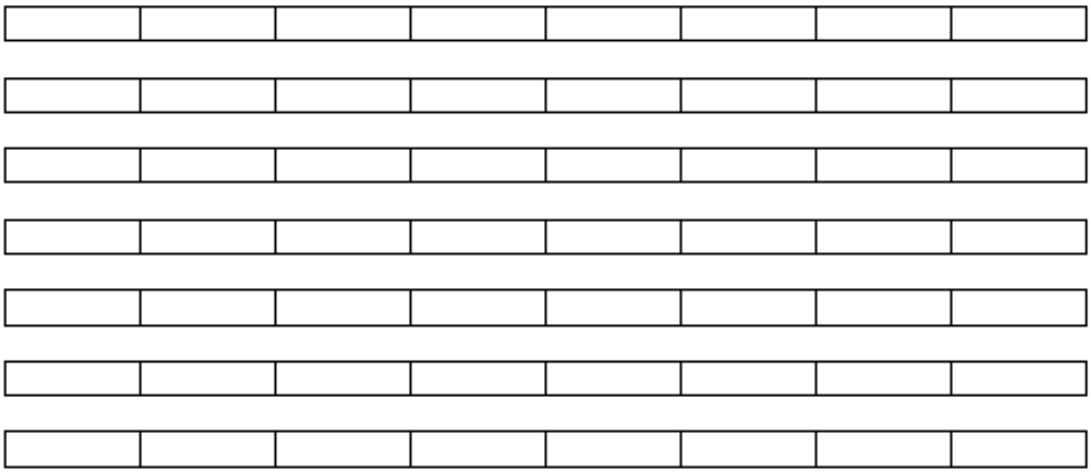
5.NF.B.6 Solve real-world problems involving multiplication of fractions and mixed numbers by using visual fraction models or equations to represent the problem.

Tamar drank $\frac{5}{8}$ gallons of water every day for 7 days. Use the model to determine how much water Tamar drank in 7 days.



Progression: Multiplication of fraction and whole number using visual fraction model.

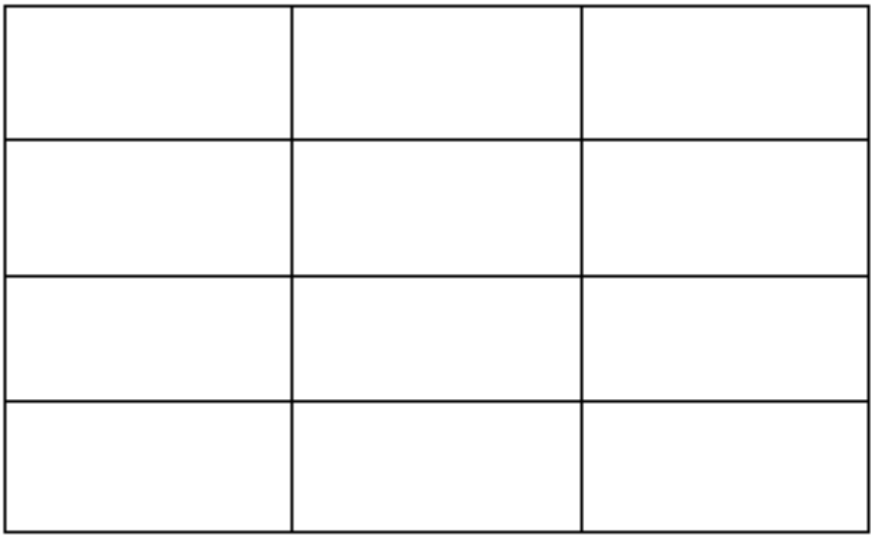
a. 40 gallons

b. 5 gallons

c. $4\frac{3}{8}$ gallons

d. $\frac{5}{56}$ gallons

Mr. Tim took $\frac{2}{3}$ of the 5th graders on a field trip. $\frac{3}{4}$ of those students brought their own lunch. Use the model to determine the fraction of the 5th graders who went on the field trip and brought their own lunch.



a. $\frac{5}{7}$

b. $\frac{1}{2}$

c. $\frac{3}{2}$

d. $\frac{8}{9}$

Progression: Multiplication of two fractions using visual fraction model.

John bakes cupcakes. He puts strawberry frosting on $\frac{4}{9}$ of the cupcakes. He puts sprinkles on $\frac{5}{7}$ of the strawberry frosted cupcakes. What part of John's cupcakes have strawberry frosting and sprinkles?

a. $\frac{28}{45}$

b. $\frac{20}{63}$

c. $\frac{36}{35}$

d. $\frac{35}{36}$

Progression: Multiplication of fractions in a contextual situation.

Jamilah gets an allowance every week. She saves $\frac{65}{100}$ of her allowance. She puts $\frac{3}{4}$ of her savings in the bank and put the rest in her piggy bank. What portion of her allowance does she put in the bank?

a. $\frac{185}{400}$

b. $\frac{69}{100}$

c. $\frac{39}{80}$

d. $\frac{75}{100}$

Progression: Multiplication of fractions in a contextual situation. Simplify a fraction.

5.NF.B.7 Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

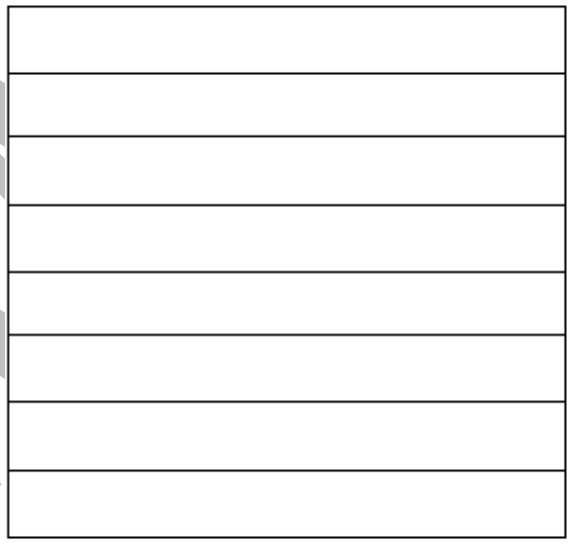
a. Interpret division of a unit fraction by a non-zero whole number and compute such quotients. ***For example, use visual models and the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) x 4 = 1/3.***

b. Interpret division of a whole number by a unit fraction and compute such quotients. ***For example, use visual models and the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 x (1/5) = 4.***

c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions by using visual fraction models and equations to represent the problem. ***For example, how much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 1/3 cup servings are in 2 cups of raisins?***

Use the model to compute the quotient.

$\frac{1}{8} \div 5$



a. $\frac{5}{8}$

b. $\frac{8}{5}$

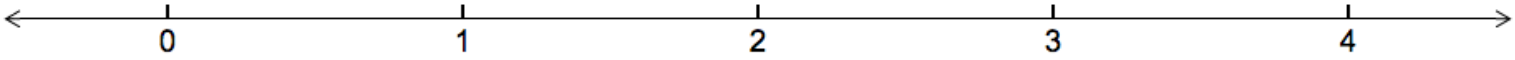
c. $\frac{1}{40}$

d. $\frac{1}{5}$

Progression: Division of a unit fraction by a whole number using visual fraction model.

Use the number line to compute the quotient.

$$4 \div \frac{1}{3}$$



a. $\frac{3}{4}$

b. $\frac{4}{3}$

c. 12

d. 7

Progression: Division of a whole number by a unit fraction using a number line.

Nivia has $\frac{1}{10}$ liter of glue to make slime. She has to make 3 identical batches of slime. How much glue can Nivia put in each of the batches of slime?

a. $\frac{3}{10}$ liter

b. $\frac{1}{30}$ liter

c. 30 liters

d. 10 liters

Progression: Division of a unit fraction by a whole number in a contextual situation.

Rodney has 14 cups of cereal. He has to put all of the cereal into $\frac{1}{12}$ cup containers. How many containers can Rodney fill?

a. 168

b. 26

c. $\frac{14}{12}$

d. $\frac{12}{14}$

Progression: Division of a whole number by a unit fraction in a contextual situation.

