Name _____ Date _____

**Learning Target:** I will multiply multi-digit numbers    6th Grade - Readiness Standard 2 - 5.NBT.5 - Form A

### 1. We Do Together: Label, multiply and show.

| Label the partial lengths if the total length is 2864 | Show your thinking using numbers and symbols |
|---|---|

Label:   2000      800      60      4

| | 2000 | 800 | 60 | 4 |
|---|---|---|---|---|
| 7 | 7 × 2000<br>14000 | 7 × 800<br>5600 | 7 × 60<br>420 | 7 × 4<br>28 |

**Multiply** to find each partial area

Show:
```
  2864
x    7
 14000        or        28
  5600                 420
   420                5600
+   28             +14000
 20048               20048
```

### 2. Reflect: What questions do you have about multiplying multi-digit numbers?

### 3. You Do Together: Label, multiply and show.

| Label the partial lengths if the total length is 28 | Show your thinking using numbers and symbols |
|---|---|

Label:   20      8

| | 20 | 8 |
|---|---|---|
| 10 | 10 × 20<br>200 | 10 × 8<br>80 |
| 7 | 7 × 20<br>140 | 7 × 8<br>56 |

**Multiply** to find each partial area

Show:
```
   28
 x 17
  200           56
   80    or    140
  140           80
+  56         + 200
  476           476
```

| Label the partial lengths if the total length is 286 | Show your thinking using numbers and symbols |
|---|---|

Label:   200      80      6

| | 200 | 80 | 6 |
|---|---|---|---|
| 10 | 10 × 200<br>2000 | 10 × 80<br>800 | 10 × 6<br>60 |
| 7 | 7 × 200<br>1400 | 7 × 80<br>560 | 7 × 6<br>42 |

**Multiply** to find each partial area

Show:
```
    286
 x   17
  2000           42
   800          560
    60    or   1400
  1400           60
   560          800
+   42        +2000
  4862          4862
```

**Learning Target:** I will divide 4-digit number

**1. We Do Together:** List, label, think multiply to divide and show.

**List the multiples of 3**

$3 \times 1 = \underline{3}$     $3 \times 2 = \underline{6}$     $3 \times 3 = \underline{9}$

$3 \times 4 = \underline{12}$     $3 \times 5 = \underline{15}$     $3 \times 6 = \underline{18}$

$3 \times 7 = \underline{21}$     $3 \times 8 = \underline{24}$     $3 \times 9 = \underline{27}$

**Label the missing lengths**

| | 2000 | 300 | 60 | 4 |
|---|---|---|---|---|
| 3 | 3(2000) | 3(300) | 3(60) | 3(4) |
| | 6000 | 900 | 180 | 12 |

**Show your thinking using numbers and symbols**

```
          4
         60 ) 2364
        300
       2000
   3 ) 7 0 9 2
     - 6000
       1092
      - 900
        192
       -180
         12
        -12
          0
```

**List the multiples of 7**

$7 \times 1 = \underline{7}$     $7 \times 2 = \underline{14}$     $7 \times 3 = \underline{21}$

$7 \times 4 = \underline{28}$     $7 \times 5 = \underline{35}$     $7 \times 6 = \underline{42}$

$7 \times 7 = \underline{49}$     $7 \times 8 = \underline{56}$     $7 \times 9 = \underline{63}$

**Label the missing lengths**

| | 800 | 30 | 6 |
|---|---|---|---|
| 7 | 7(800) | 7(30) | 7(6) |
| | 5600 | 210 | 42 |

**Show your thinking using numbers and symbols**

```
        6
       30 ) 836
      800
   7 ) 5 8 5 2
     - 5600
        252
      - 210
         42
        -42
          0
```

**2. Reflect:** What questions do you have about dividing a 4-digit number?

**Learning Target:** I will divide 4-digit number

**3. You Do Together:** List, label, think multiply to divide and show.

| List the multiples of 20 | Show your thinking using numbers and symbols |
|---|---|

List the multiples of 20

$20 \times 1 = \underline{20}$    $20 \times 2 = \underline{40}$    $20 \times 3 = \underline{60}$

$20 \times 4 = \underline{80}$    $20 \times 5 = \underline{100}$    $20 \times 6 = \underline{120}$

$20 \times 7 = \underline{140}$    $20 \times 8 = \underline{160}$    $20 \times 9 = \underline{180}$

**Show your thinking using numbers and symbols**

```
          7
      20 ) 327
         300
  20 ) 6 5 4 0
     - 6000
         540
        - 400
         140
        - 140
           0
```

**Label the missing lengths**

|  | 300 | 20 | 7 |
|---|---|---|---|
| 20 | 20( 300 )<br>6000 | 20( 20 )<br>400 | 20( 7 )<br>140 |

**List the multiples of 14**

$14 \times 1 = \underline{14}$    $14 \times 2 = \underline{28}$    $14 \times 3 = \underline{42}$

$14 \times 4 = \underline{56}$    $14 \times 5 = \underline{70}$    $14 \times 6 = \underline{84}$

$14 \times 7 = \underline{98}$    $14 \times 8 = \underline{112}$    $14 \times 9 = \underline{126}$

**Show your thinking using numbers and symbols**

```
          9
      80 ) 589
         500
  14 ) 8 2 4 6
     - 7000
        1246
       - 1120
         126
        - 126
           0
```

**Label the missing lengths**

|  | 500 | 80 | 9 |
|---|---|---|---|
| 14 | 14( 500 )<br>7000 | 14( 80 )<br>1120 | 14( 9 )<br>126 |

![DELTA MATH logo]

**Name** _____ **Date** _____

**Learning Target:** I will add and subtract mixed numbers          6th Grade - Readiness Standard 4 - 5.NF.1 - Form A
                    with different denominators

**1. We Do Together:** Rewrite, draw, tell and show.

| Rewrite using common denominators | Show the common denominators and ungroup to subtract |
|---|---|
| $2\frac{8}{6}$ <br> $3\frac{1^{\times 2}}{3\times 2}$   $3\frac{2}{6}$ <br> $-1\frac{5}{6}$   $-1\frac{5}{6}$ <br><br> $\frac{3\cdot 1}{3\cdot 2}$   $\frac{3}{6}$ or $\frac{1}{2}$ |  |

| | Tell what you ungrouped and the equivalent mixed number | Show your thinking using numbers and symbols in the box to the far left |
|---|---|---|
| | 1 Whole $= \frac{6}{6}$      $3\frac{2}{6} = 2\frac{8}{6}$ | |

**2. Reflect:** What questions do you have about subtracting mixed numbers?

**3. You Do Together:** Rewrite, draw, tell and show.

| Rewrite using common denominators | Draw the total, ungroup if necessary, then subtract |
|---|---|
| $1\frac{12}{8}$ <br> $2\frac{1^{\times 4}}{2\times 4}$   $2\frac{4}{8}$ <br> $-1\frac{7}{8}$   $-1\frac{7}{8}$ <br><br> $\frac{5}{8}$ |  |

| | Tell what you ungrouped and the equivalent mixed number | Show your thinking using numbers and symbols in the box to the far left |
|---|---|---|
| | 1 Whole $= \frac{8}{8}$      $2\frac{4}{8} = 1\frac{12}{8}$ | |

| Rewrite using common denominators | Draw the total by <u>adding the whole numbers first</u> |
|---|---|
| $1\frac{2^{\times 4}}{3\times 4}$   $1\frac{8}{12}$ <br> $+1\frac{3^{\times 3}}{4\times 3}$   $1\frac{9}{12}$ <br><br> $2\frac{17}{12}$ <br> or $3\frac{5}{12}$ |  |

| | Tell what you grouped and the equivalent mixed number | Show your thinking using numbers and symbols in the box to the far left |
|---|---|---|
| | 1 Whole $= \frac{12}{12}$      $\frac{8}{12} + \frac{9}{12} = \frac{17}{12} = 1\frac{5}{12}$ | |

Name _____ Date _____

**Learning Target:** I will multiply a whole number by a fraction     6ᵗʰ Grade - Readiness Standard 5 - 5.NF.4b - Form A

## 1. We Do Together: Draw, identify and multiply.

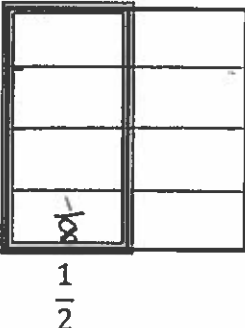| **Draw** 1-fourth of 2-thirds of the whole | **Identify** the size of 1-fourth of the 2-thirds |
|---|---|
| $\frac{1}{4}$  $\frac{1}{12}$  $\frac{2}{3}$ | 1-fourth of 2-thirds is $\frac{2}{12}$ of the whole |
| | **Multiply** numerators and denominators, then simplify |
| | $\frac{1}{4} \times \frac{2}{3} = \frac{2}{12} = \frac{2 \cdot 1}{2 \cdot 6} = \frac{1}{6}$ |

## 2. Reflect: What questions do you have about multiplying a whole number by a fraction?

## 3. You Do Together: Draw, identify and multiply.

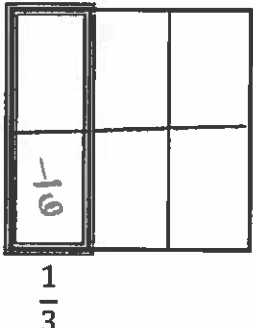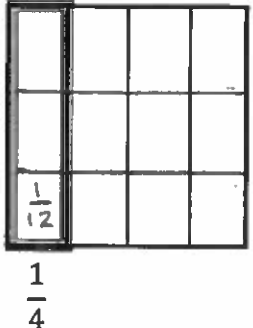| **Draw** 2-thirds of 5-sixths of the whole | **Identify** the size of 2-thirds of the 5-sixths |
|---|---|
| $\frac{2}{3}$  $\frac{1}{18}$  $\frac{5}{6}$ | 2-thirds of 5-sixths is $\frac{10}{18}$ of the whole |
| | **Multiply** numerators and denominators, then simplify |
| | $\frac{2}{3} \times \frac{5}{6} = \frac{10}{18} = \frac{2 \cdot 5}{2 \cdot 9} = \frac{5}{9}$ |
| **Draw** 3-fourths of 1-third of the whole | **Identify** the size of 3-fourths of the 1-third |
| $\frac{3}{4}$  $\frac{1}{12}$  $\frac{1}{3}$ | 3-fourths of 1-third is $\frac{3}{12}$ of the whole |
| | **Multiply** numerators and denominators, then simplify |
| | $\frac{3}{4} \times \frac{1}{3} = \frac{3}{12} = \frac{3 \cdot 1}{3 \cdot 4} = \frac{1}{4}$ |

Name _____ Date _____

**Learning Target:** I will divide a unit fraction by a whole number    6ᵗʰ Grade - Readiness Standard 6 - 5.NF.7a - Form A

**1. We Do Together:** Divide, identify, think multiply to divide and share.

| Divide 1-half of the whole into 4 equal parts | Identify the size of each part | Think multiply to divide |
|---|---|---|
|   $\frac{1}{8}$  $\frac{1}{2}$ | $\frac{1}{2} \div 4 = \frac{1}{8}$ | $\frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$ |
| | Share how 4 is related to $\frac{1}{4}$ $\frac{1}{4}$ is the reciprocal of 4 or $\frac{4}{1}$ | |

**2. Reflect:** What questions do you have about dividing a unit fraction by a whole number?

**3. You Do Together:** Divide, identify, think multiply to divide and share.

| Divide 1-third of the whole into 2 equal parts | Identify the size of each part | Think multiply to divide |
|---|---|---|
| $\frac{1}{6}$  $\frac{1}{3}$ | $\frac{1}{3} \div 2 = \frac{1}{6}$ | $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$ |
| | Share how 2 is related to $\frac{1}{2}$ $\frac{1}{2}$ is the reciprocal of 2 or $\frac{2}{1}$ | |
| **Divide 1-fourth of the whole into 3 equal parts** | Identify the size of each part | Think multiply to divide |
| $\frac{1}{12}$  $\frac{1}{4}$ | $\frac{1}{4} \div 3 = \frac{1}{12}$ | $\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$ |
| | Share how 3 is related to $\frac{1}{3}$ $\frac{1}{3}$ is the reciprocal of 3 or $\frac{3}{1}$ | |

Name _____ Date _____

**Learning Target:** I will divide a whole number by a unit fraction   6th Grade - Readiness Standard 7 - 5.NF.7b - Form A

## 1. We Do Together: Divide, identify and think multiply to divide.

Each squares to represent 1 whole. **Divide** the 3 wholes into equal parts of 1-fourth

| | | |
|---|---|---|
| ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ |
| $\frac{1}{4}$ | ✓ | ✓ |

**Identify** how many <u>1-fourths</u> are in 3 wholes

$$3 \div \frac{1}{4} = 12$$

**Think** multiply to divide

$$3 \times 4 = 12$$

**Share** how $\frac{1}{4}$ is related to 4

4 is the reciprocal of $\frac{1}{4}$

## 2. Reflect: What questions do you have about dividing a whole number by a unit fraction?

## 3. You Do Together: Divide, identify and think multiply to divide.

Each squares to represent 1 whole. **Divide** the 5 wholes into equal parts of 1-third

| | | | | |
|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✓ | ✓ |
| ✓ | ✓ | ✓ | ✓ | ✓ |
| $\frac{1}{3}$ | ✓ | ✓ | ✓ | ✓ |

**Identify** how many <u>1-thirds</u> are in 5 wholes

$$5 \div \frac{1}{3} = 15$$

**Think** multiply to divide

$$5 \times 3 = 15$$

**Share** how $\frac{1}{3}$ is related to 3

3 is the reciprocal of $\frac{1}{3}$