

QUINCY PUBLIC SCHOOLS

Grade One Mathematics Rubric

Operations and Algebraic Thinking

Understands the relationship between addition and subtraction.

1	2	3	4
With teacher support,	With teacher support,	Working	Working independently,
is not able to use	is able to use related	independently, is	is consistently able to use
related facts to solve	facts to solve addition	consistently able to	related facts to solve
addition and	and subtraction	use related facts to	addition and subtraction
subtraction problems.	problems.	solve addition and	problems, and is able to
		subtraction problems.	explain how the
			processes of addition and
			subtraction are related.

Adds and subtracts fluently within ten.

1	2	3	4
With teacher support and/or manipulatives, is not able to add and subtract accurately within ten.	With teacher support and/or manipulatives, is able to add and subtract accurately within ten.	Working independently, is able to add and subtract quickly and accurately within ten.	Demonstrates automatic and accurate mastery of addition and subtraction facts within ten.

Adds and subtracts accurately within twenty.

1	2	3	4
With teacher supportWand/or manipulatives,aris not able to add andissubtract accuratelysuwithin twenty.w	With teacher support and/or manipulatives, s able to add and subtract accurately within twenty.	Working independently, but possibly with manipulatives, is able to add and subtract accurately within twenty.	Demonstrates automatic and accurate recall of addition and subtraction facts within twenty.

1	2	3	4
With teacher support,	With teacher support,	Working	Working independently,
is not able to apply	applies reasonable	independently,	is able to explain why a
reasonable strategies	strategies to solve	chooses appropriate	certain strategy is most
to solve word	word problems.	strategies to use when	efficient for solving a
problems.		solving word	given word problem, and
		problems, and	is able to generate new
		accurately sees	problems for which a
		problems through to	specified strategy could
		completion.	be used.

Efficiently applies strategies to solve word problems.

Numbers and Operations in Base Ten

Counts fluently, from any starting number, within 120.

Counts fluently, from any starting number, within 120.		
2	3	4
With teacher support	Working	Recognizes and uses
and/or manipulatives	independently, is able	patterns to skip count
or tools, is able to	to count forwards and	and/or to count
count forwards by	backwards by ones	backwards from a given
ones from a given	from a given starting	starting number.
starting number.	number.	
	with teacher support and/or manipulatives or tools, is able to count forwards by ones from a given starting number.	23With teacher support and/or manipulatives or tools, is able to count forwards by ones from a given starting number.Working independently, is able to count forwards and backwards by ones from a given starting number.

Reads, writes, and represents numbers within 120.

Reads, writes, and represents numbers within 120.			1.NBT.1
1	2	3	4
With teacher support,	With teacher support,	Working	Working independently,
is not able to	is able to accurately	independently, is able	is able to accurately
accurately name,	name, write, draw,	to accurately name,	name, write, draw, and
write, draw, and	and create models of	write, draw, and	create models of numbers
create models of	numbers within 120.	create models of	greater than 120.
numbers within 120.		numbers within 120.	
With teacher support, is not able to accurately name, write, draw, and create models of numbers within 120.	With teacher support, is able to accurately name, write, draw, and create models of numbers within 120.	Working independently, is able to accurately name, write, draw, and create models of numbers within 120.	Working independently, is able to accurately name, write, draw, and create models of number greater than 120.

Understands that two-digit numbers are comprised of tens and ones. **1NBT.2**

1	2	3	4
With teacher support,	With teacher support,	Working	Working
is not able to use	is able to use	independently, is able	independently, is able
manipulatives to build	manipulatives to build	to demonstrate and	to demonstrate and
two-digit numbers, and	two-digit numbers, but	explain the meaning of	explain the meaning of
is not able to explain	is not able to explain	each digit in a two digit	each digit in a three-
the meaning of each	the meaning of each	number.	digit or four-digit
digit.	digit.		number.

Uses understanding of place value to add and subtract two-digit numbers.

1	2	3	4
With teacher support is	With teacher support is	Working	Working
not able to accurately	able to accurately,	independently, is able	independently, is able
solve two-digit	solve two-digit	to accurately solve	to accurately solve
addition and	addition and	two-digit addition and	two-digit addition and
subtractions problems	subtraction problems	subtraction problems	subtraction problems
when using	when using	when using	without the use of
manipulatives and/or	manipulatives and/or	manipulatives and/or	manipulatives and/or
drawings.	drawings.	drawings.	drawings, and is able to
			extend the process to
			include working with
			three-digit numbers.

Compares two-digit numbers using >, <, and =

1	2	3	4
With teacher support	With teacher support	Working	Working independently,
and/or drawings and	and/or drawings and	independently, is able	is able to compare
manipulatives, is not	manipulatives, is able	to compare written	written numerals with
able to compare	to compare written	numerals with one or	three or more digits using
written numerals with	numerals with one or	two digits using the	the symbols >, <, and =.
one or two digits using	two digits using the	symbols >, <, and =.	
the symbols >, < , and	symbols >, <, and =.		
=.			

Mathematical Reasoning

Understands and uses appropriate vocabulary.

1	2	3	4
Does not recognize or	Demonstrates	Consistently uses	Consistently uses
used expected math	inconsistent use of	appropriate math	appropriate math
vocabulary.	math vocabulary.	vocabulary when	vocabulary, in context,
		prompted.	during classroom
			discussions.

Clearly communicates mathematical thinking verbally.

1	2	3	4
Is unable to explain	Is able to explain how a	Is able to explain how a	Is able to critique
how a problem has	problem has been	problem has been	different strategies that
been solved or why it	solved, but is not able	solved, and is able to	have been used to
has been solved that	or why it has been	explain why it has been	solve a given problem,
way.	solved that way.	solved that way.	and is able to identify
			the most efficient
			strategies to use in
			solving a given
			problem.

1	2	3	4
Is unable to use objects, drawings, or equations to solve problems.	Is able to use objects, drawings, or equations to solve problems.	Is able to use objects, drawings, and equations to solve problems.	Is able to use objects, drawings, and equations to solve problems and is able to write to explain their thinking.

Clearly communicates thinking using objects, drawings, equations, and written language.

Measurement and Data

Measures lengths of objects using non-standard units of measure.

1	2	3	4
With teacher support,	With teacher support,	Working	Working
is not able to use non-	is able to use non-	independently, is able	independently, is able
standard units (e.g.	standard units (e.g.	to use non-standard	to use standard units
paperclips) to	paperclips) to	units (e.g. paperclips)	and measuring tools
accurately measure	accurately measure	to accurately measure	(e.g. inches, feet/rulers,
objects.	objects.	objects.	tape measures) to
			accurately measure
			objects.

Represents and interprets data in graphs and charts.

1	2	3	4
With teacher support,	With teacher support,	Working	Working
is not able to answer	is able to answer	independently, is able	independently, is able
questions about the	questions about the	to interpret data to	to gather data,
number of data points	number of data points	answer "comparison"	generate graphs
in all and in each	in all and in each	questions (e.g. how	and/or charts to
category of a given	category of a given	many more or less),	represent that data.
graph.	graph.	and is able to generate	
		graphs using provided	
		data.	

Tells and writes times to the hour and half-hour.

Tens and writes times to the noar and nan noar			
1	2	3	4
With teacher support,	Working	Working	Working
is not able to	independently, is able	independently, is able	independently, is able
accurately use a clock	to accurately use a	to accurately use a	to accurately use a
to tell time, or to write	clock to tell time to the	clock to tell time, and is	clock to tell time, and is
time, to the hour and	hour, but not to the	able to write time, to	able to write time, to
half-hour.	half-hour.	the hour and half-hour.	the quarter-hour, or
			beyond.

Identifies U.S. coins and their values.

1	2	3	4
With teacher support,	Working	Working	Working
is not able to identify,	independently, is able	independently, is able	independently, is able
compare, and find	to identify coins by	to identify, compare,	to identify, compare
equivalent values of	name and value, and	and find equivalent	and find equivalent
coins or solve	with teacher support,	values of coins, and is	values of, and solve
problems involving	is able to compare and	able to use appropriate	problems involving
coins.	find equivalent values	notations, including	paper money as well as
	of coins, and is able to	when solving	coins.
	solve problems	problems involving	
	involving coins.	coins.	

Geometry

Identifies shapes based on their defining attributes.

1	2	3	4
With teacher support,	With teacher support,	Working	Working
is not able to	is able to distinguish	independently, is able	independently, is able
distinguish between	between the attributes	to distinguish between	to identify all of the
the attributes that	that define a shape (e.g.	the attributes that	defining attributes of a
define a shape (e.g.	number of sides,	define a shape (e.g.	given shape
number of sides,	angles, vertices, faces,	number of sides,	
angles, vertices, faces,	edges) and the	angles, vertices, faces,	
edges) and the	attributes that do not	edges) and the	
attributes that do not	define a shape (e.g.	attributes that do not	
define a shape (e.g.	color, size, orientation)	define a shape (e.g.	
color, size, orientation)		color, size, orientation)	

Composes shapes based on their defining attributes.

1	2	3	4
With teacher support,	With teacher support,	Working	Working
is not able to	is able to accurately	independently, is able	independently, is able
accurately draw or	draw or build a shape	to accurately draw or	to build or draw, and
build a shape when	when given a list of	build a shape when	name, shapes beyond
given a list of defining	defining attributes (e.g.	given a list of defining	those that are
attributes (e.g.	rectangle, square,	attributes (e.g.	expected.
rectangle, square,	trapezoid, triangle,	rectangle, square,	
trapezoid, triangle,	circle, cube,	trapezoid, triangle,	
circle, cube,	rectangular prism,	circle, cube,	
rectangular prism,	cone, and cylinder).	rectangular prism,	
cone, and cylinder).		cone, and cylinder).	

Updated: 4/4/2016