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| **NC.5.NF.1**  **Baking Cookies** | |
| **Domain** | **Numbers and Operations - Fractions** |
| **Cluster** | **Use equivalent fractions as a strategy to add and subtract fractions.** |
| **Standard(s)** | **NC.5.NF.1**: Add and subtract fractions, including mixed numbers, with unlike denominators using related fractions: halves, fourths, and eighths; thirds, sixths, and twelfths; fifths, tenths, and hundredths.   * Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. * Solve one- and two-step word problems in context using area and length models to develop the algorithm. Represent the word problem in an equation. |
| **Materials** | Paper and pencil  Optional: fraction bars or pattern blocks |
| **Task** | Joe and Grace are baking cookies. They need a total of 2 cups of sugar for the recipe.  Joe has cups of sugar and Grace has of a cup of sugar  Without solving the problem, do they have enough sugar? Explain your thinking.  Solve the problem using a model to justify your reasoning. |

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| **Rubric** | | |
| **Level I**  **Not Yet** | 1. **Level II** 2. **Progressing** | **Level III**  **Meets Expectations** |
| * Student is not yet able to complete task without assistance. | * Student is independently able to correctly determine if there was enough sugar but needs support to explain their reasoning. * Student needs support with modeling the solution to the problem. | * Student is independently able to correctly determine if there was enough sugar and explain their reasoning. (Example: Gracie needs ¼ more cup of sugar to make a whole cup. Joe has an extra 1/8 cup but since 1/8 is a smaller amount than ¼ there will not be enough sugar to make another cup.) * Student independently modeled the solution to the problem. Uses an area model, number line or reasoning about the quantities. |

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| **Standards for Mathematical Practice** |
| **1. Makes sense and perseveres in solving problems.** |
| **2. Reasons abstractly and quantitatively.** |
| **3. Constructs viable arguments and critiques the reasoning of others.** |
| **4. Models with mathematics.** |
| 5. Uses appropriate tools strategically. |
| **6. Attends to precision.** |
| 7. Looks for and makes use of structure. |
| 8. Looks for and expresses regularity in repeated reasoning. |

This task was adapted from *Howard County Public Schools*

**Baking Cookies**

Joe and Grace are baking cookies. They need a total of 2 cups of sugar for the recipe.

Joe has cups of sugar and Grace has of a cup of sugar.

Without solving the problem, do they have enough sugar? Explain your thinking.

Solve the problem using a model to justify your reasoning.