

Grade

4





Instructions

Administering the Assessments

- 1. This assessment has been developed with the intention of being split up into individual outcomes and given upon completion of instruction/units throughout the year and **not** as a comprehensive test in June.
- 2. The division expectation is for the assessment to be given as **both** a pre (formative) and post (summative) assessment which will be entered into SRPSD database.
- 3. Use professional judgment on whether this assessment is given orally or in written form. The intent is to assess mathematical understanding.
- 4. Refer to the last few pages for any paper manipulatives needed to administer certain questions. Teachers will have to print off a copy for their class.
- 5. Calculator use is only allowed where indicated.
- 6. In the case that a student answers a level 4 question correctly but misses the level 2 or 3, the teacher will need to:
 - a) reassess
 - b) use professional judgment (teacher knows student best).
- 7. This assessment is not intended to assess ELA reading or writing outcomes therefore questions can be read to students and answers can be scribed when needed.
- 8. The corrected pre-tests are not to be showed to the students as it will affect post-test results.

N4.1a Demonstrate understanding of whole numbers to 10 000 by representing and describing.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student is able to	Student is able to represent	Student is able to represent
assistance to use base	represent a quantity	a quantity to 10 000 using	a quantity to 10 000 in a
ten blocks to represent	to 10 000 using base	symbolic representation.	non-standard arrangement
a quantity to 10 000.	ten blocks.		and explain.

1. Draw a picture to represent 3234.

2. Represent 3234 in expanded form.

3. Oliver's answer for #2 was 4 + 230 + 3000. Does Oliver's answer represent the same amount? Explain

Part A: Number Strand

N4.1b Demonstrate understanding of whole numbers to 10 000 by comparing and ordering.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student is able to	Student is able to order a	Student is able to order a set
assistance to compare	compare numbers to	set of numbers to 10 000.	of numbers to 10 000 and
numbers to 10 000.	10 000.		explain their strategy.

1. Compare these two numbers using "greater than" or "less than".

4254 4425

2. Order the following numbers (least to greatest or greatest to least).

4254 4245 4425

3. Chloe ordered these numbers from greatest to least. Explain the strategy she used. 5422, 5014, 4475

Part A: Number Strand

N4.2a Demonstrate an understanding of addition of whole numbers with answers to 10 000 (limited to 3 and 4-digit numerals).

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student can add numbers to	Student is able to add	Student is able to solve
assistance adding	10 000 that do not require	numbers to 10 000 using a	situational addition
numbers to 10 000.	regrouping.	regrouping strategy.	story problems.

1. a) Solve the following number sentence.

7436 + 2141

b) Solve the following number sentence.

2436 + 217

2. How many people went to the fair? 3642 people went to the fair on Friday. 4795 people went on Saturday.



N4.2b Demonstrate an understanding of subtraction of whole numbers with answers to 10 000 (limited to 3 and 4-digit numerals)

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student can subtract	Student is able to subtract	Student is able to solve
assistance subtracting	numbers to 10 000 that do	numbers to 10 000 using a	situational subtraction
numbers to 10 000.	not require regrouping.	regrouping strategy.	story problems.

1. a) Solve the following:

6789 - 5432

b) Solve the following:

3454 - 1999

2. In 1971, the Prince Albert Raiders were formed. How many years have the Raiders been around?



Part A: Number Strand

N4.2c Demonstrate understanding of estimation using addition or subtraction to 10 000.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student is able to round	Student is able to use a	Student is able to estimate an
assistance to round	numbers to 10 000.	personal strategy to	addition or subtraction
numbers to 10 000.		estimate an addition or	problem and justify their
		subtraction problem.	reasoning.

1. For a read-a-thon, Natalie read 786 pages, Kevin read 815 pages, Mario read 623 pages, and altogether, they read over 2000 pages.

a) Is 2000 exact or an estimate? How do you know?



b) About how many more pages did Kevin read than Mario?

2. Justify your answer.

N4.3 Demonstrate an understanding of multiplication of whole numbers (limited to numbers less than or equal to 10) by applying mental mathematics strategies and explaining the results of multiplying by 0 and 1.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance	Student is able to	Student is able to provide an	Student is able to
to determine the result of	provide an answer to	answer to solve a	provide additional
a multiplication equation.	solve a multiplication	multiplication equation and	strategies to solve a
	equation.	explain a strategy.	multiplication fact.

1. Solve.

6 x 7

2. What strategy did you use? If you know it automatically what strategy could you use?

3. Jane was given the question $6 \ge 8$ and asked to explain her strategy. She explained that she skipped counted by 8 six times and got the answer of 48. She wants you to help come up with a more efficient way to solve $6 \ge 8$. What is your strategy?

N4.4 Demonstrate an understanding of multiplication (2- or 3-digit by 1-digit) by using personal strategies for multiplication, with and without concrete materials, using arrays to represent multiplication, connecting concrete representations to symbolic representations, estimating products and solving problems.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student is able to use	Student is able to	Student is able to solve a
assistance to	concrete	estimate and solve a 2	multiplication problem
determine the result of	representations/drawings to	or 3 digit	and explain their
a multiplication	solve a multiplication	multiplication	strategy.
equation.	equation.	equation.	

1. Estimate the product.

5 x 31

2. Solve.

5 x 31

3. Explain the strategy for solving.

Name:

Part A: Number Strand

N4.5 Demonstrate an understanding of division (1-digit divisor and up to 2-digit dividend) to solve problems by using personal strategies for dividing with and without concrete materials, estimating quotients, explaining the results of dividing by 1, solving problems involving division of whole numbers, and relating division to multiplication.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student is able to use	Student is able to estimate	Student is able to
assistance to	concrete	and solve a 2 or 3 digit	provide additional
determine the result	representations/drawings	division problem using a	strategies to solve a
of a division equation.	to solve a division equation.	personal strategy.	division fact.

1. How many canoes will be needed? Grade 4 students are going on a canoe trip. There are 35 students in the class. 5 students can go in each canoe. Draw a picture to solve.



2. a) Estimate.

 $49 \div 5$

b) Solve

 $49 \div 5$

3. Ashley was given the question $70 \div 7$ and asked to explain her strategy. She explained that she used long division to get an answer of 7. She wants you to help come up with a more efficient way to solve $70 \div 7$. What is your strategy?

N4.6 Demonstrate an understanding of fractions less than or equal to one by using concrete and pictorial representations to name and record fractions for the parts of a whole or a set, compare and order fractions, model and explain that for different wholes, two identical fractions may not represent the same quantity, and provide examples of where fractions are used.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student is able to	Student is able to	Student is able to provide an
assistance to name	name and record	compare and order	example of when 2 identical
fractions.	fractions.	fractions.	fractions may not represent the
			same quantity.

1. Name the following fractions.





- 2. Order the following numbers.
 - $\frac{1}{2}$, 0, 1, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{3}{8}$

3. Lucy ate half a pizza and Matt ate half a pizza. However, Matt ate more pizza. Explain how that's possible.



N4.7 Demonstrate an understanding of decimal numbers in tenths and hundredths (pictorially, orally, in writing, and symbolically) by describing, representing, and relating to fractions.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student is able to write	Student is able to relate	Student is able to provide
assistance to write	decimal numbers from a	decimals to fractions.	everyday examples of
decimal numbers.	drawing.		decimal numbers.

1. Write the decimal that represents this picture.

2. Convert **0.09** to a fraction.

3. Provide an example of everyday context in which tenths or hundredths are used.

N4.8a Demonstrate an understanding of addition of decimals limited to hundredths (concretely, pictorially, and symbolically) by using compatible numbers, estimating sums and differences, using mental math strategies, and solving problems.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student can add decimals	Student is able to add	Student is able to solve
assistance adding	limited to 100ths that do	decimals limited to 100ths	situational addition
decimals to 100ths.	not require regrouping.	using a regrouping strategy.	story problems.

1. Solve.

2.43 + 1.52

2. Solve.

14.86 + 2.7

3. Kim had 2.6m of blue fabric and 4.54m of yellow fabric.

How much fabric did Kim have altogether?



N4.8b Demonstrate an understanding of subtraction of decimals limited to hundredths (concretely, pictorially, and symbolically) by using compatible numbers, using mental math strategies, and solving problems.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student can subtract	Student is able to subtract	Student is able to
assistance	decimals limited to 100ths	decimals limited to 100ths	solve situational
subtracting decimals	that do not require	using a regrouping	subtraction story
to 100ths.	regrouping.	strategy.	problems.

1. Solve.

9.83 - 7.21

2. Solve.

8.8 - 2.72

3. How much mass did the puppy gained? Kelly adopted a puppy from the PA SPCA. Its mass was 4.7 kg. At the 1st visit to the vet, the puppy had a mass of 5.4 kg.



Part A: Number Strand

N4.8c Demonstrate an understanding of addition and subtraction of decimals limited to hundredths (concretely, pictorially, and symbolically) by estimating sums and differences.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs	Student is able to	Student is able to use a	Student is able to estimate an
assistance to round	estimate sums or	personal strategy to	addition or subtraction
decimals to 100ths.	differences.	estimate an addition or	problem and justify their
		subtraction problem.	reasoning.

1. Will the sum be greater than or less than 3?

2.1+0.4

2. a) Estimate the sum

4.16 + 3.92

b) Estimate the difference

8.9 - 6.2

3. a) Use your estimation skills, does Tyson have enough money to buy the muffins? Tyson has \$7.00. Tyson wants to buy some muffins. The price is \$5.95 plus tax. The tax is \$0.36.



b) How do you know?

Part B: Pattern & Relations Strand

P4.1 Demonstrate an understanding of patterns and relations by identifying and describing patterns and relations in a chart, table or diagram, reproducing patterns and relations in a chart, table, or diagram using manipulatives, creating charts, tables, or diagrams to represent patterns and relations, and solving problems involving patterns and relations.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance	Student is able to	Student is able to create a	Student is able to
to extend a pattern and	describe a pattern or	chart, table or diagram to	solve a problem
identify the pattern rule.	relation in a chart, table	represent a pattern and	involving patterns
	or diagram.	state the pattern rule.	and relations.

1. Describe the pattern rule in the chart.

Figure	Counters
1	3
2	7
3	11
4	15

2.

Fi	g. 1														
			Fi	g. 2	2										
							I	īg.	3						
											Fig	. 4			

a) Create a table to represent the area of these figures.

b) State the pattern rule.

c) How many blocks would be the 6th figure?

Part B: Pattern & Relations Strand

P4.2 Demonstrate an understanding of equations involving symbols to represent an unknown value by writing an equation to represent a problem and solving one step equations. (addition, subtraction, multiplication, division).

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance	Student is able to solve	Student is able to	Student is able to create and
to solve one step	one step	solve one step	solve one step equations
addition/subtraction	addition/subtraction	equations.	related to situational
equations.	equations.		questions.

1. Solve.

$$\triangle + 16 = 37$$

2. Solve



3. How many muffin pans will Tina need? She needs to bake 48 muffins for the bake sale. She only has muffin pans that hold 6 muffins. Write 2 equations (one multiplication and one division) to represent the story.



SS4.1a Demonstrate an understanding of time by reading and recording time using digital and analog clocks (including 24 hour clocks).

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance	Student is able to read	Student is able to read	Student is able to use an
to state the number of	and record time using	and record time using an	analog clock to give digital
hours in a day.	a digital clock.	analog clock.	and 24 hour time.

1. The digital time is 2:46.

- a) What is the hour?
- b) What are the minutes?
- 2. Write the time that this clock represents?



3. Write this time in digital time and 24 hour time.



Digital Time: _____

24 Hour Time: _____

Part C: Shape & Space Strand

SS4.1b Demonstrate an understanding of time by reading and recording calendar dates in a variety of formats.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance	Student is able to read	Student is able to write	Student is able to identify
to state the number of	dates written in	dates in a variety of formats	possible interpretations
months in a year.	format yyyy/mm/dd.	when given a year, date, and	of a date.
		month.	

1. Write the date using words and numbers.

2015/09/27

2. a) State the date represented on the calendar.

		MAF	RCH	2012		
SUN	MON	TUE	WED	THU	FRI	SAT
					E 86 45 65	
	i P	1000	199	102	- X. I.	1 marth borr
		24920 10	10 288	10.5	1882	
725	2255	nia ⁰	incentes	REAL	5.016	1987.99
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SS711336	Net In			2320 10		
-cm24	57		N-maria		n (h	

b) Using the above calendar record the other **3** possible ways to represent the date.

SS4.2 Demonstrate an understanding of area of regular and irregular 2-D shapes by:

- recognizing that area is measured in square units
- selecting and justifying referents for the units cm² or m²
- estimating area by using referents for cm² or m²
- determining and recording area (cm² or m²)
- constructing different rectangles for a given area (cm² or m²) in order to

demonstrate that many different rectangles may have the same area.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance in	Student is able to select	Student can determine	Student is able to
determining a referent or	an appropriate referent	and record the area of	construct/draw different
calculating area.	in cm ² .	2-D shapes.	rectangles for a given area.

- 1. State a referent for cm^2 .
- 2. Find the area of the shape.

3. The area of a rectangular garden is $27m^2$. The garden is $9m \log n$.

Draw a model of the garden on grid paper. $1m^2 = 1$ square

SS 4.3Demonstrate an understanding of rectangular and triangular prisms by:

- identifying common attributes
- comparing
- constructing models.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Students need help	Student can identify a	Student is able to compare	Student is able to
identifying the	rectangular and	prisms using words like face,	construct nets for
rectangular and	triangular prism.	edge, etc.	rectangular or triangular
triangular prism.			prisms.

1. Use the pictures below:



- a) Identify a triangular prism.
- b) Identify a rectangular prism.
- c) Write one similarity between a triangular and a rectangular prism.
- d) Write one difference between a triangular and a rectangular prism.
- 2. Draw the net for a triangular prism.

SS4.4 Demonstrate an understanding of line symmetry by:

- identifying symmetrical 2-D shapes
- creating symmetrical 2-D shapes
- drawing one or more lines of symmetry in a 2-D shape.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Students need assistance	Student is able to	Student is able to create a	Student is able to identify
in identifying a	identify a symmetrical	shape that is symmetrical.	multiple lines of
symmetrical shape.	shape.		symmetry.

1. Circle the shape that has symmetry.



2. Draw a shape that is symmetrical, include a line of symmetry.

3. Draw the lines of symmetry in the following shape.



Part D: Statistics & Probability Strand

SP4.1 Demonstrate an understanding of many-to-one correspondence by:

- comparing correspondences on graphs
- justifying the use of many-to-one correspondences
- interpreting data shown using a many-to-one correspondence
- creating bar graphs and pictographs using many-to-one correspondence.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)		
Student needs assistance	Student is able to	Student is able to organize	Student is able to analyze		
understanding many to	identify whether a	and represent data on a bar	interpretations of graphs		
one correspondence.	graph is many to one	graph or pictograph.	using many to one		
	or one-to-one.		correspondence.		

1. Is this a many-to-one or one-to-one graph?



Year	Number of Earthquakes
1994	15
1995	25
1996	22
1997	20
1998	16
1999	23

2. This table shows the number of earthquakes per year, from 1994 to 1999.

a) Draw a bar graph to show this data.



b) Write a question you could answer by looking at the graph. Answer the question