|  |  |
| --- | --- |
| **How Many Cookies – 6.NS.1** | |
| **Domain** | **The Number System** |
| **Cluster** | **Apply and extend previous understandings of multiplication and division to divided fractions by fractions.** |
| **Standard(s)** | **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?. |
| **Materials** | Activity sheet |
| **Task** | **How Many Cookies?**  A brownie recipe that calls for 2 and 2/3 cups of sugar will make 32 cookies. However, you only have 1 and 2/3 cups of sugar, and you have to adjust your recipe.  Part 1:  What fraction of the recipe can you make based on the amount of sugar that you have? Draw a picture and write an equation to show your work.  Part 2:  If your cookies will be the same size as before how many cookies can you make?  Part 3:  Write an answer to explain how you solved this task. |

|  |  |  |
| --- | --- | --- |
| **Rubric** | | |
| **Level I** | 1. **Level II** | **Level III** |
| * Student uses inappropriate solution strategy and does not get the correct answer. | 1. Not Yet Proficient  * There are one or two errors. | Proficient in Performance   * Accurately solves problem * Part 1: 2 and 2/3 divided by 1 and 2/3 = 5/8. * Part 2: 5/8 of 32 is 20 cookies. * Part 3: The explanation is clear and accurate. |

|  |
| --- |
| **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.** |

**How Many Cookies?**

A brownie recipe that calls for 2 and 2/3 cups of sugar will make 32 cookies. However, you only have 1 and 2/3 cups of sugar, and you have to adjust your recipe.

Part 1:

What fraction of the recipe can you make based on the amount of sugar that you have? Draw a picture and write an equation to show your work.

Part 2:

If your cookies will be the same size as before how many cookies can you make?

Part 3:

Write an answer to explain how you solved this task.