**Standards for Mathematical Practice: Activity Cards**

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| * Create a classroom environment where students can explore and explain patterns * Use open-ended questioning that require students to make connections between previously worked problems that appeared difficult or complex * Purposefully and intentionally help students make connections between different algorithms that incorporate different properties   **CARD #1** | * Display sense-making behaviors * Show patience and listen to others * Analyze the information in the problem * Use and recall multiple strategies for solving a problem * Self-evaluate and redirect * Check their thinking by asking, “Does this make sense?” * Assess reasonableness of process and answer * Learning in a classroom environment where “struggle” is expected and okay   **CARD #2** |
| * Create and use multiple representations * Represent contextual situations symbolically * Interpret problems logically in context * Make connections including real-life situations * Visualize the problem * Put symbolic problems into context * Estimate for reasonableness   **CARD #3** | * Provide a “toolbox” at all times with all available tools * Model the use of appropriate tools (especially the use of technology) and manipulatives for understanding * Allow time for dialogue around tool selection * Develop anchor charts when a new tool is used and is used in a different way   **CARD #4** |
| * Design and state “shortcuts” * Generate rules from repeated reasoning or practice * Evaluate the reasonableness of intermediate steps * Make generalizations * Engage in similar activities over several weeks that draw attention to repetition * Through repeated exposure of a concept, discover rules without being told to memorize   **CARD #5** | * Communicate (orally and in writing) with previous vocabulary * Carefully formulate questions and explanations (not retelling the steps) * Decode and interpret meaning of symbols * Pay attention to units, labeling of axes, scale, etc. * Calculate accurately and effectively * Use mathematical language and terminology correctly and appropriately   **CARD #6** |

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| * Connect math to real-life situations * Apply prior knowledge to solve problems * Choose and apply representations, manipulatives, and other models to solve problems * Use strategies to make problems simpler * Seek and understand various modeling techniques   **CARD #7** | * Model problem solving strategies * Give explicit and precise instructions * Use ELA strategies of decoding, comprehending and text-to-self connections for interpretation of symbolic and contextual math problems * Model consistency when solving and graphing   **CARD #8** |
| * Model context-to-symbol and symbol-to- context * Create problems such as “what word problem will this equation solve?” * Give real world situations * Offer authentic performance tasks * Place less emphasis on the answer * Think aloud when solving a problem   **CARD #9** | * Question others * Use examples and non-examples * Support beliefs and challenges with mathematical evidence * Form logical arguments with conjectures and counterexamples * Listen and respond to others * Question where data comes from   **CARD #10** |
| * Model reasoning skills * Provide meaningful, real world authentic performance-based tasks * Make appropriate tools available * Model various modeling techniques * Provide real-world problems to be solved daily * Allow students to go back and forth between different math tools (e.g. function tables, graphs, set of ordered pairs) where appropriate   **CARD #11** | * Create a safe and collaborate environment * Model respectful discourse behaviors * “Find the error” problems * Promote student to student discourse (do not mediate the discussion) * Plan effective questions or Socratic formats * Provide time to look at solutions that are incorrect * Provide time for discourse and value it   **CARD #12** |

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| * Provide tasks that allow students to generalize * Don’t teach steps or rules, but allow students to explore and generalize in order to discover and formalize * Ask deliberate questions that require conceptual understanding and fluency * Create strategic and purposeful check-in points   **CARD #13** | * Choose appropriate tools for a given problem * Use technology to deepen understanding where necessary and appropriate * Identify and locate resources outside of the classroom that may assist in understanding * Be able to defend the choice of tools * Understand the limitations and effects of tools (or manipulatives)   **CARD #14** |
| * Provide open-ended problems that require students to probe their thinking and understanding of a problem * Promote and value discourse * Give students individual think time on all mathematical tasks * Frame math challenges that are clear and explicit * Check in periodically to check students’ clarity and thought processes   **CARD #15** | * Make connections to skills and strategies previously learned to solve new problems and tasks * Breakdown complex problems into simpler and more manageable chunks * Use multiple representations for quantities * Look for, identify, and interpret patterns and structures * View complicated quantities as a single object and as a composition of objects   **CARD #16** |