



## Essential Standards Assessment Analysis

### *Chino Valley Unified School District*

ESA #2	Team: 4th Grade	Subject: Math	Date: 12/4/23
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**STATUS:** Identify which essential standards were: **Taught and assessed (T)**, **Partially taught and/or assessed (P)**, or **Not taught and assessed (N)** yet at the time of the essential standards assessment. Write the letter in the first box.

**PROFICIENCY:** Determine the percentage of students demonstrating proficiency or higher with each essential standard on the assessment by teacher and as a team. Write the percentage in the appropriate box.

Essential Standard	T/P/N	Teacher A Gomez	Teacher B Han	Teacher C Tovali	Team
4.NBT.1- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that $700 \div 70 = 10$ by applying concepts of place value and division.	T	30	33	46	36%
4.NBT.2- Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using $>$ , $=$ , and $<$ symbols to record the results of comparisons.	T	43	50	67	53%
4.NBT.3- Use place value understanding to round multi-digit whole numbers to any place.	T	50	63	83	65%
4.NBT.4- Fluently add and subtract multi-digit whole numbers using the standard algorithm.	T	83	93	100	92%
4.NBT.5 - Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	T	27	53	67	49%

Essential Standard	T/P/N	Teacher A	Teacher B	Teacher C	Team
4.NBT.6- Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.	N	38	47	62	49%
4.NF.1- Explain why a fraction $a/b$ is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.	P	7	47	62	39%
4.NF.2- Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$ . Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual fraction model.	P	12	55	50	39%
4.NF.3- Understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$					
a) Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.	P	20	30	17	22%
b) Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g., by using a visual fraction model. Examples: $3/8 = 1/8 + 1/8 + 1/8$ ; $3/8 = 1/8 + 2/8$ ; $2\ 1/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8$ .	P	43	83	83	70%
c) Add and subtract mixed numbers with denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.	P	10	43	42	32%

<ul style="list-style-type: none"> <li>Essential Standard</li> </ul>	T/P/N	Teacher A	Teacher B	Teacher C	Team
<b>4.NF.3-</b> Understand a fraction $a/b$ with $a > 1$ as a sum of fractions $1/b$ .					
<b>d)</b> Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fractions models and equations to represent the problem.	P	50	80%	100	77%
<b>4.NF.4-</b> Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.					
<b>a)</b> Understand a fraction $a/b$ as a multiple of $1/b$ . For example, use a visual fraction model to represent $5/4$ as the product $5 \times (1/4)$ , recording the conclusion by the equation $5/4 = 5 \times (1/4)$ .	P	20	73%	88	60%
<b>b)</b> Understand a multiple of $a/b$ as a multiple of $1/b$ , and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times (2/5)$ as $6 \times (1/5)$ , recognizing this product as $6/5$ . (In general, $n \times (a/b) = (n \times a)/b$ .)	P	20	73%	75	56%
<b>c)</b> Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $3/8$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?	P	10	43%	75	43%
<b>4.NF.5-</b> Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $3/10$ as $30/100$ , and add $3/10 + 4/100 = 34/100$ .	P	33	55%	54	47%
<b>4.NF.6-</b> Use decimal notation for fractions with denominators 10 or 100. For example, rewrite $0.62$ as $62/100$ ; describe a length as $0.62$ meters; locate $0.62$ on a number line diagram.	P	30	90%	75	65%

Highly Assessed on the CAASPP	T/P/N	Teacher A	Teacher B	Teacher C	Team
4.OA.1- Interpret a multiplication equation as a comparison, e.g., interpret $35 = 5 * 7$ as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.	T	52	65%	83	67%
4.OA.2- Multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.	T	35	45%	50	43%
4.OA.3- Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.	T	32	47%	71	50%
4.MD.2- Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.	N	47	57%	83	62%

### Analysis of the Essential Standards **TAUGHT and Assessed**

1) Which essential standards have students learned most deeply? Which instructional practices contributed to the results?	<p><b>ESA #1</b> 4.NBT.1- Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that <math>700 \div 70 = 10</math> by applying concepts of place value and division. (team 62%)</p> <p><b>ESA #2</b></p> <ul style="list-style-type: none"> <li>All NBT Domain is taught &amp; assessed,</li> <li>Very straightforward question type on ESA #2 *remember to look at question type for ESA #3</li> </ul>
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<p>2) What surprises do you see in the data? Why?</p>	<p><u>ESA #1</u>  4.NF.3- Understand a fraction <math>a/b</math> with <math>a &gt; 1</math> as a sum of fractions <math>1/b</math>.  d) Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fractions models and equations to represent the problem.</p> <ul style="list-style-type: none"> <li>• Comparing this standard to other word problems, is this due to lack of reading skill or question</li> </ul> <p><u>ESA#2</u></p> <ul style="list-style-type: none"> <li>• NBT4 at 92% using standard algorithm</li> </ul>
<p>3) Which essential standards, if any, need to be revisited? How will your <i>team</i> plan to re-engage students in learning?</p>	<p><u>ESA #1</u></p> <ul style="list-style-type: none"> <li>• ALL ES will be revisited</li> <li>• Team will use Math, Math Fluency, Lancer Time, CFA's and PLC time to build/revise CFA's and instructional practices to re-engage the students</li> <li>• Team is using the CVUSD/IMP Proficiency Map to address deeper learning of all ES earlier through a scope and sequence</li> </ul> <p><u>ESA #2</u></p> <ul style="list-style-type: none"> <li>• NBT 1 needs to be revisited, more opportunities to practice number sense(ten times...) look up CAASPP released question types multiple ways to ask this standard</li> <li>• NBT5 should be higher contributing to the score is the ability to fluently multiply and add(calculation) using two step and knowing when to add or multiply, students need to attend to precision( ie: drop off a zero, add rather than multiply, etc.)</li> <li>• Word problem...start with number less..what is the question about? What are we trying to do(the math idea) pair up with a kid who CAN do it peer support/pear deck</li> <li>• Convert word problems to Pear Deck: teacher dashboard(for immediate feedback to individuals or in pairs)</li> </ul>
<p>4) How closely does the data match your team's common assessment results?</p>	<p><u>ESA #1</u>  NA  Data to be determined</p> <p><u>ESA #2</u></p> <ul style="list-style-type: none"> <li>• <u>TBD</u> Equivalent fractions NF3c</li> </ul>

Analysis of the Essential Standards **PARTIALLY** or **NOT Yet Taught** and Assessed

1) Which essential standards, if any, are students already showing they know and can do?

ESA #1

- 4NBT.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that  $700 \div 70 = 10$  by applying concepts of place value and division. Overall score was 63%
- 4NF.3a Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fractions models and equations to represent the problem. overall was 58%

ESA #2



- MD2 surprised hasn't been taught and they're already at 62% the question involved money
- Decimal adding and subtracting students seem to have a foundation in

2) What surprises do you see in the data? Why?

### ESA #1

- Impressive surprise to see the students coming in with these ES already at this level
- Unsure if it's due to prior standard focus in Gr.3 or question types in ESA
- Did well overall Q23:(overall was 39%) 4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

### Question 23

Question **MC**  

Question Number: 23

Emily bought 2 candles at the store. The price of each candle was \$6.50. Emily paid for the candles with \$15.00. What amount did she receive in change?

- A \$2.00
- B \$6.50
- C \$8.50
- D \$13.00

**Rationale**

The candles have a total cost of  $2(\$6.50)$ . Subtracting  $\$10$  from  $\$15$  results in  $\$2$ .

- Surprisingly the overall score was not higher for 4NF.3d Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fractions models and equations to represent the problem. Score was 7% overall

Perhaps due to question format with the letter D as an unknown fraction? Clarify with students in instruction

Question MER 

Question Number

Three friends shared one sheet of poster paper. Carlos used  $\frac{2}{8}$  of the sheet of poster paper, Robyn used  $\frac{1}{8}$  of it, and Deon used the rest, as shown by the equation.

$$\frac{2}{8} + \frac{1}{8} + D = 1$$

$D$  represents the fraction of the sheet of poster paper that Deon used. Use the on-screen keyboard enter the value of  $D$  as a fraction.

Correct answers:

$\frac{5}{8}$

### ESA#2

- 7% (ESA #1 to 77% in ESA #2 in NF3d)
- NF3a one subgroup scored only 17% (simplified  $\frac{3}{4}$  -  $\frac{1}{4}$ ) question 26 on ESA #2 and 2/4
- Check Question with Math Committee (Jessica)



Question 26

Question MC /

Question Number: 26

Find the difference in simplest form.

$$\frac{3}{4} - \frac{1}{4} =$$

- A  $\frac{2}{0}$
- B  $\frac{4}{4}$
- C  $\frac{1}{2}$
- D  $\frac{4}{8}$

Rationale

- A. Student(s) may have subtracted the denominators as well as the numerators.
- B. Student(s) correctly subtracted the fractions but may have forgotten to simplify the answer.
- C. Correct answer
- D. Student(s) may have correctly subtracted the fractions but may have doubled the numbers in the fractions instead of halving them.

3) For the essential standards students will learn this term, what are some *team* instructional practices to use?

### ESA #1

- To do: Scheduling pacing aligned with CVUSD Math Proficiency Map
- Overall team scored 21% on Q:5.NF.4c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat  $\frac{3}{8}$  of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?
- Find clarification on question below team believes it is not a standard presented in IMP curriculum or essential standard in IMP

### Question 5

Question MC / / Question Number: 5

Crystal Blue Lake rose exactly  $\frac{1}{5}$  foot each day for 22 days. How many feet did Crystal Blue Lake rise in 22 days?

A  $2\frac{1}{5}$  feet

B 4 feet

C  $4\frac{2}{5}$  feet

D  $5\frac{1}{10}$  feet

**Rationale**

A. This is the result of splitting the 22 into 2 and 2, using one of the 2s for the numerator, and keeping 5 as the denominator.

B. This is an estimate using 20 divided by 5.

C. This is the result of multiplying 22 by  $\frac{1}{5}$ .

D. This is the result of taking 5 from the denominator making it the whole number and making the fraction from  $\frac{2}{20}$ .

### ESA #2

- Look deeply into into FIAB for MATH
- Use and plan to incorporate and align to math pacing the use of FIAB with Math instruction

Team Goal for Next Essential Standard Assessment & Action Steps

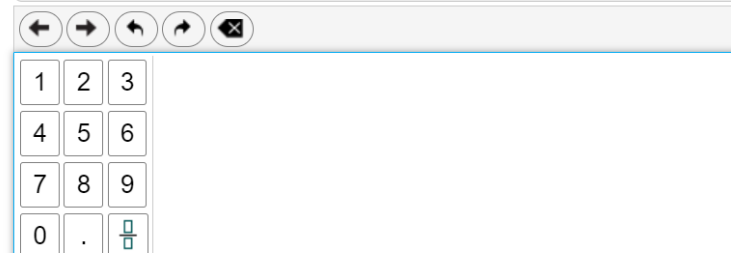
Goal:  
Unpack and clarify 4.NF.4c

ESA #1  
Team Action Steps:  
Sample question from Smarter balance

Decide whether each expression is equal to  $4 \times \frac{2}{3}$ . Click in the table to respond.

	Equal to $4 \times \frac{2}{3}$	Not Equal to $4 \times \frac{2}{3}$
$2 \times \frac{4}{3}$	<input type="checkbox"/>	<input type="checkbox"/>
$3 \times \frac{2}{4}$	<input type="checkbox"/>	<input type="checkbox"/>
$8 \times \frac{1}{3}$	<input type="checkbox"/>	<input type="checkbox"/>

$$\frac{2}{6} + \frac{3}{6} = \square$$

A digital math input interface. At the top is a large empty text box. Below it is a toolbar with navigation icons: left arrow, right arrow, undo, redo, and a clear (X) icon. Below the toolbar is a grid of input buttons: a 4x3 grid of numbers 1-9, a 0 button, a decimal point button, and a fraction template button.

4NF.3a

<https://youtu.be/XaJQse2u5TQ>

ESA #2

- Look deeply into into **FIAB** for MATH
- Use and plan to incorporate and align to math pacing the use of FIAB with Math instruction

	Newman Goal	Grade Level Goal	Grade Level Actual
ESA #1	25%		%
ESA #2	28%	30%	38%
ESA #3	34%	45%	