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| **ESTABLISHED GOALS:** | | | | | | |
| **Major (m) Idaho Core cluster for the Unit:**  **Apply and extend previous understandings of multiplication and division to divide fractions by fractions.**   * **6.NS.1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Compute fluently with multi-digit numbers and find common factors and multiples.***   **Not previously in Idaho State Standards for 6th grade** | | | **Supporting and Additional (s/a) Idaho Core Standards for the Unit:**   * 6.NS.4. Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2). Apply and extend previous understandings of numbers to the system of rational numbers.* * 6.RP.1. Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. For example, “The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak.” “For every vote candidate A received, candidate C received nearly three votes.” * 6.RP.3. Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. | | **Bridging Idaho Core Standards from Previous Grade(s):**   * 5.NF.3. Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. For example, interpret 3/4 as the result of dividing 3 by 4, noting that 3/4 multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size 3/4. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie? * 5.NF.4. Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction. * 5.NF.5. Interpret multiplication as scaling (resizing), by: * 5.NF.6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem. * 5.NF.7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. | |
| **Idaho Core Cluster # from above:**   * 6.NS, 6.EE | | | **Idaho Core Supporting / Additional (s/a) Standards # from above:**   * 6.NS * 6.RP | | **Idaho Core Bridging Standards from Previous Grade(s)# from above:**   * 5.NF |
| **TRANSFER**  ***Students will be able to independently use their learning to…***  Fluently apply mathematical operations to real-world problems that include fractions and multi-digit decimals | | | | | | |
| **MEANING** | | | | | | |
| **Structure of Math/ Overarching Understanding(s):**   * Students can model | | **Understandings:**  **Students will understand that:** | | **Essential Questions:**  **Students will keep considering:** | | |
| **ACQUISITION OF KNOWLEDGE AND SKILL**  **STUDENT-FRIENDLY LEARNING TARGET STATEMENTS** | | | | | | |
| 6.NS.1. Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem. *For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi? Compute fluently with multi-digit numbers and find common factors and multiples.* | MP.1 Make sense of problems and persevere in solving them.  MP.2 Reason abstractly and quantitatively.  MP.3 Construct viable arguments and critique the reasoning of others.  MP.4 Model with mathematics.  MP.5 Use appropriate tools strategically.  MP.6 Attend to precision.  MP.7 Look for and make use of structure.  MP.8 Look for and express regularity in repeated reasoning.   * Use manipulatives to show division of a fraction by a fraction   + I can use pattern blocks, base ten blocks or other manipulatives to show division of a fraction by a fraction. * Construct and solve equations from visual fraction models.   + I can construct equations from visual fraction models.   + I can solve equations from visual fraction models. * Construct and use visual fraction models to represent a story problem involving division of fractions by fractions.   + I can construct and justify a model showing division of a whole number by fraction.   + I can construct and justify a model showing division of fractions by fractions   + I can use visual fraction models to represent a story problem involving division of fractions by fractions. * Compute quotients of two fractions.   + I can divide a fraction by a fraction * Solve word problems involving division of fractions by fractions.   + I can apply division of fractions by fractions to solve word problems. * Interpret quotients of fractions given the context of the story problem.   + I can justify the quotient of fraction given the context of the story problem. | | | | | |
| **ASSESSMENT EVIDENCE:**  **Assessment Tasks that Provide Evidence for Claims including DOK** | * **Claim #1/DOK 1, 2, 3, 4 (circle one):**   Sewing | | | | | |
| * **Claim #2/DOK 1, 2, 3, 4 (circle one):** | | | | | |
| * **Claim #3/DOK 1, 2, 3, 4 (circle one):** | | | | | |
| * **Claim #4/DOK 1, 2, 3, 4 (circle one):**   Share my Candy | | | | | |
| |  |  | | --- | --- | | **Goal** |  | | **Role** |  | | **Audience** |  | | **Situation** |  | | **Product/Performance** |  | | **Standards** |  | | | | | | | |
| **Materials/Resources** |  | | | | | |
| **Teacher Notes** |  | | | | | |

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| **Sample Learning Plan**  **This is not intended to be a scope and sequence** | | |
| **Exploring and Making Connections**  **(Conceptual Understanding)** | **Practice**  **(Procedural Fluency)** | **Assessments**  **(Application)** |
| **6.NS.1** | | |
| **Focus Task (to begin unit)**:  Lisa has 4 ½ bags of fertilizer. She wants to fertilize her garden beds. Each garden bed requires ¾ of a bag of fertilizer. How many garden beds can she fertilize? Will there be any fertilizer left over? Justify your answer using a picture. | **Sample learning tasks:**  **Teacher note: These tasks may need refinement based on the needs of your students. Not all tasks have been vetted. These documents can be found in Moodle.**  Chocolate Bar Fractions  Divide Fractions Part 1  Divide Fractions Part 2  Divide Fractions Part 3  Fraction Division  Pizza and Friends Part 1  Pizza and Friends Part 2  **Material Resources:**  Prentice Hall chapter 5 section 3  Story Problem Workbook pg 46 | **Formative assessment by teacher using I Can statement checklist** |

**Stage 3 Learning Plan**

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| **Focus** | | | **Coherence** | **Rigor** | |
| Learning Goal(s):  Understand that the place of a digit inside a number determines its value. | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |
| Learning Goal(s):  Understand that place value is essential in addition and subtraction. | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |
| Learning Goal(s):  Understand that place value is essential in multiplication and division. | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |
| Learning Goal(s):  Understand that multi-digit whole numbers can be read and written using base-ten numerals, number names, and expanded form. | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |
| Learning Goal(s): | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |
| Learning Goal(s): | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |
| Learning Goal(s): | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |
| Learning Goal(s): | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |
| Learning Goal(s): | Success Criteria: | Learning Targets  I can statements…  (completed by PLCs): | Activate Prior Knowledge:  Previous Grade Level:  Number Talks:  Number Strings: | Conceptual Understanding/  Application: | Procedural Fluency: |