**Evidence Checklist** **Core Practice:** Elicit, represent, and capitalize on student ideas

When accomplished STEM teachers
**facilitate productive struggle**,
they may do one or more of the following:

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| ___ Explicitly encourage and celebrate curiosity, inquisitiveness, and an inquiry stance to STEM content and learning (T28) |
| ___ Explicitly encourage and/or incentivize flexible thinking and open-mindedness (T48) |
| ___ Anticipate and validate different ideas and ways of expressing those ideas (T84) Δ |
| ___ Anticipate and validate myriad ways of making sense of, solving, explaining, and justifying ideas (T85) Δ |
| ___ Anticipate and create space for common errors and misconceptions to arise and be explored (T136) Δ |
| ___ Avoid explaining or evaluating models, arguments, and ideas for students (T23) Δ* |
| ___ Avoid focusing on right and wrong answers (T24) |
| ___ Avoid providing, justifying, or confirming conclusions for students (T25) Δ |
| ___ Avoid standing in a place of authority (e.g., the front of the room) or standing at all (T26) |
| ___ Identify the difference between productive struggle and sheer frustration, and intervene meaningfully in the latter (T35) |
| ___ Make the examination of errors and misconceptions a consistent part of classroom work (T33) |
| ___ Explicitly encourage and celebrate resilience and perseverance (T47) |
| ___ Invite and expect all students to share developing and incomplete ideas (T80) ✪* |
| ___ Provide just enough information, encouragement or questions to keep students thinking (e.g., praise-prompt-leave interaction) (T87) |
| ___ Scaffold and support students without decreasing cognitive demand (T92) |
| ___ Actively discuss errors and misconceptions (T103) |
| ___ Create and protect space for incorrect or incomplete ideas to be examined and discussed (T106)* |
| ___ Hold students accountable to asking and responding to challenging questions (T112) |
| ___ Circle back to students who made errors or held misconceptions to assess how their thinking has changed (T20) ✪* |

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

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| ___ Analyzing the effectiveness of a strategy or process and adapting it when necessary (S19) |
| ___ Continuing to engage with the given task(s) even when feeling stuck, frustrated, and/or on the wrong track (S63) ✪* |
| ___ Demonstrating a growth mindset and belief that learning often requires hard work (S43) ✪* |
| ___ Expressing frustration appropriately (S47) |
| ___ Sharing when they are feeling frustrated and the reasons for their struggle (S58) |
| ___ Taking risks (S66) |

| Evidence Checklist | **Core Practice:** Develop distinct classroom community and culture |
|---|---|

When accomplished STEM teachers
**facilitate productive struggle**,
they may do one or more of the following:

| **ALWAYS** | | **STRATEGICALLY** | |
|---|---|---|---|
| *More Straightforward:* | *More Challenging:* | *More Straightforward:* | *More Challenging:* |
| ___ Explicitly encourage and celebrate curiosity, inquisitiveness, and an inquiry stance to STEM content and learning (T28)<br>___ Explicitly encourage and celebrate resilience and perseverance (T47)<br>___ Invite and expect all students to share developing and incomplete ideas (T80) ✪*<br>___ Avoid standing in a place of authority (e.g., the front of the room) or standing at all (T26) | ___ Avoid explaining or evaluating models, arguments, and ideas for students (T23) Δ*<br>___ Avoid providing, justifying, or confirming conclusions for students (T25) Δ<br>___ Avoid focusing on right and wrong answers (T24)<br>___ Anticipate and validate different ideas and ways of expressing those ideas (T84) Δ<br>___ Anticipate and validate myriad ways of making sense of, solving, explaining, and justifying ideas (T85) Δ<br>___ Anticipate and create space for common errors and misconceptions to arise and be explored (T136) Δ<br>___ Make the examination of errors and misconceptions a consistent part of classroom work (T33)<br>___ Actively discuss errors and misconceptions (T103)<br>___ Provide just enough information, encouragement or questions to keep students thinking (e.g., praise-prompt-leave interaction) (T87)<br>___ Scaffold and support students without decreasing cognitive demand (T92) | ___ Explicitly encourage and/or incentivize flexible thinking and open-mindedness (T48)<br>___ Circle back to students who made errors or held misconceptions to assess how their thinking has changed (T20) ✪* | ___ Create and protect space for incorrect or incomplete ideas to be examined and discussed (T106)*<br>___ Hold students accountable to asking and responding to challenging questions (T112)<br>___ Identify the difference between productive struggle and sheer frustration, and intervene meaningfully in the latter (T35) |

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

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| ___ Analyzing the effectiveness of a strategy or process and adapting it when necessary (S19) |
| ___ Continuing to engage with the given task(s) even when feeling stuck, frustrated, and/or on the wrong track (S63) ✪* |
| ___ Demonstrating a growth mindset and belief that learning often requires hard work (S43) ✪* |
| ___ Expressing frustration appropriately (S47) |
| ___ Sharing when they are feeling frustrated and the reasons for their struggle (S58) |
| ___ Taking risks (S66) |