Two Parts Chocolate

The Big Idea:
Learn about ratios while making delicious chocolate-y treats for your family!

You Will Need:
★ Chocolate chips, or any chocolate chopped up
★ Milk and/or heavy cream
★ Measuring cups, spoons and a bowl

The Math Behind the Scenes:
Ratios are used in all parts of our lives, but seeing them in action in the kitchen is a great way to remember how they are used.
How Ratios Work:

A **ratio** is used to show a relationship between two numbers of the same kind or unit. You can use a ratio to compare the number of boys to the number of girls in your family or class. Ratios can be written in different ways:

★ For little kids: using the ":" to separate the two numbers
★ As a fraction, using the "/" to separate one of the numbers from the sum of both numbers
★ As a decimal, after dividing one number by the sum
★ As a percentage, after multiplying the decimal by 100 and adding the percent sign

For example, if there are 2 boys and 3 girls in your family, you can write the ratio as:

★ 2:3 (for every two boys there are 3 girls)
★ 2/5 are boys and 3/5 are girls
★ 0.40 are boys (by dividing 2 by 5)
★ 40% are boys (0.40 as a percentage)

Now you try! If you have a bag of candy that has 4 red pieces and 9 yellow pieces, how could you write the ratio?

★ 4:9 (for every 4 red pieces there are 9 yellow pieces)
★ 4/13 are red and 9/13 are yellow
★ 0.31 are red (by dividing 4 by 13)
★ 31% are red (0.31 as a percentage)

Ratios can also be **simplified**. A family with 4 girls and 2 boys can be written as 4:2 OR 2:1.
Rich Ratios:

Now use ratios to make a delicious chocolate treat - or more than one, if you can convince your parent! In all the examples, 1 ounce is equivalent to 2 tablespoons.

**Hot Chocolate**
1:3 – 1 ounce chocolate chips to 3 ounces warm milk
Mix and drink

**Ice Cream Sauce**
1:1 – 2 ounces chocolate chips to 2 ounces warm milk or cream
Mix and serve over ice cream

**Ganache/Frosting**
2:1 – 4 ounces chocolate chips to 2 ounces warm cream
Mix and serve on toast, cake or anything else

**Chocolate Truffles**
3:1 – 3 ounces chocolate chips to 1 ounce warm cream
Mix, cool down and roll into balls. You can then roll the balls into different toppings such as powdered sugar, crushed cookies, etc.

**Bonus:**

Get creative! Think of other fun ways to use ratios in your kitchen! For example, make a fruit parfait with two fruits. What is your ratio of strawberries to bananas? Blueberries to orange pieces? The possibilities are endless. Can you express those ratios as fractions, decimals, and/or percentages?