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 mathematics	Routinely makes effective connections between and within the different strands of mathematics	Sometimes makes connections between and within the different strands of mathematics	Rarely makes connections between and within the different strands of mathematics
	Consistently represents, compares and orders a wide range of whole numbers, decimals and fractions accurately	Routinely represents, compares and orders whole numbers, decimals and fractions accurately	Sometimes represents, compares and orders whole numbers, decimals and fractions accurately; may require pictorial or other representations	Rarely represents, compares and orders whole numbers, decimals and fractions, even with concrete or pictorial representations
	Consistently makes connections between a wide range of whole numbers, decimals, and fractions	Routinely makes connections between whole numbers, decimals, and fractions	Sometimes makes connections between whole numbers, decimals, and fractions	Rarely makes connections between whole numbers, decimals, and fractions
	Consistently 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, logical estimates to predict outcomes and check for reasonableness	Routinely makes effective, logical estimates to predict outcomes and check for reasonableness	Sometimes makes effective, 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 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)

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 mathematics	Routinely makes effective connections between and within the different strands of mathematics	Sometimes makes connections between and within the different strands of mathematics	Rarely makes connections between and within the different strands of mathematics
	Consistently identifies, describes, represents and extends a wide range of patterns	Routinely and accurately identifies, describes, represents and extends patterns	Sometimes identifies, describes, represents and extends patterns	Rarely identifies, describes, represents and extends patterns
	Consistently and independently includes precise labels and headings in tables and other representations	Routinely includes appropriate labels and headings in tables and other representations	Sometimes includes appropriate labels and headings in tables and other representations	Rarely includes labels and headings in tables and other representations
	Consistently and independently makes connections among a wide range of representations of patterns (symbolic, tables, charts, pictorial, concrete)	Routinely makes connections among various representations of patterns (symbolic, tables, charts, pictorial, concrete)	Sometimes makes connections among various representations of patterns (symbolic, tables, charts, pictorial, concrete	Rarely makes connections among various representations of patterns (symbolic, tables, charts, pictorial, concrete)
	Consistently and independently uses patterns and relationships to solve a wide range of problems	Routinely uses patterns and relationships to solve problems	Sometimes uses patterns and relationships to solve problems	Rarely uses patterns and relationships to solve problems
	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 and solves a wide range of equations	Routinely represents and solves equations	Sometimes represents and solves equations	Rarely represents, describes, and solves 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 mathematics	Routinely makes effective connections between and within the different strands of mathematics	Sometimes makes connections between and within the different strands of mathematics	Rarely makes connections between and within the different strands of mathematics
	Consistently and independently solves a wide range of problems involving area and perimeter of rectangles	Routinely and accurately solves problems involving area and perimeter of rectangles	Sometimes solves problems involving area and perimeter of rectangles	Has difficulty solving problems involving area and perimeter of rectangles
	Consistently and independently estimates, using referents	Routinely and appropriately estimates, using referents	Sometimes estimates appropriately, using referents	Has difficulty estimating, using referents
	Consistently and independently measures length, volume and capacity with correct units	Routinely and accurately measures length, volume and capacity with correct units	Sometimes measures length, volume and capacity with correct units	Has difficulty measuring length, volume and capacity appropriately with correct units
	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 strategies and reasoning
	Consistently and independently uses attributes to correctly describe and compare a wide range of 2-D shapes and 3-D objects	Routinely and accurately uses attributes to correctly describe and compare 2-D shapes (especially quadrilaterals) and 3-D objects	Sometimes uses attributes to correctly describe and compare 2-D shapes (especially quadrilaterals) and 3-D objects	Has difficulty using attributes to correctly describe and compare 2-D shapes and 3-D objects
	Consistently identifies, describes, predicts and draws single transformations of complex shapes	Routinely and accurately identifies, describes, predicts and draws single transformations of simple shapes	Sometimes identifies, describes, predicts and draws single transformations	Has difficulty identifying, describing, predicting and drawing single transformations
	Consistently uses precise labels (including units) in diagrams, drawings are proportional	Routinely and accurately 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 mathematics	Routinely makes effective connections between and within the different strands of mathematics	Sometimes makes connections between and within the different strands of mathematics	Rarely makes connections between and within the different strands of mathematics
	Consistently selects appropriate strategies for collecting (first-hand) or finding (second-hand) data to solve a wide range of problems	Routinely selects appropriate strategies for collecting (first-hand) or finding (second-hand) data to solve problems	Sometimes selects appropriate strategies for collecting (first-hand) or finding (second-hand) data to solve problems	Rarely selects appropriate strategies for collecting (first-hand) or finding (second-hand) data to solve problems
	Consistently organizes data in a format appropriate to a wide range of purposes and problems	Routinely organizes data in a format appropriate to purpose, and to solve problems	Sometimes organizes data in a format appropriate to purpose, and to solve problems	Rarely organizes data in a format appropriate to purpose, and to solve problems
	Consistently includes precise labels in tables and graphs	Routinely includes appropriate labels in tables and graphs	Sometimes includes appropriate labels in tables and graphs	Rarely includes labels in tables and graphs
	Consistently interprets data in a wide range of graphs appropriately	Routinely interprets data in graphs appropriately to answer questions and solve problems	Sometimes interprets data in graphs appropriately	Has difficulty interpreting data in graphs appropriately
	Consistently describes, makes predictions and compares possible outcomes in a wide range of contexts	Routinely describes, makes predictions and compares possible outcomes	Sometimes describes, makes predictions and compares possible outcomes	Has difficulty describing, making predictions and comparing possible outcomes
	Consistently designs and conducts a wide range of probability experiments for given likelihood	Routinely designs and conducts probability experiments for given likelihood	Sometimes designs and conducts probability experiments for given likelihood	Has difficulty designing and conducting probability experiments for given likelihood
	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 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