

**2018-19 NC Check-In 3**  
**Grade 4 Mathematics**  
**State Item Statistics**

	Content Standard		Item #	Depth of Knowledge	Percent Correct by Item
<b>Numbers and Operations-Fractions</b>	<b>4.NF.2</b>	Compare two fractions with different numerators and different denominators, using the denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100. 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 by: <ul style="list-style-type: none"> <li>• Reasoning about their size and using area and length models.</li> <li>• Using benchmark fractions 0, <math>\frac{1}{2}</math>, and a whole.</li> <li>• Comparing common numerator or common denominators.</li> </ul>	5	Skill/Concept	74.4
			12^	Skill/Concept	45.4
			16^	Skill/Concept	33.0
			17^	Skill/Concept	59.9
			21^	Skill/Concept	73.8
	<b>4.NF.3</b>	Understand and justify decompositions of fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 12, and 100. <ul style="list-style-type: none"> <li>• Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.</li> <li>• Decompose a fraction into a sum of unit fractions and a sum of fractions with the same denominator in more than one way using area models, length models, and equations.</li> <li>• Add and subtract fractions, including mixed numbers with like denominators, by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.</li> <li>• Solve word problems involving addition and subtraction of fractions, including mixed numbers by writing equations from a visual representation of the problem.</li> </ul>	2	Skill/Concept	63.9
			9	Skill/Concept	50.2
			11^	Skill/Concept	55.5
			19^	Skill/Concept	77.1
			24^	Skill/Concept	43.5
	<b>4.NF.4</b>	Apply and extend previous understandings of multiplication to: <ul style="list-style-type: none"> <li>• Model and explain how fractions can be represented by multiplying a whole number by a unit fraction, using this understanding to multiply a whole number by any fraction less than one.</li> <li>• Solve word problems involving multiplication of a fraction by a whole number.</li> </ul>	4	Skill/Concept	75.1
			6	Skill/Concept	68.4
			8	Strategic Thinking	54.8
			14^	Strategic Thinking	21.1
			20^	Recall	61.9
	<b>4.NF.6</b>	Use decimal notation to represent fractions. <ul style="list-style-type: none"> <li>• Express, model and explain the equivalence between fractions with denominators of 10 and 100.</li> <li>• Use equivalent fractions to add two fractions with denominators of 10 or 100.</li> <li>• Represent tenths and hundredths with models, making connections between fractions and decimals.</li> </ul>	3	Recall	83.6
			10	Skill/Concept	76.1
			13^	Skill/Concept	68.8
			22^	Recall	52.5
			25^	Skill/Concept	62.1
	<b>4.NF.7</b>	Compare two decimals to hundredths by reasoning about their size using area and length models, and recording the results of comparisons with the symbols $>$ , $=$ , or $<$ . Recognize that comparisons are valid only when the two decimals refer to the same whole.	1	Recall	68.2
			7	Recall	85.7
			15^	Recall	65.9
18^			Skill/Concept	48.3	
23^			Skill/Concept	66.9	

\* Items marked with an asterisk (\*) are gridded response items.

^ Students had access to a calculator when completing items marked with a ^.

Note: Results from NC Check-Ins should not be compared across interims, districts, or the state.

Each math Grade 4 NC Check-In assesses different content standards