# MATH COMPETENCY RUBRIC

| Competency | Not Yet | On Track | Mastery | Exceed |
|---|---|---|---|---|
| Gathering and organizing information<br><br>(Attend to precision. Model with Mathematics) | | When examining a problem, I can identify the important information.<br><br>I can accurately rephrase the problem.<br><br>I can provide examples to illustrate the problem.<br><br>I can create a visual representation of the problem (table, chart). | I can independently differentiate between essential information and distractors in a problem.<br><br>When working with multi-step problems I can explain the relationship among the parts of the problem.<br><br>I can review my analysis of multistep problems to identify areas of misunderstanding or gaps.<br><br>I can identify what additional information would be helpful to solving the problem | I can express my criteria and process for determining which information in a problem is important and which information is not, and adapt my criteria as necessary. |
| Finding Relationships and Patterns<br><br>(Look for and express regularity in repeated reasoning) | | I can find patterns and relationships, but those patterns and relationships don't always help me solve the problem.<br><br>I can make connections to help me solve familiar problems.<br><br>I can identify the correct equation to solve a problem, but cannot independently create it. | I can find patterns and relationships to help me solve problems.<br><br>I can use patterns, relationships, and connections to self-check my solutions. | I can use patterns, relationships, and connections to develop novel procedures for solving problems. |

# MATH COMPETENCY RUBRIC

| Competency | Not Yet | On Track | Mastery | Exceed |
|---|---|---|---|---|
| Drawing Conclusions and Hypothesizing<br><br>(Look for and make use of structure) | | I can use information from the problem to draw conclusions about the problem, though my conclusion may not be completely accurate.<br><br>I can explain why I selected the information I did to solve a problem.<br><br>I can make mathematical inferences. | Using information from one problem, I can predict and use my solutions to help me solve other problems.<br><br>I can explain how I arrived at my solution by using information from the problem.<br><br>I can self-check and explain my inferences and conclusions to revise them as I gather new information or work through a problem. | I can hypothesize multiple approaches to solve a problem.<br><br>I can create unique approaches to solving problems and explain when those approaches will work and will not work. |
| Meta- Math<br><br>(Reason abstractly and quantitatively) | | I can verbally or in written format discuss the approach I have selected and why. | I can provide justification and proof to explain the rationale for my approach to problem solving, in writing and discussion.<br><br>I can use appropriate mathematical language.<br><br>I can connect classwork to real world applications. | I can discuss multiple approaches to solve the problems, can explain why they chose NOT to use certain approaches.<br><br>I use appropriate mathematical language when modeling or assisting classmates.<br><br>I make models based on real life solutions. |

| Competency | Not Yet | On Track | Mastery | Exceed |
|---|---|---|---|---|
| Experiment<br><br>(Construct viable arguments and critique the reasoning of others) | | I can guess at solutions or approaches to a problem, but my guesses are not always informed.<br><br>I can test my answers, but cannot identify reasonable versus unreasonable responses.<br><br>I can identify or use simpler similar problems, but cannot consistently do both independently.<br><br>I can create physical or visual representations of problems, but cannot yet use them to solve problems. | I can use simpler similar problems to self-check my solutions.<br><br>I can break down complex, multistep problems into simpler similar problems. | I can devise novel approaches to a solving a problem by experimenting with known approaches. |
| Question<br><br>(Make sense of problems and persevere in solving them) | | I can ask factual and identifying questions to help me find an approach to solve the problem. | I can ask questions that help me identify the most relevant information in a problem.<br><br>I can ask questions to help me understand why a given approach works or does not work to solve a problem. | I can ask questions to help me devise novel approaches to solving a problem. |