**Number In bold** are expectations to be met in all strands

|  |  |  |  |
| --- | --- | --- | --- |
| **4 - Exceeding** | **3 - Meeting** | **2 - Approaching** | **1 - Working Below** |
| * **Fluently uses precise mathematical language correctly** * **Independently and consistently makes connections among concrete, pictorial and symbolic representations** * **Independently considers and applies alternative strategies to solve a range of complex and unfamiliar problems** * **Independently makes connections between and within the different strands of mathematics** * Consistently represents, compares and orders a wide range of whole numbers, integers, decimals, mixed numbers, and fractions accurately. * Makes connections between a wide range of fractions, decimals, whole numbers, mixed numbers, percent, and integers * Consistently uses benchmarks and patterns effectively and efficiently * Makes efficient, logical estimates to predict outcomes and check for reasonableness * Uses strategies efficiently and effectively * Consistently explains strategies and reasoning with clarity, precision, and thoroughness * Few calculation errors or omissions, and are minor | * **Routinely uses mathematical language correctly** * **Makes connections among concrete, pictorial and symbolic representations** * **Routinely selects and applies appropriate strategies to solve problems** * **Makes connections between and within the different strands of mathematics** * Routinely represents, compares and orders whole numbers, integers, decimals, mixed numbers, and fractions accurately * Makes connections between fractions, decimals, whole numbers, mixed numbers, percent, and integers * Often uses benchmarks and patterns effectively * Routinely makes effective, logical estimates to predict outcomes and check for reasonableness * Routinely uses strategies effectively * Routinely explains strategies and reasoning with clarity * Calculation errors or omissions are minor | * **Inconsistently uses correct mathematical language** * **Sometimes makes connections among concrete, pictorial and symbolic representations** * **Sometimes selects and applies appropriate strategies to solve problems** * **Sometimes makes connections between and within the different strands of mathematics** * Sometimes represents, compares and orders whole numbers, integers, decimals, mixed numbers, and fractions accurately; may require pictorial or other representations * Sometimes makes connections between fractions, decimals, whole numbers, mixed numbers, percent, and integers * Occasionally uses benchmarks and patterns * Sometimes makes effective, logical estimates to predict outcomes and check for reasonableness * Sometimes uses strategies effectively * Sometimes explains strategies and reasoning, or explanations may be incomplete * Calculation errors or omissions may include some major | * **Rarely uses correct mathematical language** * **Has difficulty making connections among concrete, pictorial and symbolic representations** * **Rarely selects or applies appropriate strategies to solve problems** * **Rarely makes connections between and within the different strands of mathematics** * Has difficulty representing, comparing and ordering whole numbers, integers, decimals, mixed numbers, and fractions accurately, even with concrete or pictorial representations * Rarely makes connections between fractions, decimals, whole numbers, mixed numbers, percent, and integers * Not able to use benchmarks and patterns * Rarely makes logical estimates to predict outcomes or check for reasonableness * Has difficulty using strategies effectively * Has difficulty explaining strategies and reasoning * Calculation errors or omissions are major |

**Patterns and Relations** **In bold** are expectations to be met in all strands

|  |  |  |  |
| --- | --- | --- | --- |
| **4 - Exceeding** | **3 - Meeting** | **2 - Approaching** | **1 - Working Below** |
| * **Fluently uses precise mathematical language correctly** * **Independently and consistently makes connections among concrete, pictorial and symbolic representations** * **Independently considers and applies alternative strategies to solve a range of complex and unfamiliar problems** * **Independently makes connections between and within the different strands of mathematics** * Makes connections among a wide range of representations of patterns (symbolic, graphs, tables, written/oral, pictorial, concrete) * Includes precise labels and headings in tables, graphs and other representations * Consistently explains patterns and reasoning with clarity, precision, and thoroughness * Consistently represents a wide variety of situations and solves problems that involve linear relationships * Consistently applies preservation of equality to solving a wide range of linear equations * Few errors or omissions, and are minor | * **Routinely uses mathematical language correctly** * **Makes connections among concrete, pictorial and symbolic representations** * **Routinely selects and applies appropriate strategies to solve problems** * **Makes connections between and within the different strands of mathematics** * Makes connections among various representations of patterns (symbolic, graphs, tables, written/oral, pictorial, concrete) * Routinely includes appropriate labels and headings in tables, graphs and other representations * Routinely explains patterns and reasoning with clarity * Routinely represents situations and solves problems that involve linear relationships * Routinely applies preservation of equality to solving linear equations * Errors or omissions are minor | * **Inconsistently uses correct mathematical language** * **Sometimes makes connections among concrete, pictorial and symbolic representations** * **Sometimes selects and applies appropriate strategies to solve problems** * **Sometimes makes connections between and within the different strands of mathematics** * Sometimes makes connections among various representations of patterns (symbolic, graphs, tables, written/oral, pictorial, concrete) * Sometimes includes appropriate labels and headings in tables, graphs and other representations * Sometimes explains patterns and reasoning * Sometimes or with prompting represents situations and solves problems that involve linear relationships * Sometimes or with prompting applies preservation of equality to solving linear equations * Errors or omissions may include some major | * **Rarely uses correct mathematical language** * **Has difficulty making connections among concrete, pictorial and symbolic representations** * **Rarely selects or applies appropriate strategies to solve problems** * **Rarely makes connections between and within the different strands of mathematics** * Has difficulty making connections among various representations of patterns (symbolic, graphs, tables, written/oral, pictorial, concrete) * Rarely includes labels and headings in tables, graphs and other representations * Has difficulty explaining patterns and reasoning * Has difficulty representing situations and solving problems that involve linear relationships * Has difficulty applying preservation of equality to solving linear equations * Errors or omissions are major |

**Shape and Space** **In bold** are expectations to be met in all strands

|  |  |  |  |
| --- | --- | --- | --- |
| **4 - Exceeding** | **3 - Meeting** | **2 - Approaching** | **1 - Working Below** |
| * **Fluently uses precise mathematical language correctly** * **Independently and consistently makes connections among concrete, pictorial and symbolic representations** * **Independently considers and applies alternative strategies to solve a range of complex and unfamiliar problems** * **Independently makes connections between and within the different strands of mathematics** * Consistently explains the various attributes of a circle and solves a wide range of related problems * Consistently solves a wide range of problems involving area * Consistently performs, explains and verifies a range of geometric constructions * Independently and with ease estimates when appropriate * Consistently explains strategies and reasoning with clarity, precision, and thoroughness * Routinely identifies, describes, predicts and draws transformations (all quadrants of Cartesian plane)of a wide range of shapes * Uses precise labels (including units) in diagrams, drawings are proportional * Few errors or omissions, and are minor | * **Routinely uses mathematical language correctly** * **Makes connections among concrete, pictorial and symbolic representations** * **Routinely selects and applies appropriate strategies to solve problems** * **Makes connections between and within the different strands of mathematics** * Routinely explains the various attributes of a circle and solves related problems * Routinely solves problems involving area * Routinely performs, explains and verifies geometric constructions * Routinely estimates when appropriate * Routinely explains strategies and reasoning with clarity * Routinely identifies, describes, predicts and draws transformations (all quadrants of Cartesian plane) * Routinely uses appropriate labels (including units) in diagrams, drawings are proportional * Errors or omissions are minor | * **Inconsistently uses correct mathematical language** * **Sometimes makes connections among concrete, pictorial and symbolic representations** * **Sometimes selects and applies appropriate strategies to solve problems** * **Sometimes makes connections between and within the different strands of mathematics** * Sometimes or with prompting explains the various attributes of a circle and solves related problems * Sometimes or with prompting solves problems involving area * Sometimes or with prompting performs, explains and verifies geometric constructions * Sometimes estimates when appropriate * Sometimes explains strategies and reasoning, or explanations may be incomplete * Sometimes or with prompting identifies, describes, predicts and draws transformations (all quadrants of Cartesian plane) * Sometimes uses appropriate labels (including units) in diagrams, drawings may not be proportional * Errors or omissions may include some major | * **Rarely uses correct mathematical language** * **Has difficulty making connections among concrete, pictorial and symbolic representations** * **Rarely selects or applies appropriate strategies to solve problems** * **Rarely makes connections between and within the different strands of mathematics** * Has difficulty explaining the various attributes of a circle and solving related problems * Has difficulty solving problems involving area * Has difficulty performing and explaining geometric constructions * Has difficulty estimating * Has difficulty explaining strategies and reasoning * Has difficulty identifying, describing, predicting and drawing transformations (all quadrants of Cartesian plane) * Rarely uses appropriate labels (including units) in diagrams * Errors or omissions are major |

**Statistics and Probability** **In bold** are expectations to be met in all strands

|  |  |  |  |
| --- | --- | --- | --- |
| **4 - Exceeding** | **3 - Meeting** | **2 - Approaching** | **1 - Working Below** |
| * **Fluently uses precise mathematical language correctly** * **Independently and consistently makes connections among concrete, pictorial and symbolic representations** * **Independently considers and applies alternative strategies to solve a range of complex and unfamiliar problems** * **Independently makes connections between and within the different strands of mathematics** * Consistently selects appropriate strategies for collecting or finding data to answer questions or solve a wide range of problems * Consistently organizes data in a format appropriate to a wide range of purposes and problems (including use of range, outliers, mean, median, mode) * Includes precise labels in charts, tables and graphs * Interprets data in a wide range of graphs appropriately * Explains and determines experimental and theoretical probability for a wide range of contexts (ratio, fraction, percent) including for two independent events * Consistently explains strategies and reasoning with clarity, precision, and thoroughness * Few errors or omissions, and are minor | * **Routinely uses mathematical language correctly** * **Makes connections among concrete, pictorial and symbolic representations** * **Routinely selects and applies appropriate strategies to solve problems** * **Makes connections between and within the different strands of mathematics** * Routinely selects appropriate strategies for collecting or finding data to answer questions or solve problems * Routinely organizes data in a format appropriate to purpose, and to solve problems (including use of range, outliers, mean, median, mode) * Routinely includes appropriate labels in charts, tables and graphs * Interprets data in graphs appropriately * Explains and determines experimental and theoretical probability (ratio, fraction, percent)including for two independent events * Routinely explains strategies and reasoning with clarity * Errors or omissions are minor | * **Inconsistently uses correct mathematical language** * **Sometimes makes connections among concrete, pictorial and symbolic representations** * **Sometimes selects and applies appropriate strategies to solve problems** * **Sometimes makes connections between and within the different strands of mathematics** * Sometimes or with prompting selects appropriate strategies for collecting or finding data to answer questions or solve problems * Sometimes or with prompting organizes data in a format appropriate to purpose, and to solve problems (including use of range, outliers, mean, median, mode) * Sometimes or with prompting includes appropriate labels in charts, tables and graphs * Sometimes interprets data in graphs appropriately * Sometimes explains and determines experimental and theoretical probability (ratio, fraction, percent) including for two independent events * Sometimes explains strategies and reasoning, or explanations may be incomplete * Errors or omissions may include some major | * **Rarely uses correct mathematical language** * **Has difficulty making connections among concrete, pictorial and symbolic representations** * **Rarely selects or applies appropriate strategies to solve problems** * **Rarely makes connections between and within the different strands of mathematics** * Has difficulty selecting appropriate strategies for collecting or finding data to answer questions or solve problems * Has difficulty organizing data in a format appropriate to purpose, and solving problems (including use of range, outliers, mean, median, mode) * Rarely includes labels in charts, tables and graphs * Has difficulty interpreting data in graphs appropriately * Has difficulty explaining and determining experimental and theoretical probability (ratio, fraction, percent) including for two independent events * Has difficulty explaining strategies and reasoning * Errors or omissions are major |