## Spring Lake Elementary Schools

## Curriculum Map
## 3rd Grade Math

**The following are embedded throughout the year, and are present in all units applicable:**

**ASSESSMENTS**

- **InQuizIt - given three times per year: September, January, May**
- **Discovery Education - given three times per year: September, January, May**
- **Unit Quick Quizzes- given throughout each unit**
- **Unit Tests – given at the end of each unit**
- **Interim Benchmark Assessments - given periodically during the year**

**MATH PRACTICES**

- **Make sense of problems and persevere in solving them.**
- **Reason abstractly and quantitatively.**
- **Construct viable arguments and critique the reasoning of others.**
- **Model with mathematics.**
- **Use appropriate tools strategically.**
- **Attend to precision.**
- **Look for and make use of structure.**
- **Look for and express regularity in repeated reasoning.**

| Unit | CCSS | Learning Target | Resources/ Mentor Texts | Assessment |
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| **Unit 1 Multiplication & Division 0-5, 9, 10** | **OPERATIONS & ALGEBRAIC THINKING**<br><br>CCSS.Math.Content.3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*<br><br>CCSS.Math.Content.3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*<br><br>CCSS.Math.Content.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]<br><br>CCSS.Math.Content.3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*<br><br>CCSS.Math.Content.3.OA.B.5 Apply properties of operations as strategies to multiply and | I can understand multiplication by thinking about groups of objects. 3.OA.1<br><br>I can understand division by thinking about how one group can be divided into smaller groups. 3.OA.2<br><br>I can use what I know about multiplication and division to solve word problems. 3.OA.3<br><br>I can find the missing number in a multiplication or division equation. 3.OA.4<br><br>I can use the properties of | **Math Expressions Common Core** | **Quick Quiz 1-4**<br>**Unit 1 Test** |

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| | divide.[2] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)* | multiplication. 3.OA.5 | | |
| | CCSS.Math.Content.3.OA.B.6 Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.* | I can find the answer to a division problem by thinking of the missing factor in a multiplication problem. 3.OA.6 | | |
| | CCSS.Math.Content.3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers. | I can multiply and divide within 100 easily and quickly because I know how multiplication and division are related. 3.OA.7 | | |
| | CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.* | I can find patterns in addition and multiplication tables and explain them using what I know about how numbers work. 3.OA.9 | | |
| | **MEASUREMENT & DATA** | | | |
| | CCSS.Math.Content.3.MD.C.5a A square with side length 1 unit, called “a unit square,” is | I can understand that the area of plane shapes can be | | |

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| | said to have “one square unit” of area, and can be used to measure area.<br><br>CCSS.Math.Content.3.MD.C.5b A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units.<br><br>CCSS.Math.Content.3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).<br><br>CCSS.Math.Content.3.MD.C.7a Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.<br><br>CCSS.Math.Content.3.MD.C.7b Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.<br><br>CCSS.Math.Content.3.MD.C.7c Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths $a$ and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.<br><br>CCSS.Math.Content.3.MD.C.7d Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems. | measured in square units. 3.MD.5<br><br>I can measure areas by counting unit squares. 3.MD.6<br><br>I can measure area by using what I know about multiplication and addition. 3.MD.7 | | |

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| **Unit 2 Multiplication & Division 6-8, Multiples of 10** | **OPERATIONS & ALGEBRAIC THINKING**<br><br>CCSS.Math.Content.3.OA.A.1 Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each. *For example, describe a context in which a total number of objects can be expressed as 5 × 7.*<br><br>CCSS.Math.Content.3.OA.A.2 Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each. *For example, describe a context in which a number of shares or a number of groups can be expressed as 56 ÷ 8.*<br><br>CCSS.Math.Content.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]<br><br>CCSS.Math.Content.3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?* | I can understand multiplication by thinking about groups of objects. 3.OA.1<br><br>I can understand division by thinking about how one group can be divided into smaller groups. 3.OA.2<br><br>I can use what I know about multiplication and division to solve word problems. 3.OA.3<br><br>I can find the missing number in a multiplication or division equation. 3.OA.4 | **Math Expressions Common Core** | **Quick Quiz 1-2**<br>**Unit 2 Test** |

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| | CCSS.Math.Content.3.OA.B.5 Apply properties of operations as strategies to multiply and divide.[2] *Examples: If 6 × 4 = 24 is known, then 4 × 6 = 24 is also known. (Commutative property of multiplication.) 3 × 5 × 2 can be found by 3 × 5 = 15, then 15 × 2 = 30, or by 5 × 2 = 10, then 3 × 10 = 30. (Associative property of multiplication.) Knowing that 8 × 5 = 40 and 8 × 2 = 16, one can find 8 × 7 as 8 × (5 + 2) = (8 × 5) + (8 × 2) = 40 + 16 = 56. (Distributive property.)*<br><br>CCSS.Math.Content.3.OA.B.6 Understand division as an unknown-factor problem. *For example, find 32 ÷ 8 by finding the number that makes 32 when multiplied by 8.*<br><br>CCSS.Math.Content.3.OA.C.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.<br><br>CCSS.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies | I can use the properties of multiplication. 3.OA.5<br><br>I can find the answer to a division problem by thinking of the missing factor in a multiplication problem. (I can figure out 32 ▫ 8 because I know that 8 x 4 = 32.) 3.OA.6<br><br>I can multiply and divide within 100 easily and quickly because I know how multiplication and division are related. 3.OA.7<br><br>I can use addition, subtraction, multiplication and division to solve all kinds of word problems and then use mental math to decide | | |

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| **Unit 3 Measurement, Time & Graphs** | including rounding.[3]<br><br>CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two equal addends.*<br><br>**NUMBER & OPERATIONS IN BASE 10**<br><br>CCSS.Math.Content.3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.<br><br>**MEASUREMENT & DATA**<br><br>CCSS.Math.Content.3.MD.C.5a A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.<br><br>CCSS.Math.Content.3.MD.C.5b A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area | if my answers are reasonable. 3.OA.8<br><br>I can find patterns in addition and multiplication tables and explain them using what I know about how numbers work. 3.OA.9<br><br>I can quickly and easily multiply any one digit whole number by 10. 3.NBT.3<br><br>I can understand that the area of plane shapes can be measured in square units. 3.MD.5 | **Math Expressions Common Core** | **Quick Quiz 1-3**<br>**Unit 3 Test** |

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| **Unit 4 Multidigit Addition & Subtraction** | of *n* square units.<br><br>CCSS.Math.Content.3.MD.C.7 Relate area to the operations of multiplication and addition.<br><br>CCSS.Math.Content.3.MD.C.7a Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.<br><br>CCSS.Math.Content.3.MD.C.7b Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.<br><br>CCSS.Math.Content.3.MD.C.7d Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.<br><br>**OPERATIONS & ALGEBRAIC THINKING**<br><br>CCSS.Math.Content.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]<br><br>**NUMBER & OPERATIONS IN BASE 10** | I can measure area by using what I know about multiplication and addition.<br>3.MD.7<br><br>I can measure area by using what I know about multiplication and addition.<br>3.MD.7<br><br>I can use what I know about multiplication and division to solve word problems.<br>3.OA.3 | **Math Expressions Common Core** | **Quick Quiz 1-3**<br>**Unit 4 Test** |

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| | CCSS.Math.Content.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.<br><br>**MEASUREMENT & DATA**<br><br>CCSS.Math.Content.3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.<br><br>CCSS.Math.Content.3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l).[1] Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.[2]<br><br>CCSS.Math.Content.3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. | I can add and subtract numbers within 1000. 3.NBT.2<br><br>I can tell and write time to the nearest minute. 3.MD.1<br><br>I can measure time in minutes. 3.MD.1<br><br>I can solve telling time word problems by adding and subtracting minutes. 3.MD.1<br><br>I can measure liquids and solids with liters, grams and kilograms. 3.MD.2<br><br>I can use addition, subtraction, multiplication and division to solve word problems involving mass and volume. 3.MD.2<br><br>I can create a picture or bar graph to show data and solve | | |

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| **Unit 5 Write Equations to Solve Word Problems** | Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*<br><br>CCSS.Math.Content.3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters.<br><br>**OPERATIONS & ALGEBRAIC THINKING**<br><br>CCSS.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations. 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.[3]<br><br>CCSS.Math.Content.3.OA.D.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations. *For example, observe that 4 times a number is always even, and explain why 4 times a number can be decomposed into two* | problems using the information from the graphs. 3.MD.3<br><br>I can create a line plot from measurement data, where the measured objects have been measured to the nearest whole number, half or quarter. 3.MD.4<br><br>I can use addition, subtraction, multiplication and division to solve all kinds of word problems and then use mental math to decide if my answers are reasonable. 3.OA.8<br><br>I can find patterns in addition and multiplication tables and explain them using what I know about how numbers work. 3.OA.9 | **Math Expressions Common Core** | **Quick Quiz 1-2**<br>**Unit 5 Test** |

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| **Unit 6 Polygons, Perimeter & Area** | *equal addends*.<br><br>**NUMBER & OPERATIONS IN BASE 10**<br><br>CCSS.Math.Content.3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.<br><br>CCSS.Math.Content.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.<br><br>**OPERATIONS & ALGEBRAIC THINKING**<br><br>CCSS.Math.Content.3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.[1]<br><br>CCSS.Math.Content.3.OA.A.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations 8 × ? = 48, 5 = _ ÷ 3, 6 × 6 = ?*<br><br>CCSS.Math.Content.3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with | I can round numbers to the nearest ten or 100. 3.NBT.1<br><br>I can add and subtract numbers within 1000. 3.NBT.2<br><br>I can use what I know about multiplication and division to solve word problems. 3.OA.3<br><br>I can find the missing number in a multiplication or division equation. 3.OA.4<br><br>I can use addition, subtraction, multiplication and | **Math Expressions Common Core** | **Quick Quiz 1-2 Unit 6 Test** |

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| | a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.[3] | division to solve all kinds of word problems and then use mental math to decide if my answers are reasonable. 3.OA.8 | | |
| | **NUMBER & OPERATIONS IN BASE 10** | | | |
| | CCSS.Math.Content.3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100. | I can round numbers to the nearest ten or 100. 3.NBT.1 | | |
| | CCSS.Math.Content.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction. | I can add and subtract numbers within 1000. 3.NBT.2 | | |
| | **MEASUREMENT & DATA** | | | |
| | CCSS.Math.Content.3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement. | I can understand that the area of plane shapes can be measured in square units. 3.MD.5 | | |
| | CCSS.Math.Content.3.MD.C.5a A square with side length 1 unit,called "a unit square," is said to have "one square unit" of area, and can be used to measure area. | | | |
| | CCSS.Math.Content.3.MD.C.5b A plane figure which can be covered without gaps or overlaps by *n* unit squares is said to have an area of *n* square units. | | | |
| | CCSS.Math.Content.3.MD.C.6 Measure areas by counting unit squares (square cm, square m, | I can measure areas by counting unit squares. | | |

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| | square in, square ft, and improvised units).<br><br>CCSS.Math.Content.3.MD.C.7 Relate area to the operations of multiplication and addition.<br><br>CCSS.Math.Content.3.MD.C.7a Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.<br><br>CCSS.Math.Content.3.MD.C.7b Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.<br><br>CCSS.Math.Content.3.MD.C.7c Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths $a$ and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.<br><br>CCSS.Math.Content.3.MD.C.7d Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real world problems.<br><br>CCSS.Math.Content.3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or | 3.MD.6<br><br>I can measure area by using what I know about multiplication and addition.<br>3.MD.7<br><br>I can solve real world math problems using what I know about the perimeter of shapes.<br>3.MD.8 | | |

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| | with the same area and different perimeters.<br><br>**GEOMETRY**<br><br>CCSS.Math.Content.3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.<br><br>CCSS.Math.Content.3.G.A.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as 1/4 of the area of the shape*. | I can place shapes into categories depending upon their attributes. 3.G.1<br><br>I can recognize and draw quadrilaterals such as rhombuses, rectangles and squares, as well as other examples of quadrilaterals. 3.G.1<br><br>I can divide shapes into parts with equal areas and show those areas as fractions. 3.G.2 | | |
| **Unit 7 Explore Fractions** | **NUMBER & OPERATIONS FRACTIONS**<br><br>CCSS.Math.Content.3.NF.A.1 Understand a fraction 1/*b* as the quantity formed by 1 part when *a* whole is partitioned into *b* equal parts; understand a fraction *a*/*b* as the quantity formed by a parts of size 1/*b*.<br><br>CCSS.Math.Content.3.NF.A.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram. | I can show and understand that fractions are equal parts of a whole. 3.NF.1<br><br>I can label fractions on a number line because I know the space between any two | **Math Expressions Common Core** | **Quick Quiz 1-2**<br>**Unit 7 Test** |

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| | CCSS.Math.Content.3.NF.A.2a Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.<br><br>CCSS.Math.Content.3.NF.A.2b Represent a fraction *a*/*b* on a number line diagram by marking off a lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.<br><br>CCSS.Math.Content.3.NF.A.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.<br><br>CCSS.Math.Content.3.NF.A.3a Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.<br><br>CCSS.Math.Content.3.NF.A.3b Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.<br><br>CCSS.Math.Content.3.NF.A.3c Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.* | numbers can be thought of as a whole. 3.NF.2<br><br>I can explain in words or pictures how two fractions can sometimes be equal. 3.NF.3<br><br>I can compare fractions by reasoning about their size. 3.NF.3<br><br>I can show whole numbers as fractions. (3 = 3/1) 3.NF.3<br><br>I can recognize fractions that are equal to one whole. (1 = 4/4) 3.NF.3 | | |

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| | CCSS.Math.Content.3.NF.A.3d Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model | | | |

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