Number

	4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Expectations included in all 4 strands	Consistently uses precise mathematical language	Routinely uses correct mathematical language	Sometimes uses correct mathematical language	Rarely uses correct mathematical language
	Consistently and independently makes appropriate connections among concrete, pictorial and symbolic representations	Routinely makes effective connections among concrete, pictorial and symbolic representations	Sometimes makes connections among concrete, pictorial and symbolic representations with support	Rarely makes connections among concrete, pictorial and symbolic representations
	Consistently and independently selects and applies appropriate strategies to solve a range of complex problems	Routinely selects and applies appropriate strategies to solve problems	Sometimes selects and applies appropriate strategies to solve problems	Rarely selects or applies appropriate strategies to solve problems
	Consistently and independently makes insightful connections between and within the different strands of math	Routinely makes effective connections between and within the different strands of math	Sometimes makes connections between and within the different strands of math	Rarely makes connections between and within the different strands of math
	Consistently represents, compares and orders a wide range of whole numbers, integers, decimals, mixed numbers, and fractions accurately	Routinely represents, compares and orders whole numbers, integers, decimals, mixed numbers, and fractions accurately	Sometimes represents, compares and orders whole numbers, integers, decimals, mixed numbers, and fractions accurately; may require pictorial or other representations	Rarely represents, compares and orders whole numbers, integers, decimals, mixed numbers, and fractions accurately, even with other representations
	Consistently and independently makes connections between a wide range of fractions, decimals, whole numbers, mixed numbers, ratios, percent, and integers	Routinely makes connections between fractions, decimals, whole numbers, mixed numbers, ratios, percent, and integers	Sometimes makes connections between fractions, decimals, whole numbers, mixed numbers, ratios, percent, and integers	Rarely makes connections between fractions, decimals, whole numbers, mixed numbers, ratios, percent, and integers
	Consistently and independently uses referents and estimation strategies effectively and efficiently	Routinely and effectively uses referents and estimation strategies	Sometimes uses referents and estimation strategies	Rarely uses referents and estimation strategies
	Consistently and independently uses benchmarks and patterns effectively and efficiently	Routinely and effectively uses benchmarks and patterns	Sometimes uses benchmarks and patterns	Rarely uses benchmarks and patterns
	Makes efficient and logical estimates to predict outcomes and check for reasonableness	Routinely makes effective and logical estimates to predict outcomes and check for reasonableness	Sometimes makes effective and logical estimates to predict outcomes and check for reasonableness	Rarely makes logical estimates to predict outcomes or check for reasonableness
	Uses strategies (including mental math) effectively and efficiently	Routinely uses strategies (including mental math) effectively	Sometimes uses strategies (including mental math) effectively	Rarely uses strategies effectively (including mental math)
	Consistently and independently explains strategies and reasoning with clarity, precision, and thoroughness	Routinely and clearly explains strategies and reasoning	Sometimes explains strategies and reasoning, or explanations may be incomplete	Has difficulty explaining strategies and reasoning
	Consistently and independently selects and applies the correct operation to solve problems with accuracy	Routinely selects and applies the correct operation to solve problems with accuracy	Sometimes selects and applies the correct operation to solve problems	Has difficulty selecting and applying the correct operation to solve problems
	Rarely makes minor errors	Few minor errors	Some major errors	Many major errors

Evidence: (following Statistics and Probability section)
Glossary of key words: (following Evidence section at end of document)

Patterns and Relations

	4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Expectations included in all 4 strands	Consistently uses precise mathematical language	Routinely uses correct mathematical language	Sometimes uses correct mathematical language	Rarely uses correct mathematical language
	Consistently and independently makes appropriate connections among concrete, pictorial and symbolic representations	Routinely makes effective connections among concrete, pictorial and symbolic representations	Sometimes makes connections among concrete, pictorial and symbolic representations with support	Rarely makes connections among concrete, pictorial and symbolic representations
	Consistently and independently selects and applies appropriate strategies to solve a range of complex problems	Routinely selects and applies appropriate strategies to solve problems	Sometimes selects and applies appropriate strategies to solve problems	Rarely selects or applies appropriate strategies to solve problems
	Consistently and independently makes insightful connections between and within the different strands of math	Routinely makes effective connections between and within the different strands of math	Sometimes makes connections between and within the different strands of math	Rarely makes connections between and within the different strands of math
	Consistently and independently makes connections among a wide range of representations of patterns (concrete, pictorial, symbolic, graphs, tables, written/oral)	Routinely makes connections among various representations of patterns (concrete, pictorial, symbolic, graphs, tables, written/oral)	Sometimes makes connections among various representations of patterns (concrete, pictorial, symbolic, graphs, tables, written/oral)	Rarely makes connections among various representations of patterns (concrete, pictorial, symbolic, graphs, tables, written/oral)
	Consistently includes precise labels and headings in tables, graphs and other representations	Routinely includes appropriate labels and headings in tables, graphs and other representations	Sometimes includes appropriate labels and headings in tables, graphs and other representations	Rarely includes labels and headings in tables, graphs and other representations
	Consistently and independently explains patterns and reasoning with clarity, precision, and thoroughness	Routinely and clearly explains patterns and reasoning	Sometimes explains patterns and reasoning	Has difficulty explaining patterns and reasoning
	Consistently and independently represents a wide variety of situations and solves problems that involve linear relationships	Routinely represents situations and solves problems that involve linear relationships	Sometimes represents situations and solves problems that involve linear relationships	Rarely represents situations and solves problems that involve linear relationships
	Consistently and independently applies preservation of equality to solving a wide range of linear equations	Routinely applies preservation of equality to solving linear equations	Sometimes applies preservation of equality to solving linear equations	Rarely applies preservation of equality to solving linear equations
	Rarely makes minor errors	Few minor errors	Some major errors	Many major errors

Evidence: (following Statistics and Probability section)
Glossary of key words: (following Evidence section at end of document)

Shape and Space

	4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Expectations included in all 4 strands	Consistently uses precise mathematical language	Routinely uses correct mathematical language	Sometimes uses correct mathematical language	Rarely uses correct mathematical language
	Consistently and independently makes appropriate connections among concrete, pictorial and symbolic representations	Routinely makes effective connections among concrete, pictorial and symbolic representations	Sometimes makes connections among concrete, pictorial and symbolic representations with support	Rarely makes connections among concrete, pictorial and symbolic representations
	Consistently and independently selects and applies appropriate strategies to solve a range of complex problems	Routinely selects and applies appropriate strategies to solve problems	Sometimes selects and applies appropriate strategies to solve problems	Rarely selects or applies appropriate strategies to solve problems
	Consistently and independently makes insightful connections between and within the different strands of math	Routinely makes effective connections between and within the different strands of math	Sometimes makes connections between and within the different strands of math	Rarely makes connections between and within the different strands of math
	Consistently and independently explains the various attributes of a circle and solves a wide range of related problems	Routinely explains the various attributes of a circle and solves related problems	Sometimes explains the various attributes of a circle and solves related problems	Has difficulty explaining the various attributes of a circle and solves related problems
	Consistently and independently (and accurately) solves a wide range of problems involving area of triangles, parallelograms and circles	Routinely solves problems involving area of triangles, parallelograms and circles	Sometimes solves problems involving area of triangles, parallelograms and circles	Has difficulty solving problems involving area of triangles, parallelograms and circles
	Consistently and independently performs, explains and verifies a range of geometric constructions	Routinely performs, explains and verifies geometric constructions	Sometimes performs, explains and verifies geometric constructions	Has difficulty performing, explaining and verifying geometric constructions
	Consistently and independently estimates as appropriate	Routinely estimates as appropriate	Sometimes estimates as appropriate	Has difficulty estimating
	Consistently explains strategies and reasoning with clarity, precision, and thoroughness	Routinely and clearly explains strategies and reasoning	Sometimes explains strategies and reasoning, or explanations may be incomplete	Has difficulty explaining patterns and reasoning
	Consistently and independently identifies and plots points using ordered pairs (all quadrants of Cartesian plane)	Routinely identifies and plots points using ordered pairs (all quadrants of Cartesian plane)	Sometimes identifies and plots points using ordered pairs (all quadrants of Cartesian plane)	Has difficulty identifying and ploting points using ordered pairs (all quadrants of Cartesian plane)
	Consistently and independently independently (and accurately) identifies, describes, predicts and draws transformations (all quadrants of Cartesian plane) of a wide range of shapes	Routinely and accurately identifies, describes, predicts and draws transformations (all quadrants of Cartesian plane)	Sometimes identifies, describes, predicts and draws transformations (all quadrants of Cartesian plane)	Has difficulty identifying, describing, predicting and drawing transformations (all quadrants of Cartesian plane)
	Consistently and independently uses precise labels (including units) in diagrams; drawings are proportional	Routinely uses appropriate labels (including units) in diagrams; drawings are proportional	Sometimes uses appropriate labels (including units) in diagrams; drawings may not be proportional	Rarely uses appropriate labels (including units) in diagrams
	Rarely makes minor errors	Few minor errors	Some major errors	Many major errors

Evidence: (following Statistics and Probability section)
Glossary of key words: (following Evidence section at end of document)

Statistics and Probability

	4 - Excelling	3 - Meeting	2 - Approaching	1 - Working Below
Expectations included in all 4 strands	Consistently uses precise mathematical language	Routinely uses correct mathematical language	Sometimes uses correct mathematical language	Rarely uses correct mathematical language
	Consistently and independently makes appropriate connections among concrete, pictorial and symbolic representations	Routinely makes effective connections among concrete, pictorial and symbolic representations	Sometimes makes connections among concrete, pictorial and symbolic representations with support	Rarely makes connections among concrete, pictorial and symbolic representations
	Consistently and independently selects and applies appropriate strategies to solve a range of complex problems	Routinely selects and applies appropriate strategies to solve problems	Sometimes selects and applies appropriate strategies to solve problems	Rarely selects or applies appropriate strategies to solve problems
	Consistently and independently makes insightful connections between and within the different strands of math	Routinely makes effective connections between and within the different strands of math	Sometimes makes connections between and within the different strands of math	Rarely makes connections between and within the different strands of math
	Consistently and independently selects appropriate strategies for collecting or finding data to answer questions or solve a wide range of problems	Routinely selects appropriate strategies for collecting or finding data to answer questions or solve problems	Sometimes selects appropriate strategies for collecting or finding data to answer questions or solve problems	Rarely selects appropriate strategies for collecting or finding data to answer questions or solve problems
	Consistently and independently organizes data in a format appropriate to a wide range of purposes and problems (including use of range, outliers, mean, median, mode)	Routinely organizes data in a format appropriate to purpose, and to solve problems (including use of range, outliers, mean, median, mode)	Sometimes organizes data in a format appropriate to purpose, and to solve problems (including use of range, outliers, mean, median, mode)	Rarely organizes data in a format appropriate to purpose, and solving problems (including use of range, outliers, mean, median, mode)
	Consistently and independently includes precise labels in charts, tables and graphs	Routinely includes appropriate labels in charts, tables and graphs	Sometimes includes appropriate labels in charts, tables and graphs	Rarely includes labels in charts, tables and graphs
	Consistently and independently interprets data in a wide range of graphs appropriately	Routinely interprets data appropriately to answer questions and solve problems	Sometimes interprets data in graphs appropriately	Has difficulty interpreting data in graphs appropriately
	Consistently explains and determines experimental and theoretical probability for a wide range of contexts (ratio, fraction, percent) including for two independent events	Routinely explains and determines experimental and theoretical probability (ratio, fraction, percent) including for two independent events	Sometimes explains and determines experimental and theoretical probability (ratio, fraction, percent) including for two independent events	Has difficulty explaining and determining experimental and theoretical probability (ratio, fraction, percent) including for two independent events
	Consistently and independently explains strategies and reasoning with clarity, precision, and thoroughness	Routinely and clearly explains strategies and reasoning	Sometimes explains strategies and reasoning, or explanations may be incomplete	Has difficulty explaining strategies and reasoning
	Rarely makes minor errors	Few minor errors	Some major errors	Many major errors

Evidence: (following Statistics and Probability section)
Glossary of key words: (following Evidence section at end of document)

Evidence of Learning: Suggested Sources

Observations:
- Observe students using models (materials and manipulatives) and diagrams
- Observe students playing games.
- Observe students completing tasks
- Observe student presentations and demonstrations
- Use listening checklist of mathematical language
- Notes from guided math sessions
- "Gallery" walks

Conversations (oral/written):
- Conferences
- Interviews
- Whole class and group discussions
- Guided tasks
- Math talks
- Math journal entry
- Exit slips (written responses)
- Self- and peer assessment and reflection

Products:
- Quizzes (oral/written)
- Projects
- Tests
- Graphs
- Song, poem, art
- Work samples
- Exit slips or other responses to questions
- Math journal entry
- Photos of student use of models
- Group problem solving records
- Portfolios

<u>Glossary</u>

<u>Appropriate</u>: is aligned with the expectations of the curriculum document (e.g., *Routinely selects and applies appropriate strategies to solve problems).*

<u>Benchmarks</u>: numbers used to compare and order other numbers (e.g., 5, 10, 25, 50, 100).

<u>Concrete representation</u>: using materials/manipulatives (e.g., counters, pattern blocks) to show a mathematical concept or solve a problem

<u>Consistently</u>: always acting or behaving in the same way and of the same quality

<u>Effective</u>: approach used consistently provides an accurate solution

<u>Efficient</u>: approach used has minimal number of steps (based on the expectations of the curriculum) and consistently provides an accurate solution

<u>Pictorial representation</u>: using drawings/diagrams (e.g., drawings of the model, number lines) to show a mathematical concept or solve a problem

<u>Rarely</u>: not often; even with support

<u>Referent</u>: a concrete representation of a quantity or a unit of measurement (it is helpful if the representation is personally meaningful)

<u>Routinely</u>: done very often with no support

<u>Sometimes</u>: occasionally and/or with support

<u>Subitizing</u>: using familiar arrangements of objects to determine how many there are without counting (e.g., dice)

<u>Symbolic representation</u>: using numbers and mathematical symbols (e.g., 9, +, ÷) to show a mathematical concept or solve a problem