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

|  |  |  |  |
| --- | --- | --- | --- |
| **Exceeding** | **Meeting** | **Approaching** | **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, square roots, integers, decimals, and fractions accurately * Makes connections between a wide range of fractions, ratios, decimals, whole numbers, squares, square roots, 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, square roots, integers, decimals, and fractions accurately * Makes connections between fractions, ratios, decimals, whole numbers, squares, square roots, percent, and integers * Routinely 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, square roots, integers, decimals, and fractions accurately; may require pictorial or other representations * Sometimes makes connections between fractions, ratios, decimals, whole numbers, squares, square roots, percent, and integers * Occasionally uses benchmarks and patterns * Sometimes or with prompting makes effective, logical estimates to predict outcomes and check for reasonableness * Sometimes uses strategies effectively * Sometimes (or with prompting) 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, square roots, integers, decimals, and fractions accurately, even with concrete or pictorial representations * Rarely makes connections between fractions, ratios, decimals, whole numbers, squares, square roots, percent, and integers * Not able to use benchmarks and patterns * Rarely makes logical estimates to predict outcomes or checks 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

|  |  |  |  |
| --- | --- | --- | --- |
| **Exceeding** | **Meeting** | **Approaching** | **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 (equations, graphs, tables, written/oral) * Includes precise labels and headings in tables, graphs and other representations * Consistently explains relationships and reasoning with clarity, precision, and thoroughness * Consistently represents a wide variety of situations and solves problems that involve linear relationships * 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 (equations, graphs, tables, written/oral) * Routinely includes appropriate labels and headings in tables, graphs and other representations * Routinely explains relationships and reasoning with clarity * Routinely represents situations and solves problems that involve linear relationships * 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 (equations, graphs, tables, written/oral) * Sometimes includes appropriate labels and headings in tables, graphs and other representations * Sometimes explains relationships and reasoning * Sometimes or with prompting represents situations and solves problems that involve linear relationships * 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 (equations, graphs, tables, written/oral) * Rarely includes labels and headings in tables, graphs and other representations * Has difficulty explaining relationships and reasoning * Has difficulty representing situations and solving problems that involve linear relationships * Errors or omissions are major |

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Exceeding** | **Meeting** | **Approaching** | **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 Pythagorean theorem and solves related problems * Consistently identifies, explains and solves a wide range of problems involving surface area and volume * Consistently draws views of, constructs and rotates a wide range of 3-D objects * Independently and with ease estimates when appropriate to ensure reasonableness * Consistently explains strategies and reasoning with clarity, precision, and thoroughness * Consistently identifies, explains and creates a wide range of tessellations * 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 Pythagorean theorem and solves related problems * Routinely identifies, explains and solves problems involving surface area and volume * Routinely draws views of, constructs and rotates 3-D objects * Routinely estimates when appropriate to ensure reasonableness * Routinely explains strategies and reasoning with clarity * Routinely identifies, explains and creates tessellations * 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 Pythagorean theorem and solves related problems * Sometimes or with prompting identifies, explains and solves problems involving surface area and volume * Sometimes draws views of, constructs and rotates 3-D objects * Sometimes estimates when appropriate to ensure reasonableness * Sometimes explains strategies and reasoning, or explanations may be incomplete * Sometimes identifies, explains and creates tessellations * 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 Pythagorean theorem and solving related problems * Has difficulty identifying, explaining and solving problems involving surface area and volume * Has difficulty drawing views of, constructing and rotating 3-D objects * Has difficulty estimating * Has difficulty explaining strategies and reasoning * Has difficulty identifying, explaining and creating tessellations * 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

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| --- | --- | --- | --- |
| **Exceeding** | **Meeting** | **Approaching** | **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 organizes data in a format appropriate to a wide range of purposes and compares and critiques data display formats * 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 independent and dependent 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 organizes data in a format appropriate to purpose and compares and critiques data display formats * Routinely includes appropriate labels in charts, tables and graphs * Interprets data in graphs appropriately * Explains and determines experimental and theoretical probability for independent and dependent 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 organizes data in a format appropriate to purpose and compares and critiques data display formats * 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 for independent and dependent 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 organizing data in a format appropriate to purpose and comparing and critiquing data display formats * Rarely includes labels in charts, tables and graphs * Has difficulty interpreting data in graphs appropriately * Has difficulty explaining and determining experimental and theoretical probability for independent and dependent events * Has difficulty explaining strategies and reasoning * Errors or omissions are major |