

Name: \_\_\_\_\_

Section: \_\_\_\_\_

## The Dessert Dilemma

You recently came across a recipe for a chocolate cake, with chocolate frosting, that really appealed to you. After following the recipe and baking the cake you realize it is the most delicious dessert you have ever had. Your family enjoyed the cake so much that they attempted to share the recipe with everyone they knew.

A problem was encountered when one of your relatives from Canada received the recipe. She informed your mother that her measuring equipment only provided metric units while the recipe used standard or customary units. You then remembered how you learned the process of dimensional analysis and realized that it was possible to take a concept learned in school and apply it to something in "real-life." Take the recipe below and use the provided equivalent measurements to come up with the appropriate conversions so your relative can successfully bake this wonderful dessert. Show your work on a separate sheet of paper and complete the reverse side of this sheet with the revised ingredients list for your relative.

### Ingredients

#### **Cake:**

- *Butter, for greasing the pans*
- *1 3/4 cups all-purpose flour, plus more for pans*
- *2 cups sugar*
- *3/4 cups good cocoa powder*
- *2 teaspoons baking soda*
- *1 teaspoon baking powder*
- *1 teaspoon kosher salt*
- *1 cup buttermilk, shaken*
- *1/2 cup vegetable oil*
- *2 extra-large eggs, at room temperature*
- *1 teaspoon pure vanilla extract*
- *1 cup freshly brewed hot coffee*

#### **Chocolate Frosting:**

- *6 ounces good semisweet chocolate (recommended: Callebaut)*
- *1/2 pound (2 sticks) unsalted butter, at room temperature*
- *1 extra-large egg yolk, at room temperature*
- *1 teaspoon pure vanilla extract*
- *1 1/4 cups sifted confectioners' sugar*
- *1 tablespoon instant coffee powder*

#### Equivalent Measurements

1 teaspoon  $\approx$  5 mL  
1 tablespoon  $\approx$  15 mL  
1 ounce  $\approx$  28 grams  
1 pound  $\approx$  454 grams  
1 cup  $\approx$  237 mL



## Ingredients

### **Cake:**

- *Butter, for greasing the pans*
- \_\_\_\_\_ mL *all-purpose flour, plus more for pans*
- \_\_\_\_\_ mL *sugar*
- \_\_\_\_\_ mL *good cocoa powder*
- \_\_\_\_\_ mL *baking soda*
- \_\_\_\_\_ mL *baking powder*
- \_\_\_\_\_ mL *kosher salt*
- \_\_\_\_\_ mL *buttermilk, shaken*
- \_\_\_\_\_ mL *vegetable oil*
- *2 extra-large eggs, at room temperature*
- \_\_\_\_\_ mL *pure vanilla extract*
- \_\_\_\_\_ mL *freshly brewed hot coffee*

### **Chocolate Frosting:**

- \_\_\_\_\_ g *good semisweet chocolate (recommended: Callebaut)*
- \_\_\_\_\_ g *(2 sticks) unsalted butter, at room temperature*
- *1 extra-large egg yolk, at room temperature*
- \_\_\_\_\_ mL *pure vanilla extract*
- \_\_\_\_\_ mL *sifted confectioners' sugar*
- \_\_\_\_\_ mL *instant coffee powder*