

# What is ambitious, equitable math instruction?

## October 2021 Math Fellow Convening

|  |  |  |   |   |                            |   |   |   |  |
|--|--|--|---|---|----------------------------|---|---|---|--|
| Math stations/rotations                        | It is okay to make mistakes  | Content accessible to all students in gen ed classroom | Math that is supported with intentional visuals/real life connections | Math that is done throughout the day (when applicable) not just during the math block | Focus on student strengths | Families know about student progress                    | All ideas are recognized                    | Assessments (and practice) that values quality (depth) over quantity (e.g. "math vitamin "CGI | All voices share or are heard  |
| Math games                                     | Welcoming, mistakes, revisions and seeing them as opportunities to learn | Curriculum accessible for all                          | Making thinking visible with models                                   | Real-world problems. Authentic reasons for use of math                                | Asset based                | Families are involved and informed                      | Students feel recognized and represented    | Assessment that informs instruction   | Students collaborate, teach, and practice                                  |
| Rigor  |  | Meeting students where they are at                     | Visual models   | Build procedural fluency from conceptual understanding                                |                            | Curriculum is culturally appropriate                    | Valuing all ideas and contributions         | Focus on learning (instead of "readiness")  | Student share ideas with each other  |
| A belief that everyone can do math             |  | Tailor made to the individual                          | Different ways to show knowledge                                      | Pose purposeful questions   |                            | Students create the context for problems                | Experience honoring                         | Focus on growth   | Students work together and are NOT groups by ability                       |
| Students know the standard                     |  | Math problems have many entrance points                | Multiple strategies   | Use and connect mathematical representations  |                            | relatable   | Opportunities to show learning in many ways | Assessments that promote learning   | Intentional grouping/pairing   |
| Small-group time                               |  | Lesson with multiple access points                     |   | Implement tacks that promote reasoning and problem solving                            |                            | Culturally relative math probs/activities               | Mutual respect and rapport                  | Meaningful feedback   | Flexible grouping that is actually flexible                                |
| Practice and review                            |  | Opportunities for extension                            |   | Establish mathematics goals to focus learning   |                            | Anti-racist   | Everyone has a voice that is valued         | Portfolio-based assessment reviewed by community  | Fluid groupings  |
| High expectations for effort and participation |  | Many entry points                                      |   |   |                            | Background knowledge, culture & experience plays a role | Create multiple pathways to success         | Take time to analyze student work   | Student discussions about each other's thinking that are not teacher heavy |
| Practice and review                            |  | Open ended   |   |   |                            | Context that is relevant to shared experiences          |   |   | Students supporting each other's growth in a                               |

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|  |  |   |  |  |  |   |  |  | judgement -free<br>way-appreciating<br>each other's<br>strengths   |
|  |  | Open-ended<br>questions-<br>everyone can learn<br>from challenges |  |  |  | Building on prior<br>knowledge seeing<br>what the kids already<br>know and making<br>use of funds of<br>knowledge |  |  | Students discourse<br>Teaching and<br>practicing<br>conversation skills  |
|  |  | Multiple door into<br>the room                                    |  |  |  | Making math<br>relevant to students<br>lives  |  |  | Fostering students'<br>confidence  |
|  |  | Scaffolding<br>(manipulative,<br>partners)                        |  |  |  | In context  |  |  | Safe Space to<br>share & discuss   |
|  |  | Scaffold different<br>lessons                                     |  |  |  | Providing context<br>(not just calculation)   |  |  | Instruction<br>includes a safe<br>environment for<br>risk-taking and<br>exploration  |
|  |  | Apply progression<br>of standards                                 |  |  |  |   |  |  | To be human is to<br>do math<br>If you say a<br>student is<br>incapable you are<br>saying they are<br>something other<br>than human (also<br>if you say it about<br>you) |
|  |  |   |  |  |  |   |  |  | Theirs to claim, not<br>to give  |
|  |  |   |  |  |  |   |  |  | Respect flowing in<br>all directions   |
|  |  |   |  |  |  |   |  |  | Authority to<br>challenge  |

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|  |  |  |  |  |  |  |  |  | Giving students ownership over their ideas                                |
|  |  |  |  |  |  |  |  |  | Student discussions   |
|  |  |  |  |  |  |  |  |  | Students drive learning   |
|  |  |  |  |  |  |  |  |  | Inquiry-based, students attempt a problem in their own way and then share |
|  |  |  |  |  |  |  |  |  | Student-led activities  |
|  |  |  |  |  |  |  |  |  | Diverse strategies that allow for rich discourse                          |