

When accomplished STEM teachers **choose tasks and activity structures to position all students as competent scientific/mathematical thinkers**, they may do one or more of the following:

<input type="checkbox"/> Create and maintain a classroom culture of growth and learning from others (T27) ✪ Δ
<input type="checkbox"/> Explain and justify an organizational routine or activity structure to students (e.g., “Today we will work in groups of three because...”) (T45)
<input type="checkbox"/> Anticipate and validate different approaches to a task (T83)
<input type="checkbox"/> Pose questions, puzzling events, tasks, and activities that are "groupworthy" (i.e. require/benefit from many minds working together) (T133)
<input type="checkbox"/> Use organizational routines or activity structures that allow all students to participate equitably and that directly address issues of status (e.g., complex instruction) (T144) ✪
<input type="checkbox"/> Model productive struggle (T37)
<input type="checkbox"/> Explicitly call out a change in the planned classroom activity based on emerging student ideas (T69)
<input type="checkbox"/> Make clear that all student ideas are "fair game" for examination and discussion (T58) ✪ Δ *
<input type="checkbox"/> Position students (instead of themselves) as the authorities on and evaluators of developing ideas (T91) ✪ Δ *
<input type="checkbox"/> Provide scientific or mathematical expertise, background, or vocabulary only when no other student can do so (T81) Δ
<input type="checkbox"/> Redirect questions of other students' thinking back to students to consider and answer (T88)
<input type="checkbox"/> Scaffold and support students without decreasing cognitive demand (T92)
<input type="checkbox"/> When ideas are re-phrased or summarized, ensure that they reflect the author's intent (T89)
<input type="checkbox"/> Consistently make student thinking visible (T94) Δ
<input type="checkbox"/> Create and protect space for students to construct and/or reconstruct their own understandings (T108) Δ
<input type="checkbox"/> Ensure small group work is an appropriate activity structure for the focal task(s) (T137)
<input type="checkbox"/> Provide individual feedback to students on their engagement in an organizational routine or activity structure (T65)
<input type="checkbox"/> Reflect with students on the use of a particular organizational routine or activity structure (T76)
<input type="checkbox"/> Adjust the cognitive demand of a task to meet the needs of a particular group of students (T147)

***In these classrooms we expect to see a diverse range of students...***

<input type="checkbox"/> Adjusting the physical environment or their place in it to better support their learning (e.g., moving their desk closer to a peer) (S44)
<input type="checkbox"/> Answering others' questions thoughtfully and completely (S9) Δ
<input type="checkbox"/> Answering questions with confidence (S10)
<input type="checkbox"/> Being willing to put ideas on the table regardless of whether they are correct or fleshed-out (S62) ✪ Δ *
<input type="checkbox"/> Critically analyzing and assessing the validity and reasonableness of others' models, arguments, and ideas (S25) Δ
<input type="checkbox"/> Initiating talk with other students (S49)
<input type="checkbox"/> Participating actively and equitably in classroom work (S32) ✪ *
<input type="checkbox"/> Taking obvious pride in their work (S60)
<input type="checkbox"/> Using scientific and mathematical language (S42) ✪ Δ *



When accomplished STEM teachers **choose tasks and activity structures to position all students as competent scientific/mathematical thinkers**, they may do one or more of the following:

ALWAYS		STRATEGICALLY	
<i>More Straightforward:</i>	<i>More Challenging:</i>	<i>More Straightforward:</i>	<i>More Challenging:</i>
<p>___ Explain and justify an organizational routine or activity structure to students (e.g., "Today we will work in groups of three because...") (T45)</p> <p>___ Consistently make student thinking visible (T94) Δ</p>	<p>___ Create and maintain a classroom culture of growth and learning from others (T27) ⚡ Δ</p> <p>___ Use organizational routines or activity structures that allow all students to participate equitably and that directly address issues of status (e.g., complex instruction) (T144) ⚡</p> <p>___ Position students (instead of themselves) as the authorities on and evaluators of developing ideas (T91) ⚡ Δ *</p> <p>___ Anticipate and validate different approaches to a task (T83)</p> <p>___ Provide scientific or mathematical expertise, background, or vocabulary only when no other student can do so (T81) Δ</p> <p>___ Scaffold and support students without decreasing cognitive demand (T92)</p>	<p>___ Model productive struggle (T37)</p> <p>___ Make clear that all student ideas are "fair game" for examination and discussion (T58) ⚡ Δ *</p> <p>___ Explicitly call out a change in the planned classroom activity based on emerging student ideas (T69)</p> <p>___ Redirect questions of other students' thinking back to students to consider and answer (T88)</p> <p>___ When ideas are re-phrased or summarized, ensure that they reflect the author's intent (T89)</p> <p>___ Provide individual feedback to students on their engagement in an organizational routine or activity structure (T65)</p> <p>___ Reflect with students on the use of a particular organizational routine or activity structure (T76)</p>	<p>___ Pose questions, puzzling events, tasks, and activities that are "groupworthy" (i.e. require/benefit from many minds working together) (T133)</p> <p>___ Ensure small group work is an appropriate activity structure for the focal task(s) (T137)</p> <p>___ Create and protect space for students to construct and/or reconstruct their own understandings (T108) Δ</p> <p>___ Adjust the cognitive demand of a task to meet the needs of a particular group of students (T147)</p>

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___ Participating actively and equitably in classroom work (S32) ⚡ *
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