# Number

	Excelling	Meeting	Approaching	Working Below	
	Consistently uses precise mathematical	Routinely uses correct	Sometimes uses correct mathematical	Rarely uses correct mathematical	
s	language	mathematical language	language	language	
Expectations included in all 4 strands	Consistently and independently makes	Routinely makes effective	Sometimes makes connections among	Rarely makes connections among	
l str	appropriate connections among	connections among concrete,	concrete, pictorial and symbolic	concrete, pictorial and symbolic	
all 4	concrete, pictorial and symbolic	pictorial and symbolic	representations with support	representations	
Ë	representations	representations			
dec	Consistently and independently selects	Routinely selects and applies	Sometimes selects and applies	Rarely selects or applies	
nclu	and applies appropriate strategies to	appropriate strategies to solve	appropriate strategies to solve	appropriate strategies to solve	
ns i	solve a range of complex problems	problems	problems	problems	
atio	Consistently and independently makes	Routinely makes effective	Sometimes makes connections	Rarely makes connections between	
ect	insightful connections between and within the different strands of	connections between and within the	between and within the different	and within the different strands of	
Exp	mathematics	different strands of mathematics	strands of mathematics	mathematics	
	Consistently represents, compares and	Routinely represents, compares	Sometimes represents, compares and	Has difficulty representing,	
	orders a wide range of whole numbers,	and orders whole numbers, square	orders whole numbers, square roots,	comparing and ordering whole	
	square roots, integers, decimals, and	roots, integers, decimals, and	integers, decimals, and fractions	numbers, square roots, integers,	
	fractions accurately	fractions accurately	accurately; may require pictorial or	decimals, and fractions accurately,	
	,	,	other representations	even with concrete or pictorial	
			·	representations	
	Consistently and independently makes	Routinely makes connections	Sometimes makes connections	Rarely makes connections between	
	connections between a wide range of	between fractions, ratios, decimals,	between fractions, ratios, decimals,	fractions, ratios, decimals, whole	
	fractions, ratios, decimals, whole	whole numbers, squares, square	whole numbers, squares, square roots,	numbers, squares, square roots,	
	numbers, squares, square roots,	roots, percent, and integers	percent, and integers	percent, and integers	
	percent, and integers				
	Consistently and independently uses	Routinely and effectively uses	Sometimes uses referents and	Rarely uses referents and	
	referents and estimation strategies	referents and estimation strategies	estimation strategies	estimation strategies	
	effectively and efficiently	Deutinah and affantisch acces	Compating as we as began above and a sound	Danah	
	Consistently uses benchmarks and	Routinely and effectively uses benchmarks and patterns	Sometimes uses benchmarks and	Rarely uses benchmarks and patterns	
	patterns effectively and efficiently  Makes efficient and logical estimates to	Routinely makes effective and	patterns Sometimes makes effective and logical	Rarely makes logical estimates to	
	predict outcomes and check for	logical estimates to predict	estimates to predict outcomes and	predict outcomes or checks for	
	reasonableness	outcomes and check for	check for reasonableness	reasonableness	
	reasonableness	reasonableness	CHECK TOT TEASORIADICTIESS	reasonableness	
	Uses strategies (including mental math)	Routinely uses strategies (including	Sometimes uses strategies (including	Rarely uses strategies effectively	
	effectively and efficiently	mental math) effectively	mental math) effectively	(including mental math)	
	Consistently and independently	Routinely and clearly explains	Sometimes explains strategies and	Has difficulty explaining strategies	
	explains strategies and reasoning with	strategies and reasoning	reasoning, or explanations may be	and reasoning	
	clarity, precision, and thoroughness	· ·	incomplete		
	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**

	Excelling	Meeting	Approaching	Working Below
	Consistently uses precise	Routinely uses correct mathematical	Sometimes uses correct	Rarely uses correct mathematical
<u>s</u>	mathematical language	language	mathematical language	language
4 strands	Consistently and independently	Routinely makes effective	Sometimes makes connections	Rarely makes connections among
l str	makes appropriate connections	connections among concrete, pictorial	among concrete, pictorial and	concrete, pictorial and symbolic
all 2	among concrete, pictorial and	and symbolic representations	symbolic representations with support	representations
Ë	symbolic representations			
dec	Consistently and independently	Routinely selects and applies	Sometimes selects and applies	Rarely selects or applies appropriate
nclu	selects and applies appropriate	appropriate strategies to solve	appropriate strategies to solve	strategies to solve problems
ns i	strategies to solve a range of	problems	problems	
Expectations included in	complex problems			
ects	Consistently and independently	Routinely makes effective	Sometimes makes connections	Rarely makes connections between
Exp	makes insightful connections	connections between and within the	between and within the different	and within the different strands of
	between and within the different	different strands of mathematics	strands of mathematics	mathematics
	strands of mathematics			
	Consistently and independently	Routinely makes connections among	Sometimes makes connections	Rarely makes connections among
	makes connections among a wide	various representations of patterns	among various representations of	various representations of patterns
	range of representations of patterns	(equations, graphs, tables)	patterns (equations, graphs, tables)	(equations, graphs, tables)
	(equations, graphs, tables)	Doutingly includes appropriate labels	Competiment in alludes communicate	Davalis includes labele and bacdings
	Consistently includes precise labels	Routinely includes appropriate labels	Sometimes includes appropriate	Rarely includes labels and headings
	and headings in tables, graphs and other representations	and headings in tables, graphs and other representations	labels and headings in tables, graphs and other representations	in tables, graphs and other representations
			-	
	Consistently and independently explains relationships and reasoning	Routinely and clearly explains relationships and reasoning	Sometimes explains relationships and	Has difficulty explaining relationships and reasoning
	with clarity, precision, and	relationships and reasoning	reasoning	and reasoning
	thoroughness			
	Consistently and independently	Routinely represents situations and	Sometimes represents situations and	Rarely represents situations and
	represents a wide variety of situations	solves problems that involve linear	solves problems that involve linear	solves problems that involve linear
	and solves problems that involve	relationships	relationships	relationships
	linear relationships	rolationipo	rolationismpo	rolationipo
	Rarely makes minor errors	Few minor errors	Some major errors	Many major errors
		pobility costion)	-	
	Evidence: (following Statistics and Prob			

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

# **Shape and Space**

	Excelling	Meeting	Approaching	Working Below		
	Consistently uses precise mathematical	Routinely uses correct mathematical	Sometimes uses correct	Rarely uses correct mathematical		
Expectations included in all 4 strands	language	language	mathematical language	language		
stra	Consistently and independently makes	Routinely makes effective connections	Sometimes makes connections	Rarely makes connections among		
4	appropriate connections among	among concrete, pictorial and	among concrete, pictorial and	concrete, pictorial and symbolic		
n a	concrete, pictorial and symbolic	symbolic representations	symbolic representations with	representations		
ed i	representations		support			
pn	Consistently and independently selects	Routinely selects and applies	Sometimes selects and applies	Rarely selects or applies appropriate		
s in	and applies appropriate strategies to	appropriate strategies to solve	appropriate strategies to solve	strategies to solve problems		
ioi	solve a range of complex problems	problems	problems			
ctat	Consistently and independently makes	Routinely makes effective connections	Sometimes makes connections	Rarely makes connections between		
xpe	insightful connections between and	between and within the different	between and within the different	and within the different strands of		
" ا	within the different strands of	strands of mathematics	strands of mathematics	mathematics		
	mathematics Consistently and independently	Routinely explains the Pythagorean	Sometimes explains the Pythagorean	Has difficulty explaining the		
	explains Pythagorean theorem and	theorem and solves related problems	theorem and solves related problems	Pythagorean theorem and solving		
	solves related problems	theorem and solves related problems	theorem and solves related problems	related problems		
ŀ	Consistently identifies, explains and	Routinely identifies, explains and	Sometimes identifies, explains and	Has difficulty identifying, explaining		
	solves a wide range of problems	solves problems involving surface	solves problems involving surface	and solving problems involving		
	involving surface area and volume	area and volume	area and volume	surface area and volume		
	Consistently and independently draws	Routinely draws views of, constructs,	Sometimes draws views of,	Has difficulty drawing views of,		
	views of, constructs, and rotates a wide	and rotates 3-D objects	constructs, and rotates 3-D objects	constructing, and rotating 3-D objects		
	range of 3-D objects					
	Consistently and independently	Routinely estimates when appropriate	Sometimes estimates when	Has difficulty estimating		
	estimates as appropriate		appropriate to ensure			
			reasonableness			
	Consistently explains strategies and	Routinely and clearly explains	Sometimes explains strategies and	Has difficulty explaining strategies		
	reasoning with clarity, precision, and	strategies and reasoning	reasoning, or explanations may be	and reasoning		
ŀ	thoroughness	Deutinah idantifias audaina and	incomplete			
	Consistently and independently	Routinely identifies, explains, and creates tessellations	Sometimes identifies, explains, and	Has difficulty identifying, explaining,		
	identifies, explains, and creates a wide range of tessellations	creates tessellations	creates tessellations	and creating tessellations		
	Consistently and independently uses	Routinely uses appropriate labels	Sometimes uses appropriate labels	Rarely uses appropriate labels		
	precise labels (including units) in	(including units) in diagrams; drawings	(including units) in diagrams;	(including units) in diagrams		
	diagrams; drawings are proportional	are proportional	drawings may not be proportional	(morading armo) in diagrams		
ŀ	Rarely makes minor errors	Few minor errors	Some major errors	Many major errors		
	•		,			
	<b>Evidence</b> : (following Statistics and Proba					
	Glossary of key words: (following Evidence section at end of document)					

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

# **Statistics and Probability**

	Excelling	Meeting	Approaching	Working Below
s	Consistently uses precise mathematical language	Routinely uses correct mathematical language	Sometimes uses correct mathematical language	Rarely uses correct mathematical language
Expectations included in all 4 strands	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
tions included	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
Expecta	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 organizes data in a format appropriate to a wide range of purposes and compares and critiques data display formats	Routinely organizes data in a format appropriate to purpose and compares and critiques data display formats	Sometimes organizes data in a format appropriate to purpose and compares and critiques data display formats	Rarely organizes data in a format appropriate to purpose and compares and critiques data display formats
	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 and independently explains and determines experimental and theoretical probability for a wide range of independent and dependent events	Routinely explains and determines experimental and theoretical probability for independent and dependent events	Sometimes explains and determines experimental and theoretical probability for independent and dependent events	Has difficulty explaining and determining experimental and theoretical probability for independent and dependent events
	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 Prob Glossary of key words: (following Evid		<u> </u>	

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

#### **Glossary**

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

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

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

Consistently: always acting or behaving in the same way and of the same quality

Effective: approach used consistently provides an accurate solution

Efficient: 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

Rarely: not often; even with support

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

Routinely: done very often with no support

Sometimes: occasionally and/or with support

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

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