mathematical vocabulary using routines such as Three Reads and Compare and Connect 	<p>Mathematical Models, Representations and Tools:</p> <ul style="list-style-type: none"> • Use developmentally appropriate mathematical models to represent quantities in multiple ways such as diagrams, tables, graphs, and equations. • Use manipulatives and grade/concept-appropriate representations, along with strategies such as Concrete-Representational-Abstract (more click here) • Create opportunities to connect different representations and explain them verbally and in writing the connections. <p>Multiple Approaches:</p> <ul style="list-style-type: none"> • Have students compare, and contrast different mathematical approaches and representations using a routine such as routine Compare and Connect • Invite students to display their work and give and receive feedback using a routine such as Gallery Walk • Use Number Talk (K-6) and Algebra Talk (6-12) often during the week to build conceptual meaning around numbers. • Encourage students to visualize problem-solving, calculate, use, and be flexible in mathematics while revising their work. <p>Appropriate Scaffolds for Learning:</p> <ul style="list-style-type: none"> • Instruction includes front-, distributed and back- end scaffolds to support accessing and deeper understanding of grade-level mathematical concepts. Below are some strategies: <ul style="list-style-type: none"> ◦ Graphic Organizers (templates) ◦ Model using think-aloud 	<p>Learning Environments:</p> <ul style="list-style-type: none"> • Create safe and supporting environments where respectful communication and diversity of thought are appreciated. <p>Protocols to Promote Equity</p> <ul style="list-style-type: none"> • Engage students in discussions, where every student contributes using routines such as Stronger and Clearer Each Time, Discussion supports, Think-Write-Pair-Share, and other Protocols for Equity <p>Promote Mathematical Discourse:</p> <ul style="list-style-type: none"> • Provide sentence frames and sentence starters to support student talk. • Support discussions by using productive talk moves. • Ask probing questions to encourage students to explain and defend their thinking. • Provide prompts that encourage students to think critically about the math they are solving. • Students work in pairs or small groups and synthesize the learning together.

