



5

Common Core State Standards

Standard:
5.NF.5

Grade 5

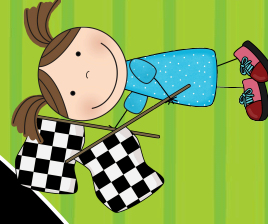
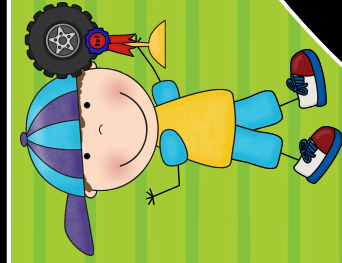
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by teachers.**

**Worksheets and Activities
that teach every standard!**

Common Core State Standards

Interpret multiplication as scaling (resizing), by:

- Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
- Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence $a/b = (n \times a)/(n \times b)$ to the effect of multiplying a/b by 1.



Product Grand Prix

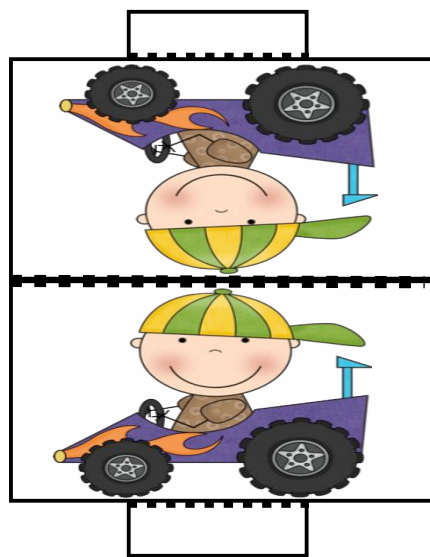
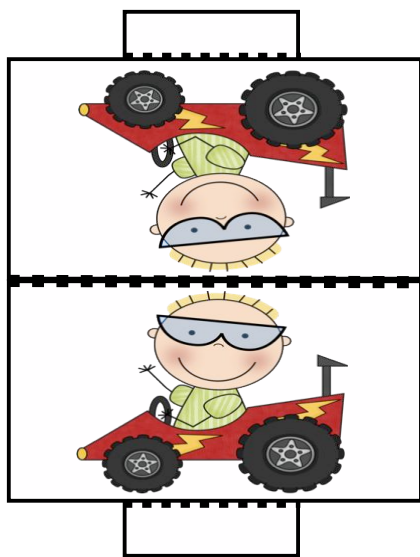
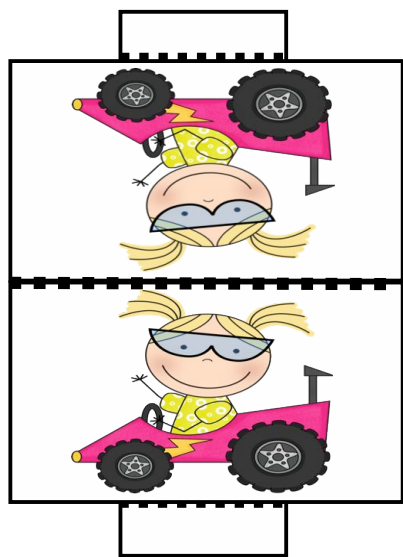
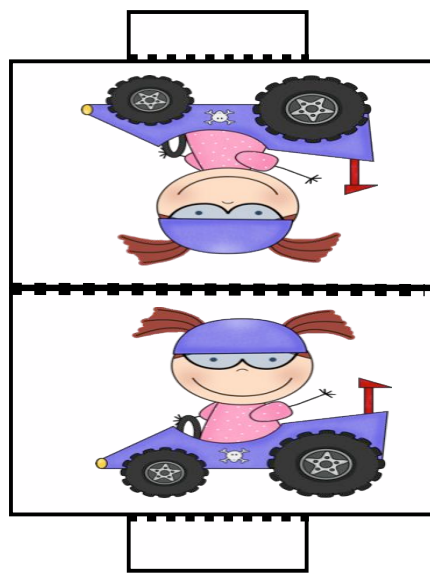
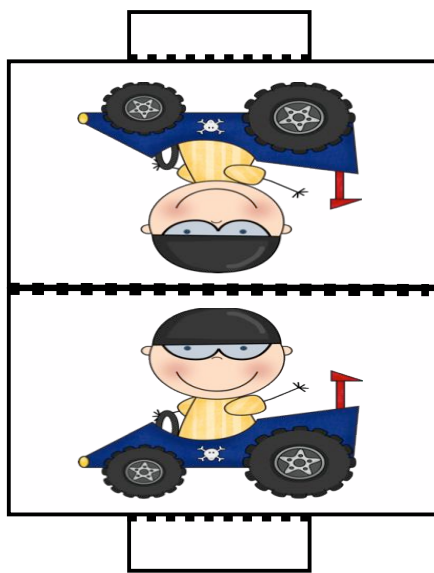
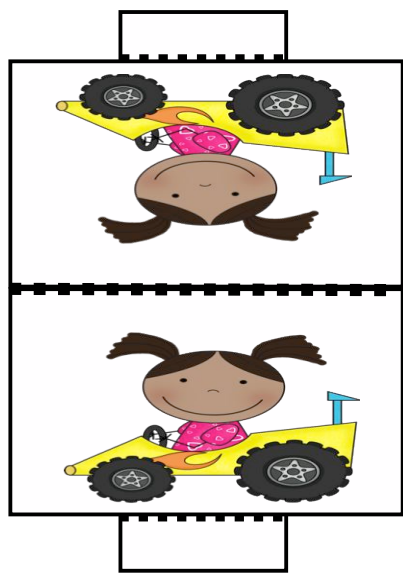
SPEED
45
LIMIT

Gas 400^{mi}

5.NF.5. Interpret multiplication as scaling (resizing), by comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

Race your way to the finish line by comparing the products of multiplication problems. You and a partner each select a racecar to drive, then place it at the starting line. Choose one colored deck of problem cards. Then, shuffle and deal half to each player. To play, each player flips over a card from their pile. Compare each product by looking at the size of each factor. The player with the largest product moves forward one space on the racetrack. The first player to finish wins. Complete the recording sheet after game play

**Fold in half on the dotted line.
Then fold the tabs outward on the dotted line to stand piece up.**



$$\begin{array}{r} 30 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 61 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 41 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 40 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 15 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times 14 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times 17 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 22 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 37 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 29 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 40 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 52 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 55 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 59 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 65 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 67 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 68 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 70 \\ \times 20 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 33 \\ \hline \end{array}$$

$$\begin{array}{r} 48 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 21 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 19 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} 44 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 19 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 14 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 29 \\ \hline \end{array}$$

$$\begin{array}{r} 42 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 14 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 17 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 26 \\ \hline \end{array}$$

$$\begin{array}{r} 40 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 17 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 24 \\ \hline \end{array}$$

$$\begin{array}{r} 38 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 16 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 39 \\ \hline \end{array}$$

$$\begin{array}{r} 59 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 74 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 34 \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 31 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 68 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 28 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 67 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 27 \\ \hline \end{array}$$

$$\begin{array}{r} 50 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 43 \\ \times 23 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ \times 43 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 63 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 10 \\ \hline \end{array}$$

$$\begin{array}{r} 54 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 42 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 60 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 52 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 38 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 59 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 40 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 57 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 78 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 42 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 55 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 72 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ \times 11 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ \times 11 \\ \hline \end{array}$$

Name _____

Directions: Fill in the problems below with multiplication cards from the game. Write a $>$, $<$, or $=$ symbol in the circle to compare the products based on the size of their factors. Do not perform the multiplication problems.

Multiplication and Fractions

Directions: Solve the fraction number stories by comparing the size of the factors. Think about the size of the fraction, being less than one, or greater than one, and how that will affect the product.

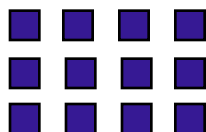
Christine and Jennifer each have an equal pile of Hershey Kisses. If Christine eats $\frac{1}{5}$ of her Kisses, and Jennifer eats $\frac{1}{8}$ of hers, who ate the greater number of Hershey Kisses?	<p>Susan, Patricia, and Louise each have 16 stamps. Susan used $\frac{1}{2}$ of her stamps. Louise used $\frac{1}{8}$. Patricia used $\frac{1}{4}$.</p> <p><i>Show the amounts of stamps used by each girl.</i></p> <p><i>As the size of the fractions become smaller, what happens to the size of the products?</i></p>
Circle the greater product without computing the answer.	Estimate the dollar amount without performing the multiplication.
$\frac{1}{5} \times \frac{3}{4}$ and $\frac{1}{3} \times \frac{2}{5}$	$\frac{1}{4} \times \$123.67$ is closest to: \$50 \$30 \$20 \$60
$\frac{6}{9} \times \frac{4}{5}$ and $\frac{3}{7} \times \frac{2}{4}$	$\frac{1}{5} \times \$45.80$ is closest to: \$7 \$4 \$9 \$11
$\frac{4}{6} \times 230$ and $\frac{3}{5} \times 230$	$\frac{1}{6} \times \$516.23$ is closest to: \$70 \$95 \$91 \$88
$12\frac{2}{3} \times \frac{3}{5}$ and $19\frac{1}{3} \times \frac{4}{5}$	$\frac{1}{3} \times \$40.85$ is closest to: \$10 \$12 \$14 \$15
Drew has 12 caterpillars and Frankie has one and one-half times the number of Drew's caterpillars. Draw the number of caterpillars that Frankie has. <i>How many caterpillars does Frankie have?</i>	<p>Joao has one and one-third times the number of Drew's caterpillars. Draw the number of caterpillars that Joao has.</p> <p><i>Explain how you determined the number of Joao's caterpillars.</i></p>

Multiplication and Fractions

Directions: Use drawings and knowledge of fractions to solve the problems below.

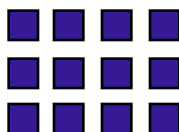
Circle the number of soy nuts for each fraction, and complete the equation.

a. Brendan's Soy Nuts



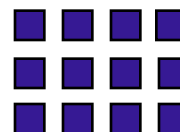
$$1/2 \times 12 = \underline{\quad}$$

b. Chloe's Soy Nuts



$$1/3 \times 12 = \underline{\quad}$$

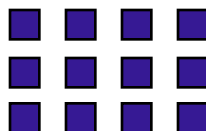
c. Ian's Soy Nuts



$$1/4 \times 12 = \underline{\quad}$$

In the boxes provided, draw the number of soy nuts for each child.

a. Steve's Soy Nuts

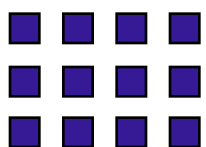


$$1 \frac{1}{3} \times 12 = \underline{\quad}$$

Laura's Soy Nuts ($1 \frac{1}{3}$ times the number of Steve's)



b. Steve's Soy Nuts

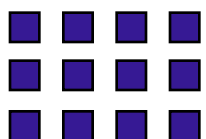


$$1 \frac{1}{4} \times 12 = \underline{\quad}$$

Amy's Soy Nuts ($1 \frac{1}{4}$ times the number of Steve's)



c. Steve's Soy Nuts



$$1 \frac{1}{2} \times 12 = \underline{\quad}$$

Jill's Soy Nuts ($1 \frac{1}{2}$ times the number of Steve's)



Name: _____

Date: _____

Directions: Solve the fractional equations and number stories below.

Assessment

1. Circle the greater products without computing the answers.

$$\frac{1}{5} \times \frac{2}{7} \text{ and } \frac{3}{6} \times \frac{2}{7}$$

$$\frac{2}{8} \times \frac{4}{5} \text{ and } \frac{1}{8} \times \frac{2}{5}$$

2. Estimate the dollar amount without performing the multiplication.

$$\frac{1}{3} \times \$256.89 \text{ is closest to: } \$105 \quad \$35 \quad \$85 \quad \$15$$

3. Bart has 18 sand slugs and Harvey has one and one-half times as many sand slugs as Bart. How many sand slugs does Harvey have?

4. George has two-thirds as many freckles as Claire. Claire has 39 freckles. How many freckles does George have?

5. Explain why when we multiply 7 by $1 \frac{1}{6}$ the product is greater than 7, but when we multiply 7 by $\frac{1}{6}$, the product is less than 7.