Number and Operations – Fractions

Core Guide

Extend understanding of equivalence and ordering of fractions (Standards 4.NF.1–2). Denominators for fourth grade are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.

Standard 4.NF.1 Explain why a fraction a/b is equivalent to a fraction (n x a)/(n x 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. Concepts and Skills to Master

- Understand equivalent fractions as the same quantity with different names based on the number and size of the parts
- Recognize and explain how multiplying the numerator and denominator of a fraction by the same number, *n*, corresponds physically to partitioning each unit fraction piece into *n* smaller equal pieces (see model below)
- Explain how the principle of the multiplicative identity property of 1 transforms a fraction into an equivalent fraction and generate equivalent fractions using this principle (Students may, but need not, use the formal term for this property)

Teacher Note: Limit denominators to 2, 3, 4, 5, 6, 8, 10, 12, and 100.

Related Standards: Current Grade Level	Related Standards: Future Grade Levels	
4 NF.2 Compare and order fractions by generating equivalent fractions	5.NF.1 and 2 Add and subtract with unlike of	denominators
4.NF.3c Replace mixed numbers with equivalent fractions	5.NF.3 Interpret a fraction as division of the	numerator by the denominator.
4.NF.5 Express a fraction with denominator 10 as an equivalent fraction	5.NF.5b Relate the principle of fraction equ	ivalence
with denominator 100	6.RP.3 Generate equivalent ratios and com	pare ratios
Critical Background Knowledge from Previous Grade Levels		
 Represent whole numbers as equivalent fractions (3/3 = 1 and 4/1 = 4) 	(3.NF.3)	
 Understand equivalent fractions as the same quantity with different na 	ames (3.NF.3)	
 Denominators are limited to 2, 3, 4, 6, and 8 in third grade 		
Academic Vocabulary		
Fraction, equivalent fraction, numerator, denominator,		
Denominators new to fourth grade: fifths (1/3), tenths (1/10), twelfths (1/12)	2), hundredths (1/100)	
Suggested Models		Suggested Strategies
Visual models may include: area of various shapes (circles, rectangles, etc.), bar models, number lines, and double	 Use a variety of visual area and
number lines		linear fraction models to
	the number line to show that $\frac{4}{3} = \frac{5 \times 4}{5 \times 3}$	recognize and generate
	$1 \frac{4}{3} 2$	equivalent fractions.
	+	 Explain connections between
	$1 \frac{4}{3} 2$	models and multiplying the
1 $2=2x1$ $3=3x1$ $4=4x1$	then each part is 1 and we want to see that this	numerator and denominator by
$\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{2x2}$ $\frac{1}{6}$ $\frac{1}{3x2}$ $\frac{1}{8}$ $\frac{1}{4x2}$ $\frac{1}{4x2}$ $\frac{1}{4x2}$ $\frac{1}{4x2}$ $\frac{1}{4x2}$ $\frac{1}{3}$ is also 5 x 4 parts w	nen each part is $\frac{1}{3}$, and we want to see that this	the same number
$4 4 \div 2 2 \qquad \text{is also } 0 \land 4 \downarrow $	when each part is $\frac{1}{5\times3}$. Divide each of the	 Connect visual models to the
parts of equal	length in the unit interval, and $\frac{4}{5}$ is 5 × 4 of these.	connect visual models to the multiplicative relationships of the
Therefore $\frac{4}{2}$ =	$\frac{5 \times 4}{5 \times 3} = \frac{20}{15}$	numerators and denominators
	0/ meaning of 25 2012 00 10 15	numerators and denominators
images source: http://commoncoretoois.me/wp-content/uploads/2011/0	io/ccss_progression_nt_35_2013_09_19.pdf	

Number and Operations – Fractions

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100.		
Standard 4.NF.2 Compare two fractions with different numerators and diff <i>numerators, or by comparing to a benchmark fraction such as 1/2</i> . Recogni Record the results of comparisons with symbols >, =, or <, and justify the co	Ferent denominators, for example, by creating common denominators or ze that comparisons are valid only when the two fractions refer to the same whole. Sonclusions, for example, by using a visual fraction model.	
Concepts and Skills to Master		
 Understand equivalent fractions as the same quantity with different n Understand comparisons are only valid when the two fractions refer to Compare fractions by reasoning that as the number of equal parts in a that as the number of equal parts being considered (numerator) increating compare a fraction to a benchmark fraction of 1/2 and 1 whole Compare fractions through creating common numerators, multiplying number multiplied by one remains unchanged) Compare fractions through creating common denominators, multiplying number fractions denominators, multiplying number fractions through creating common denominators, multiplying number fractions denominators, multiplying number fractions denominators, multiplying number fractions denominators, multiplying number fract	ames o the same whole whole (denominator) increases, the size of the fractional parts decreases and ases, the total amount being considered increases at least one fraction by applying the multiplicative identity property of 1 (any ng at least one fraction by applying the multiplicative identity property of 1	
Teacher Note: While denominators at this grade level are limited to 2, 3, 4, on strategies used to find common denominators.	5, 6, 8, 10, 12, and 100, students may be exposed to other denominators based	
Related Standards: Current Grade Level	Related Standards: Future Grade Levels	
 Related Standards: Current Grade Level 4.NF.1 Recognize and generate equivalent fractions 4.NF.7 Compare two decimals to hundredths by reasoning about their sizes 	 Related Standards: Future Grade Levels 5.NF.1 and 2 Use equivalent fractions as a strategy to add and subtract fractions 6.RP.3 Use ratio and rate reasoning to solve problems 	
Related Standards: Current Grade Level4.NF.1 Recognize and generate equivalent fractions4.NF.7 Compare two decimals to hundredths by reasoning about their sizesCritical Background Knowledge from Previous Grade Levels	 Related Standards: Future Grade Levels 5.NF.1 and 2 Use equivalent fractions as a strategy to add and subtract fractions 6.RP.3 Use ratio and rate reasoning to solve problems 	
Related Standards: Current Grade Level 4.NF.1 Recognize and generate equivalent fractions 4.NF.7 Compare two decimals to hundredths by reasoning about their sizes Critical Background Knowledge from Previous Grade Levels • Compare two fractions with the same numerator or the same denomine • Denominators are limited to 2, 3, 4, 6, and 8 in third grade • Understand that decomposing into more equal shares creates smaller	Related Standards: Future Grade Levels 5.NF.1 and 2 Use equivalent fractions as a strategy to add and subtract fractions 6.RP.3 Use ratio and rate reasoning to solve problems nator by reasoning about their size (3.NF.3d) shares (1.G.3)	
 Related Standards: Current Grade Level 4.NF.1 Recognize and generate equivalent fractions 4.NF.7 Compare two decimals to hundredths by reasoning about their sizes Critical Background Knowledge from Previous Grade Levels Compare two fractions with the same numerator or the same denomine Denominators are limited to 2, 3, 4, 6, and 8 in third grade Understand that decomposing into more equal shares creates smaller 	Related Standards: Future Grade Levels 5.NF.1 and 2 Use equivalent fractions as a strategy to add and subtract fractions 6.RP.3 Use ratio and rate reasoning to solve problems nator by reasoning about their size (3.NF.3d) shares (1.G.3)	

Number and Operations – Fractions Core G	uide Gr	ade 4
Suggested Models	Suggested Strategies	
Students reason using benchmarks such as 1/2 and 1. For example, they see that 7/8 is less than 13/12 because 7/8 is less than 1 (and is therefore to the left of 1 on a number line), but 13/12 is greater than 1 (and is therefore to the right of 1 on a number line). When using the benchmark fraction of $\frac{1}{2}$ to compare $\frac{4}{6}$ and $\frac{5}{8}$ you can use bar models such as these: $\frac{\frac{1}{2} + \frac{1}{6}}{\frac{4}{6}}$ $\frac{\frac{1}{2} + \frac{1}{8}}{\frac{5}{8}}$ $\frac{\frac{4}{6}}{\frac{5}{8}}$ $\frac{\frac{4}{6}}{\frac{5}{8}}$ Since $\frac{1}{6}$ is larger than $\frac{1}{8}$, while $\frac{5}{8}$ is $\frac{1}{8}$ larger than $\frac{1}{2}$. Since $\frac{1}{6}$ is larger than $\frac{1}{8}$, $\frac{4}{6}$ is the greater fraction.	 Use a variety of visual fraction models, such as area models and number lines to compare fractions Use benchmark fractions to compare fractions If fractions are the same number of pieces from a whole, compare size of the missing pieces. This creates opportunities to reason and create common numerators Create equivalent fractions that have common numerators, and the compare the denominators or the size of the fractional parts to compare the fractions (Example: Have students explore ways of comparing 2/3 and 4/5 by finding a common numerator.) Create equivalent fractions that have common denominators, and then compare the numerators or number of parts being considered (Example: have students explore ways of comparing 2/3 and 4/5 b finding a common denominators, and 4/5 b finding a common denominators.) 	e the d hen d by
Area model: The first cake has more left over. The second cake has 5/12 left which is smaller than ½.	s progression nf 35 2013 09 19.pdf,	
http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/4.pdf		

Number and Operations – Fractions	Core Guide	Grade 4		
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers (Standards 4.NF.3–4). Denominators				
for fourth grade are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.				
Standard 4.NF.3 Understand a fraction <i>a/b</i> with <i>a</i> >1 as a sum of fract	tions 1/b. In other words, any fraction is a sum of unit fractions.			
a. Understand addition and subtraction of fractions as joining and sep	arating parts referring to the same whole.			
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, for example, by using a visual fraction model. For exa	ample, 3/8 = 1/8 + 1/8 + 1/8;			
3/8 = 1/8 + 2/8; 2 1/8 = 1 + 1 + 1/8; 2 1/8 = 8/8 + 8/8 + 1/8.				
c. Add and subtract mixed numbers with like denominators, for example	ple, by replacing each mixed number with an equivalent fraction, an	d/or by using		
properties of operations and the relationship between addition and su	btraction.			
For example, 3 1/4 + 2 1/4 = 13/4 + 9/4 = 22/4; 3 1/4 + 2 1/4 = (3+ 2) +	+ (1/4 + 1/4) = 5 + 2/4 = 5 2/4, which is equivalent to 22/4.			
d. Solve word problems involving addition and subtraction of fractions	s referring to the same whole and having like denominators, <i>for exa</i>	mple, by using visual		
fraction models and equations to represent the problem.	fraction models and equations to represent the problem.			
Concepts and Skills to Master				
 Understand and represent that addition and subtraction of fractions with the same denominator is joining or separating parts referring to the same whole 				
Understand a mixed number is a whole number and a fraction that	t can also be represented as a fraction greater than one			
 Add and subtract fractions with like denominators by replacing ea and the relationship between addition and subtraction 	ch mixed number with an equivalent fraction, and/or by using prop	erties of operations		
Solve word problems involving addition and subtraction of fraction	ns with like denominators			
Teacher Note: All concepts and skills may include fractions greater than one and mixed numbers.				
Related Standards: Current Course	Related Standards: Future Courses			
4.NF.1 Recognize and generate equivalent fractions	5.NF.1 and 2 Use equivalent fractions as a strategy to add and su	btract fractions.		
4.NF.4 Multiply a fraction by a whole number	6.EE.7 Solve real-world and mathematical problems by writing ar	nd solving equations		
4.NF.5 Add fractions with denominators of 10 and 100	of the form x + a=b for cases in which a, b and x are all non-negation	ive rational numbers		
4.NID.2 Solve word problems with fraction and decimal numbers	6.NS.2–4 Apply and extend previous understandings of numbers	to the system of		
Critical Background Knowledge from Previous Grade Levels				

• Understand a unit fraction is a fraction with a numerator of 1 (3.NF.1)

• Understand equivalent fractions (3.NF.3)

• Represent a fraction on a number line (3.NF.2)

Academic Vocabulary

Compose (composition), decompose (decomposition), unit fraction, mixed numbers, fractional form (5/4), fraction greater than one, numerator, denominator

Suggested Strategies	
 Use visual fraction models such as number bonds, number lines, fraction strips, bar models, tape diagrams, area models, and rulers to add and subtract fractions with like denominators Connect equations to visual models 	
	Suggested strategies • Use visual fraction models such as number bonds, number lines, fraction strips, bar models, tape diagrams, area models, and rulers to add and subtract fractions with like denominators • Connect equations to visual models

Number and Operations - Fractions

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers (Standards 4.NF.3–4). Denominators for fourth grade are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.
Standard 4.NF.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.
a. 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 x (1/4), recording the conclusion by the equation 5/4 = 5x (1/4).*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 x (2/5) as 6 x (1/5), recognizing this product as 6/5. (In general, n x (a/b) = (n x a)/b).*c. Solve word problems involving multiplication of a fraction by a whole number (*for example, 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 five people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?*Concepts and Skills to Master
Understand a non-unit fraction (a fraction with a numerator greater than one) as a multiple of a unit fraction and a whole number
Represent a repeated addition expression of a unit fraction multiplication expression with a whole number
Represent a non-unit fraction in an expression of a unit fraction multiplied by a whole number

- Understand a multiple of a non-unit fraction is equivalent to a unit fraction times a whole number $(3x \frac{2}{r} as 6x \frac{1}{r})$
- Solve word problems involving multiplication of a fraction and a whole number

Related Standards: Current Grade Level	Related Standards: Future Grade Levels
4.NF.2 Utilize benchmark fractions to check for reasonableness of an	5.NF.4 Multiply a fraction by a whole number or fraction
answer	5.NF.6 Solve real-world fraction multiplication problems
4.NF.3 Understand any fraction with a numerator greater than one is	5.NF.7 Divide unit fractions by whole numbers and whole numbers by unit fractions
the sum of unit fractions	6.EE.7 Solve real-world and mathematical problems by writing and solving equations
4.MD.2 Use multiplication to solve word problems using measurement	of the form <i>ax=b</i> for cases in which a, b and x are all non-negative rational numbers
	6.NS.2–4 Compute fluently with multi-digit numbers; find factors and multiples

Critical Background Knowledge from Previous Grade Levels

- Understand a unit fraction has a numerator of 1 and a non-zero denominator (3.NF.1)
- Understand and represent fractions on a number line (3.NF.2)
- Interpret the products of whole numbers as the total number of objects in all groups (3.OA.1)
- Determine the unknown whole number in a multiplication or division problem (3.OA.4)

Academic Vocabulary

Unit fraction, multiple, fractional form (5/4), fraction greater than one, mixed number, factor, product, expression, equation, numerator, denominator, whole number

Number and Operations - Fractions	Core Guide Grade
Suggested Models	Suggested Strategies
Number Line $0 \frac{1}{6} \frac{2}{6} \frac{3}{6} \frac{4}{6} \frac{5}{6} \frac{6}{6} \frac{7}{6} \frac{8}{6}$	 Use a variety of visual fraction models with students when introducing and working with each substandard a, b, and c Build multiplication and repeated addition equations to represent problems Use contexts in word problems when making models to evaluate reasonableness of answers
Bar Model $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$ $\frac{4}{6}$ $\frac{5}{6}$ $\frac{6}{6}$	Connect visual models to equations
$\frac{3}{6} = \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = 3 \times \frac{1}{6}$ Each person at a party eats $\frac{2}{5}$ of a pound of meat, and there are 3 p	people at
the party. How many pounds of meat are needed? Between what answers does you answer lie?	two
$\frac{1}{5} \frac{2}{5} \frac{3}{5} \frac{4}{5} \frac{5}{5} \qquad \frac{1}{5} \frac{2}{5} \frac{3}{5} \frac{4}{5} \frac{5}{5}$ $3 x\frac{2}{5} = \frac{2}{5} + \frac{2}{5} + \frac{2}{5} = 6 x\frac{1}{5}$ Image Source: http://www.dpi.state.nc.us/docs/curriculum/mathemeters/	ematics/scos/4.pdf

Core Guide

Understand decimal notation to the hundredths and compare decimal fractions with denominators of 10 and 100 (Standards 4.NF.5–7). Denominators for

Standard 4.NF.5 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.*

Concepts and Skills to Master

- Understand equivalent fractions as the same quantity with different names.
- Add fractions with denominators of 10 and 100
- Create equivalent fractions using Multiplicative Identity Property
- Visualize and create base-ten grids to express a fraction with a denominator of 10 or 100

Teacher Note: Student are first exposed to decimal numbers in fourth grade.

Related Standards:	Current Course			Related Standards: Future Courses
4.NF.1 Equivalent f	ractions			5.NBT.1 Recognize that in a multi-digit number, a digit in one place
4.NF.3 Add and sub	otract fractions	with like	denominators	represents 10 times as much as it represents in the place to its right and
4.NF.6 Use decimal	notation for fra	actions w	vith denominators 10 or 100	1/10 of what it represents in the place to its left
4.NF.7 Compare two decimals to hundredths by reasoning about their size		hs by reasoning about their size	5.NBT.7 Add, subtract, multiply and divide decimals	
4.MD.2 Solve measurement word problems involving decimals		s involving decimals		
Critical Background	Knowledge			
 Related Standa 	irds: Current Gr	ade Leve	el (see above)	
 Explain equival 	ence and gener	rate equi	valent fractions (3.NF.3)	
Academic Vocabula	ry			
Base-ten fractions, o	common denon	ninator, e	equivalent fraction, tenths, hundred	ths
Suggested Models				Suggested Strategies
	ones .	tenths	hundredths	• Use strategies that explore equivalent fractions with base-ten blocks,
Т	enths Grid		Hundredths Grid	base-ten grid models, or grid paper
0.3 =	3 tenths = 3/10		0.30 = 3 hundredths = 3/10	
Image Source: http:	//www.dpi.stat	te.nc.us/o	docs/curriculum/mathematics/scos/	4.pdf

Understand decimal notation to the hundredths and compare decimal fractions with denominators of 10 and 100 (Standards 4.NF.5–7). Denominators for fourth grade are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.

Standard 4.NF.6 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.

Concepts and Skills to Master

- Understand that just as fractions represent part of a whole, decimals represent part of a whole
- Understand that a fraction represented with decimal notation holds the same value as the fraction
- Identify the digit to the right of the decimal point as the tenths place and the digit two places to the right of the decimal point at the hundredths place

Teacher Note: Being precise with language when saying decimals is important. For example, always say "five and two tenths", rather than "five point two." When teachers and students are precise with their language it will provide an opportunity for students to hear the connection between fractions and decimals (Van De Walle, 2014).

Related Standards: Current Course	Related Standards: Future Courses
4.NF.5 Express equivalent fractions with denominators of 10 and 100	5.NBT.1 Recognize digits in places as 10 times as much as places to the right,
4.NF.7 Compare two decimals to hundredths by reasoning about their size	and 1/10 as much as places to the left
4.MD.2 Solve measurement problems using simple decimals	5.NBT.3 Read, write, and compare decimals to thousandths
	5.NBT.7 Add. subtract, multiply, and divide with decimals

Critical Background Knowledge from Previous Grades

• Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones (2.NBT.1)

Academic Vocabulary

tenths, hundredths, decimal, equivalent fraction, decimal notation

Suggested Models	Suggested Strategies
Hundreds Tens Ones \cdot Tenths Hundredths \bullet 3 2 \bullet 3 2 \bullet 0.32 \bullet \bullet \bullet 0.32 \bullet \bullet \bullet \bullet 0.32 \bullet \bullet \bullet \bullet \bullet 0.32 \bullet \bullet \bullet \bullet \bullet \bullet 0.32 \bullet </td <td>Relate fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money</td>	Relate fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money
Images Source: <a href="http://www.dpi.state.nc.us/docs/curriculum/mathematics/state.nc.us/sta</td> <td><u>cos/4.pd1</u></td>	<u>cos/4.pd1</u>

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onderstand decimal notation to the numbered his and compare decimal mactio	ns with denominators of 10 and 100 (Standards 4.NF.5–7). Denominators for	
fourth grade are limited to 2, 3, 4, 5, 6, 8, 10, 12, and 100.		
Standard 4.NF.7 Compare two decimals to hundredths by reasoning about th	eir size. Recognize that comparisons are valid only when the two decimals refer	
to the same whole. Record the results of comparisons with the symbols >, =, o	or <, and justify the conclusions, for example, by using a visual model.	
Concepts and Skills to Master		
Understand comparisons are only valid when the two fractions or decimations	Is refer to the same whole	
• Compare decimals by reasoning that as the number of equal parts in a w	nole increases, the size of the fractional parts decreases (hundredths are	
smaller than tenths)		
 Extend place value understanding to tenths and hundredths 		
 Create and compare base-ten grids to express a fraction with a denomination 	ator of 10 or 100	
Related Standards: Current Course	Related Standards: Future Courses	
4.NBT.2 Read, write, and compare multi-digit whole numbers	5.NBT.1 Recognize digits in places as 10 times as much as places to the right,	
4.NF.2 Compare fractions with different numerators and denominators	and 1/10 as much as places to the left	
4.NF.6 Use decimal notation for fractions with denominators 10 or 100	5.NBT.3 Read, write, and compare decimals to the thousandths	
Critical Background Knowledge from Previous Grade Levels		
Compare two fractions with the same numerator or the same denominator by reasoning about their size (3.NF.3d)		
 Compare two three-digit numbers (2.NBT.4) 		
Academic Vocabulary		
decimal tenth hundredth equivalent $> = < \text{compare}$		
accimal, tenti, nanareati, equivalent, 2, -, 2, compare,		
Suggested Models	Suggested Strategies	
Suggested Models Seeing that 0.2 > 0.09 using a visual	 Suggested Strategies Relate and compare fractions and decimals as the same value by using 	
Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model	 Suggested Strategies Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter 	
Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model	 Suggested Strategies Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money 	
Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model	 Suggested Strategies Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money 	
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Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model	 Suggested Strategies Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money 	
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Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model	 Suggested Strategies Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money 	
Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model The shaded region on the left shows 0.2 of the	Suggested Strategies • Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money	
Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model Image:	Suggested Strategies • Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money	
Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model The shaded region on the left shows 0.2 of the unit square, since it is two parts when the square is divided into 10 parts of equal area. The	Suggested Strategies • Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money	
Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model Image:	Suggested Strategies • Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money	
Suggested Models Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 > 0.09 using a visual fraction model Image: Seeing that 0.2 = 0.09 using a visual fraction model Image: Seeing that 0.2 = 0.09 using a visual fraction model Image: Seeing that 0.2 = 0.09 using a visual fraction fractin fractin fraction fraction fraction f	Suggested Strategies • Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money	
Suggested Models Suggested Models Seeing that 0.2 > 0.09 using a visual fraction model The shaded region on the left shows 0.2 of the unit square, since it is two parts when the square is divided into 10 parts of equal area. The shaded region on the right shows 0.09 of the unit square, since it is 9 parts when the unit is divided into 100 parts of equal area.	Suggested Strategies • Relate and compare fractions and decimals as the same value by using visual models such as base ten blocks and grids, number lines, meter sticks, place value chart and money sticks, place value chart and money	