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**Author:**

**Kevin Hall**

Wording for the legal statement above is adapted from the legal statement for *Trigonometry*, published in 2009 by The CK-12 Foundation: <http://about.ck12.org/>

This guide is to help students use a **pictorial** approach to using fractional rates, i.e., if the rate is , and you have 11 candies, you multiply:

* I chose not to address the rounding issue in this picture guide, so you would have to address that separately (why it comes out to $7.34 in the actual picture guide, due to a rounding error).
* I’m not sure whether/how I’ll fit them into the overall proportions/ratios unit eventually, but I thought I’d make them available to the public now for those who are interested.

**Fractional Rate Picture Guide**

11 candies

x dollars

Is there an amount we’re starting with, and a missing number we want to find? Let’s label them both.

We can draw a bar to represent the amount we know.

**Step 1**

**11 candies**

x dollars

Is there a ratio in the problem that relates the two amounts? Let’s write it down.

**Ratio**

**2 dollars : 3 candies**

Based on the ratio, how many pieces can we break this bar into?

This ratio tells us to break the number of candies into 3 parts.

11 candies

x dollars

**Ratio**

**2 dollars : 3 candies**

Question: If 3 candies cost $2, then at that rate how much do 11 candies cost?

Now we can draw a bar for the missing amount, using the ratio.

This ratio tells us the “dollars” bar is as big as 2 parts from the other bar.

**Step 2**

**Step 3**

**7.34**

**11 candies**

x dollars

2 dollars : 3 candies

**3.67**

**3.67**

**3.67**

**Step 4**

How much is each piece of this bar worth?

Since this bar represents 11 candies, and it divides into 3 pieces, we can find out how much each piece is worth.

**Step 5**

11 candies

x dollars

2 dollars : 3 candies

3.67

3.67

3.67

Now let’s fill in the value of each piece of this bar.

Then we can multiply to find out how much this bar is worth overall.

**3.67**

**3.67**

We’re done! The cost is $7.34 if we buy eleven candies.