Math At-Home Practice

5th Grade

*The following can be completed by students to review and practice at home.
Solve.

1. $40 \times 2$
2. $400 \times 2$
3. $400 \times 20$
4. $4,000 \times 2$
5. $80 \times 60$
6. $800 \times 60$
7. $800 \times 6$
8. $80 \times 600$
9. $70 \times 20$
10. $900 \times 40$
11. $800 \times 70$
12. $6,000 \times 7$

Solve.

13. A tortoise walks 27 miles in a year. At this rate, how many miles will this tortoise walk in 10 years? 

14. If the tortoise lives to be 100 years old, how many miles will it walk during its lifetime?

15. Every month, Paolo earns $40 for walking his neighbor’s dog after school. How much does he earn from this job in one year?

16. There are 60 seconds in a minute and 60 minutes in an hour. How many seconds are there in an hour?

17. An elephant eats about 2,500 pounds of food in 10 days. About how much food does an elephant eat in 1,000 days?
Remembering

Write the multiplier or divisor for each pair of equivalent fractions.

1. \( \frac{4}{5} = \frac{12}{15} \)  
   Multiplier = \underline{_______}  Divisor = \underline{_______}

2. \( \frac{25}{60} = \frac{5}{12} \)  
   Multiplier = \underline{_______}  Divisor = \underline{_______}

3. \( \frac{12}{20} = \frac{3}{5} \)  
   Divisor = \underline{_______}

4. \( \frac{2}{3} = \frac{20}{30} \)  
   Multiplier = \underline{_______}  Divisor = \underline{_______}

5. \( \frac{27}{36} = \frac{3}{4} \)  
   Multiplier = \underline{_______}  Divisor = \underline{_______}

6. \( \frac{1}{8} = \frac{7}{56} \)  
   Multiplier = \underline{_______}

Solve.

7. Jordan shoots 100 3-point shots per basketball practice. She makes 44 of these shots. What decimal represents the number of shots she makes?
   
   \underline{_______}

8. At a county fair, 9 people out of 1,000 earned a perfect score in a carnival game. What decimal represents the number of people who earned a perfect score?
   
   \underline{_______}

Solve.

9. \( \frac{1}{6} \cdot 60 = \underline{_______} \)

10. \( \frac{1}{3} \cdot 21 = \underline{_______} \)

11. \( \frac{1}{9} \) of 81 = \underline{_______} \)

12. \( \frac{1}{3} \cdot 24 = \underline{_______} \)

13. \( \frac{1}{5} \) of 60 = \underline{_______} \)

14. \( \frac{1}{8} \cdot 16 = \underline{_______} \)

15. Stretch Your Thinking Using a multiple of ten for at least one factor, write an equation with a product that has four zeros.
   
   \underline{_______}
Solve.

1. \[60 \times 40\]
2. \[70 \times 40\]
3. \[700 \times 60\]
4. \[300 \times 50\]
5. \[40 \times 50\]
6. \[900 \times 30\]
7. \[400 \times 80\]
8. \[200 \times 50\]
9. \[300 \times 200\]

The table shows the sizes of Farmer Reuben's fields. Use the table and a separate sheet of paper to help you answer each question.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corn Field</td>
<td>400 feet by 60 feet</td>
</tr>
<tr>
<td>Wheat Field</td>
<td>700 feet by 200 feet</td>
</tr>
<tr>
<td>Barley Field</td>
<td>200 feet by 200 feet</td>
</tr>
</tbody>
</table>

10. What is the area of the corn field?

11. What is the area of the wheat field?

12. What is the area of the barley field?

13. How many square feet of land did Farmer Reuben plant in all?
Remembering

Compare.

1. $\frac{5}{8}$ $\bigcirc$ $\frac{5}{7}$

2. $\frac{3}{4}$ $\bigcirc$ $\frac{5}{6}$

3. $\frac{9}{10}$ $\bigcirc$ $\frac{8}{9}$

4. $\frac{3}{8}$ $\bigcirc$ $\frac{5}{8}$

5. $\frac{1}{7}$ $\bigcirc$ $\frac{1}{8}$

6. $\frac{4}{5}$ $\bigcirc$ $\frac{4}{7}$

Multiply.

7. $\frac{5}{6} \cdot 36 = \underline{\hspace{2cm}}$

8. $\frac{1}{8} \cdot 40 = \underline{\hspace{2cm}}$

9. $\frac{2}{5} \cdot 60 = \underline{\hspace{2cm}}$

10. $\frac{2}{3} \cdot 33 = \underline{\hspace{2cm}}$

11. $\frac{3}{4} \cdot 36 = \underline{\hspace{2cm}}$

12. $\frac{2}{9} \cdot 45 = \underline{\hspace{2cm}}$

Solve.

13. \[
\begin{array}{c}
50 \\
\times 2
\end{array}
\]

14. \[
\begin{array}{c}
500 \\
\times 2
\end{array}
\]

15. \[
\begin{array}{c}
5,000 \\
\times 2
\end{array}
\]

16. \[
\begin{array}{c}
60 \\
\times 40
\end{array}
\]

17. \[
\begin{array}{c}
600 \\
\times 40
\end{array}
\]

18. \[
\begin{array}{c}
600 \\
\times 4
\end{array}
\]

19. **Stretch Your Thinking** Explain how to predict the number of zeros in the product for the expression 600 $\cdot$ 500.
Solve the first problem with Place Value Sections. Solve the other problems using any method you like. Use a separate sheet of paper.

1. 

2. 84 
   \( \times 19 \) 

3. 67 
   \( \times 53 \) 

4. 91 
   \( \times 28 \) 

Solve.

5. Kamini needs to know the area of her yard so that she can buy the right amount of grass seed. The yard is 26 feet by 19 feet. What is the area of Kamini’s yard in square feet?

6. A restaurant has 16 crates of juice. Each crate holds 12 gallons of juice. How many gallons of juice are there altogether?

7. Mr. Jackson is taking 23 students to see a movie. Tickets for the movie cost 75 cents. How much money will Mr. Jackson spend on student tickets?

8. There are usually 20 school days in a month. Grace has band practice for 60 minutes every day after school. How many minutes does she usually practice each month?
Remembering

Compare. Write > (greater than) or < (less than).

1. 0.7 0.71
2. 0.2 0.02
3. 0.76 0.68

4. 0.31 0.43
5. 0.21 0.12
6. 0.346 0.348

Estimate the sum or difference by rounding each mixed number to the nearest whole number. Then find the actual sum or difference.

7. \(2 \frac{1}{8} + 6\frac{6}{7}\)
   Estimate: 
   Sum: 

8. \(7\frac{9}{10} - 4\frac{1}{9}\)
   Estimate: 
   Difference: 

9. \(5\frac{7}{8} - 1\frac{1}{10}\)
   Estimate: 
   Difference: 

10. \(6\frac{3}{8} + 7\frac{2}{5}\)
    Estimate: 
    Sum: 

Multiply.

11. \(80 \times 60\)
12. \(200 \times 30\)
13. \(400 \times 40\)

14. \(600 \times 50\)
15. \(500 \times 10\)
16. \(300 \times 90\)

17. Stretch Your Thinking Explain how to check multiplication using addition or division. Include an example in your explanation.
Solve. Use any method.

1. \(78 \times 26\)
2. \(93 \times 42\)
3. \(39 \times 84\)
4. \(56 \times 71\)

The table shows how many newspapers are delivered each week by three paper carriers. Use the table to answer the questions. Use 1 year = 52 weeks.

<table>
<thead>
<tr>
<th>Papers Delivered Each Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jameel</td>
</tr>
<tr>
<td>Clare</td>
</tr>
<tr>
<td>Mason</td>
</tr>
</tbody>
</table>

5. How many papers does Jameel deliver in a year?

6. How many papers does Clare deliver in a year?

7. How could you find how many papers Mason delivers in a year without doing any multiplication? What is the answer?

Solve.

8. Ray needs to know the area of his floor so he can buy the right amount of carpet. The floor is 21 feet by 17 feet. What is the area of the floor?

9. Maria is buying flowers. Each tray of flowers costs $24. If she buys 15 trays, what will the total cost be?
Copy each exercise. Then subtract.

1. \(9,000 - 865 = \) _______  
2. \(105.66 - 98.53 = \) _______  
3. \(45,688 - 5.65 = \) _______

Multiply. You do not need to simplify.

4. \(\frac{5}{7} \times \frac{1}{3} = \) _______  
5. \(\frac{3}{5} \times \frac{1}{5} = \) _______  
6. \(\frac{1}{5} \times \frac{2}{7} = \) _______

7. \(\frac{2}{3} \times 5 = \) _______  
8. \(\frac{3}{4} \times \frac{3}{4} = \) _______  
9. \(\frac{1}{2} \times \frac{5}{9} = \) _______

Solve the first problem with Place-Value Sections. Solve the other problems using any method you like.

10. 

\[
\begin{array}{c|c|c|c}
| & 54 \times 42 | & 40 | & 2 \\
\hline
| 50 | & 50 | & | \\
| + 4 | & + 2 | & + 4 | \\
\hline
| 40 | & | | \\
\end{array}
\]

11. \(15 \times 42 = \) _______  
12. \(65 \times 81 = \) _______  
13. \(48 \times 24 = \) _______

14. **Stretch Your Thinking** How is multiplying a 1-digit number and a 2-digit number the same as, and different from, multiplying two 2-digit numbers?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________
Multiply.

1. \[ 397 \times 9 \]
2. \[ 723 \times 7 \]
3. \[ 4,188 \times 3 \]
4. \[ 4,294 \times 4 \]
5. \[ 67 \times 82 \]
6. \[ 56 \times 49 \]
7. \[ 36 \times 29 \]
8. \[ 87 \times 71 \]
9. \[ 28 \times 27 \]
10. \[ 37 \times 54 \]
11. \[ 63 \times 91 \]
12. \[ 73 \times 35 \]
13. \[ 46 \times 83 \]
14. \[ 57 \times 75 \]
15. \[ 94 \times 47 \]
16. \[ 66 \times 86 \]

Solve.

17. Jamal is building a bed for his dog. The dimensions of the bed are 27 inches by 36 inches. What is the area of the bottom of the bed?

18. Mr. Battle drives 9 miles to work every day. He works 5 days a week. How many miles does he travel to and from work over 52 weeks?
Add or subtract.

1. \( \frac{3}{4} + 2\frac{1}{8} \)  
2. \( \frac{4}{5} - 2\frac{3}{10} \)  
3. \( 5\frac{2}{5} + 3\frac{1}{3} \)

4. \( 6\frac{5}{6} + 2\frac{5}{12} \)  
5. \( 10 - 2\frac{3}{5} \)  
6. \( 3\frac{2}{5} + 1\frac{1}{15} \)

Find each product by first rewriting each mixed number as a fraction.

7. \( \frac{2}{9} \cdot 2\frac{2}{3} = \)  
8. \( 1\frac{3}{5} \cdot 10 = \)

9. \( 4\frac{1}{4} \cdot 1\frac{1}{3} = \)  
10. \( 2\frac{2}{5} \cdot \frac{3}{7} = \)

Solve. Use any method.

11. \( 64 \times 87 \)  
12. \( 76 \times 35 \)  
13. \( 53 \times 41 \)

14. \( 24 \times 72 \)  
15. \( 19 \times 66 \)  
16. \( 58 \times 36 \)

17. Stretch Your Thinking Explain how to use mental math to find the product of 64 and 25.
Three runners started making a table for April to show how far they run every day, every week, and the entire month. Show your work.

16. Finish the table for the runners.

<table>
<thead>
<tr>
<th>Runner</th>
<th>Miles Per Day</th>
<th>Miles Per Week</th>
<th>Miles in April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cedric</td>
<td>0.6</td>
<td>7 × 0.6 =</td>
<td>30 × 0.6 =</td>
</tr>
<tr>
<td>Shannon</td>
<td>2.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regina</td>
<td>1.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. Give the total miles in May for each runner below.

Cedric:  
Shannon: 
Regina:
Add.
1. \( \frac{2}{7} + \frac{1}{5} \)
2. \( \frac{1}{3} + \frac{2}{5} \)
3. \( \frac{1}{3} + \frac{1}{8} \)
4. \( \frac{1}{2} + \frac{1}{5} \)
5. \( \frac{4}{5} + \frac{1}{6} \)
6. \( \frac{5}{8} + \frac{1}{10} \)

Copy each exercise. Then add.
7. \( 46\ell + \$3.48 = \)
8. \( 0.23 \text{ m} + 0.54 \text{ m} = \)
9. \( 33\ell + \$11 = \)

Multiply.
10. \( 458 \times 3 \)
11. \( 893 \times 6 \)
12. \( 6,236 \times 7 \)
13. \( 6,982 \times 5 \)

14. **Stretch Your Thinking** Marissa bought four bottles of water. Each bottle of water was 95 cents. Write an equation with the same product as the total cost but different factors.
Solve.

1. $0.3 \times 0.6 = \underline{______}$
2. $0.4 \times 0.07 = \underline{______}$
3. $0.03 \times 0.8 = \underline{______}$
4. $5 \times 0.07 = \underline{______}$
5. $0.02 \times 0.3 = \underline{______}$
6. $0.05 \times 0.9 = \underline{______}$

7. $\frac{1.8}{6}$
8. $\frac{0.23}{40}$
9. $\frac{0.14}{0.9}$
10. $\frac{0.36}{0.8}$

11. $\frac{1.4 \times 0.5}{\underline{x 0.5}}$
12. $\frac{0.32 \times 51}{\underline{x 51}}$
13. $\frac{0.6 \times 0.14}{\underline{x 0.14}}$
14. $\frac{2.6 \times 0.9}{\underline{x 0.9}}$

Solve using mental math.

15. $82 \times 0.01 = \underline{______}$
16. $385 \times 0.1 = \underline{______}$
17. $2,194 \times 0.01 = \underline{______}$

Solve.

18. Simon sold bottles of water at the marathon on Saturday for $0.75 per bottle. He sold 43 bottles. How much money did he earn?

19. Lauren has 9.9 meters of ribbon. She is cutting it into 100 equal pieces. That is the same as multiplying 9.9 by 0.01. How long will each piece of ribbon be?

20. A furlong is a unit of measure used in horse racing. Every year, horses race 10 furlongs in the Kentucky Derby. One furlong is equal to 0.125 mile. How long is the Kentucky Derby in miles?
Remembering

Use the Distributive Property to rewrite each problem so it has only two factors. Then solve.

1. \((7 \times 200) + (7 \times 800) = \) ______________

2. \((44 \times 3) + (56 \times 3) = \) ______________

Multiply. Simplify first if you can.

3. \(\frac{5}{8} \cdot \frac{6}{7} = \) ______

4. \(\frac{1}{5} \cdot \frac{2}{9} = \) ______

5. \(\frac{1}{2} \cdot \frac{4}{9} = \) ______

6. \(\frac{2}{3} \cdot \frac{15}{16} = \) ______

7. \(\frac{1}{8} \cdot \frac{6}{7} = \) ______

8. \(\frac{9}{10} \cdot \frac{5}{6} = \) ______

Solve.

9. \(0.7 \times 6 = \) ______

10. \(0.02 \times 60 = \) ______

11. \(0.15 \times 34 = \) ______

12. \(0.41 \times 66 = \) ______

13. \(1.24 \times 6 = \) ______

14. \(260 \times 0.3 = \) ______

15. **Stretch Your Thinking** Explain where to place the decimal point in the product for the expression \(0.5 \times 0.03\).


88 UNIT 4 LESSON 7

Multiply by Decimals
Solve.

1. \(4.2 \times 8.1\)  
2. \(9.4 \times 6.3\)  
3. \(0.78 \times 4.7\)  
4. \(0.05 \times 3.7\)  

5. \(0.3 \times 1.52\)  
6. \(0.80 \times 3.8\)  
7. \(7.1 \times 4.5\)  
8. \(2.4 \times 0.64\)  

9. \(0.06 \times 5.7\)  
10. \(9.9 \times 6.6\)  
11. \(8.1 \times 5.7\)  
12. \(0.07 \times 24.3\)  

Complete. Name the property used.

13. \((4.3 \times 6.2) - (\_\_\_\_\_\_ \times 1.1) = 4.3 \times (6.2 - 1.1)\)  
14. \(8.9 \times (5.3 \times 3.4) = (8.9 \times \_\_\_\_\_\_) \times 3.4\)  

Solve.

15. Lester's car can go 15.4 miles on 1 gallon of gas. How far can he go on 0.7 gallon?  

16. Clara wants to cover the top of her jewelry box. The top of the box is a rectangle with a length of 9.4 cm and a width of 8.3 cm. What is the total area she wants to cover?
Remembering

Solve. Explain how you know your answer is reasonable.

1. A rectangular sand box has a length of $5\frac{1}{3}$ feet and a width of $3\frac{3}{4}$ feet. What is its perimeter?
   
   Answer: __________________________

   Why is the answer reasonable?
   __________________________

Solve.

2. Kelly babysits for $5\frac{5}{6}$ hours on the weekend. This is $2\frac{1}{12}$ hours more than she babysits during the week. How many hours does she babysit during the week?
   __________________________

3. Lucas is making a recipe that requires $\frac{1}{4}$ cup of wheat flour and $1\frac{7}{8}$ cups of white flour. Altogether, how many cups of flour does the recipe require?
   __________________________

Solve.

4. $0.5 \times 0.4 = \underline{\hspace{2cm}}$

5. $0.6 \times 0.09 = \underline{\hspace{2cm}}$

6. $0.08 \times 0.3 = \underline{\hspace{2cm}}$

7. $1.7 \times 8$

8. $0.55 \times 50$

9. $0.07 \times 0.7$

10. Stretch Your Thinking Write a decimal equation that has a product of $3.15$. (Do not use 1 as a factor.)
   __________________________
Homework

Solve.

1. 4.8 × 100
2. 2.9 × 0.3
3. 0.56 × 20
4. 0.69 × 0.7
5. 2.6 × 3.4
6. 3.8 × 0.5
7. 1.5 × 4.9
8. 3.4 × 1.6

Complete the equations.

9. 0.7 × 10^1 =
10. 0.98 × 10^1 =
11. 5.63 × 10^1 =
   0.7 × 10^2 =
   0.98 × 10^2 =
   5.63 × 10^2 =
   0.7 × 10^3 =
   0.98 × 10^3 =
   5.63 × 10^3 =
12. 3.7 × 10^1 =
13. 2.04 × 10^1 =
14. 0.42 × _____ = 4.2
   3.7 × 10^2 =
   2.04 × _____ = 204
   0.42 × 10^2 =
   3.7 × _____ = 3,700
   2.04 × 10^3 =
   0.42 × 10^3 =

Solve.

15. The Sunrise Café gets tea bags in boxes of 1,000. If the café charges $1.75 for each cup of tea, and each cup of tea gets one tea bag, how much money does the café receive if they use a whole box of 1,000 teabags?

16. If a box of tea bags costs $95, how much money does the café actually make after they have used up the box of tea and have paid for it?
Add or subtract.

1. \(10 - 3\frac{3}{4}\)
2. \(\frac{5}{8} + \frac{3}{8}\)
3. \(6\frac{4}{5} - 1\frac{1}{5}\)

4. \(2\frac{1}{3} + 5\frac{1}{3}\)
5. \(1\frac{2}{9} + 3\frac{5}{9}\)
6. \(5\frac{1}{2} - \frac{1}{2}\)

Copy each exercise. Then add or subtract.

7. \(0.67 + 0.42 = \) 
8. \(7 - 3.2 = \)
9. \(7.8 - 0.8 = \)

Solve.

10. \(4.3 \times 6.7\)
11. \(0.70 \times 5.6\)
12. \(0.32 \times 2.4\)

13. **Stretch Your Thinking** Complete the equation \(8.9 \cdot \square = 8,900\) using a power of ten. Explain how the product will change if the exponent changes.
Round to the nearest tenth.
1. 0.38
2. 0.94
3. 0.621
4. 0.087

Round to the nearest hundredth.
5. 0.285
6. 0.116
7. 0.709
8. 0.563

Write an estimated answer for each problem.
Then find and write each exact answer.

<table>
<thead>
<tr>
<th>Estimated Answer</th>
<th>Exact Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. 38 × 92 ≈ _____ × _____ ≈ _____</td>
<td>38 × 92 = _____</td>
</tr>
<tr>
<td>10. 8.1 × 4.2 ≈ _____ × _____ ≈ _____</td>
<td>8.1 × 4.2 = _____</td>
</tr>
<tr>
<td>11. 7.65 × 0.9 ≈ _____ × _____ ≈ _____</td>
<td>7.65 × 0.9 = _____</td>
</tr>
<tr>
<td>12. 3.8 × 6.02 ≈ _____ × _____ ≈ _____</td>
<td>3.8 × 6.02 = _____</td>
</tr>
<tr>
<td>13. 1.02 × 0.9 ≈ _____ × _____ ≈ _____</td>
<td>1.02 × 0.9 = _____</td>
</tr>
</tbody>
</table>

Solve.

14. A factory makes 394 motorcycles each week. If there are 52 weeks in a year, how many motorcycles will the factory make in a year?

   Estimate: ______________________

   Exact answer: ___________________

15. CDs are $15.25 each. How much will it cost to buy 3?

   Estimate: ______________________

   Exact answer: ___________________
Round to the nearest whole number.

1. 5.159 _______  2. 12.7 _______  3. 4.872 _______

Round to the nearest tenth.

4. 45.461 _______  5. 3.12 _______  6. 77.039 _______

Write an equation. Then solve.  

7. A rectangle has an area of 48 square feet and a length of 10 feet. What is its width?

8. A length of string that is 22 feet long is being cut into pieces that are $\frac{1}{3}$ foot long. How many pieces will there be?

Solve.

9.  $\begin{array}{c}
100 \\
\times \ 3.7
\end{array}$  10.  $\begin{array}{c}
5.6 \\
\times \ 0.4
\end{array}$  11.  $\begin{array}{c}
0.14 \\
\times \ 60
\end{array}$

12.  $\begin{array}{c}
7.1 \\
\times \ 2.9
\end{array}$  13.  $\begin{array}{c}
6.8 \\
\times \ 0.5
\end{array}$  14.  $\begin{array}{c}
5.8 \\
\times \ 1.2
\end{array}$

15. Stretch Your Thinking  Taylor estimated the music department would raise $1,100 for new uniforms by selling tickets to a performance next week. Each ticket will be $12.75. About how many tickets does the music department need to sell for Taylor’s estimate to be reasonable?
Find each product.

1. \[ 57 \times 0.31 \]
2. \[ 0.29 \times 74 \]
3. \[ 7.6 \times 8.3 \]
4. \[ 0.35 \times 94 \]

5. \[ 4.8 \times 0.92 \]
6. \[ 6.5 \times 0.81 \]
7. \[ 84 \times 0.13 \]
8. \[ 0.9 \times 0.04 \]

Solve. Check that your answers are reasonable.

9. Josefina is buying 10 pounds of salmon which costs $6.78 per pound. How much will the salmon cost?

10. It is 9.2 miles between Mr. Rossi's place of work and his home. Because he comes home for lunch, he drives this distance 4 times a day. How far does Mr. Rossi drive each day?

11. Mr. Rossi works 20 days a month. How far does he drive in a month?

12. Gayle is saving to buy a bicycle. The bicycle costs $119.90. She has saved 0.7 of what she needs. How much has she saved so far?
Multiply.
1. $98 \cdot 15 = \underline{\quad}$
2. $658 \cdot 7 = \underline{\quad}$
3. $54 \cdot 7 = \underline{\quad}$
4. $3,147 \cdot 4 = \underline{\quad}$
5. $5,609 \cdot 2 = \underline{\quad}$
6. $66 \cdot 75 = \underline{\quad}$

Write your answers as fractions.
7. $\frac{2}{9} \cdot 5 = \underline{\quad}$
8. $\frac{3}{4} \cdot 9 = \underline{\quad}$
9. $\frac{2}{3} \cdot 7 = \underline{\quad}$
10. $\frac{7}{12} \cdot 15 = \underline{\quad}$
11. $\frac{5}{8} \cdot 3 = \underline{\quad}$
12. $\frac{5}{6} \cdot 9 = \underline{\quad}$

Round to the nearest tenth.
13. $0.43 \underline{\quad}$
14. $0.88 \underline{\quad}$
15. $0.076 \underline{\quad}$

Round to the nearest hundredth.
16. $0.456 = \underline{\quad}$
17. $0.109 = \underline{\quad}$
18. $0.541 = \underline{\quad}$

19. **Stretch Your Thinking** Write a multiplication word problem using decimals for both factors. Then solve your word problem.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
The life cycle of a butterfly has four stages. One stage is a caterpillar.

![Caterpillar Image](image)

- The length of your butterfly should be 3.6 times the height of the caterpillar.
- The wingspan of your butterfly should be 1.75 times the length of the caterpillar.

Using the length and height of the caterpillar shown, use the descriptions below to draw the adult butterfly that develops from the caterpillar. Remember, a tenth of a centimeter is a millimeter.
Remembering

Write a decimal number for each word name.

1. six hundredths

2. fourteen and eight thousandths

3. nine thousandths

4. five tenths

Solve.

5. \( \frac{1}{2} \div 10 = \)

6. \( \frac{1}{5} \times 4 = \)

7. \( 12 \div 4 = \)

8. \( \frac{1}{9} \div 3 = \)

9. \( \frac{2}{3} \times \frac{2}{5} = \)

10. \( 3 \div \frac{1}{6} = \)

Find each product.

11. \( 0.48 \times 23 \)

12. \( 0.35 \times 13 \)

13. \( 0.86 \times 91 \)

14. \( 0.37 \times 6.5 \)

15. \( 0.22 \times 76 \)

16. \( 5.4 \times 3.2 \)

17. Stretch Your Thinking Sarah is stringing insect beads to make a bracelet. The butterfly bead is 0.45 inch long and the ladybug bead has a length of 0.27 inch. She uses each type of insect bead and places them end to end. How many of each type of bead does she use to make a line of insect beads measuring 1.71 inches?
Complete each division. Check your answer.

1. 5)\(4,820\)
2. 8)\(7,548\)
3. 9)\(7,535\)

4. 3)\(2,958\)
5. 7)\(5,857\)
6. 6)\(5,556\)

7. 7)\(6,945\)
8. 8)\(5,624\)
9. 4)\(3,254\)

Solve. Use estimation to check the solution.

10. Mrs. Wong drove between Chicago and St. Louis 8 times last month. Altogether she drove 2,376 miles. How far is it from Chicago to St. Louis?

11. Jay has 6,200 beads. He is making bracelets with 9 beads each. How many bracelets can he make? How many beads will be left?

12. There are 5,280 feet in a mile. There are 3 feet in a yard. How many yards are there in a mile?

13. The Pencil Pal factory wraps pencils in packages of 6. Today there are 5,750 pencils to be packaged. How many packages will there be? How many pencils will be left over?
Write each fraction as a decimal.

1. \( \frac{2}{10} \)  
2. \( \frac{556}{1,000} \)  
3. \( \frac{6}{100} \)

4. \( \frac{17}{100} \)  
5. \( \frac{23}{1,000} \)  
6. \( \frac{5}{1,000} \)

7. \( \frac{1}{10} \)  
8. \( \frac{33}{100} \)  
9. \( \frac{85}{100} \)

Solve.

10. \( 400 \times 70 \)  
11. \( 300 \times 30 \)  
12. \( 700 \times 40 \)

13. \( 20 \times 50 \)  
14. \( 900 \times 50 \)  
15. \( 800 \times 30 \)

16. Sarah is dividing pies into eighths. She has 4 pies. How many eighths will she have?

17. The track team plans to sprint 20 miles this school year. The runners will sprint \( \frac{1}{4} \) mile each day. How many days will it take them to sprint 20 miles?

18. Stretch Your Thinking Mrs. Thomas bought a bed for \( \$1,548 \) and three armchairs. The bed cost 4 times as much as one armchair. How much did Mrs. Thomas spend altogether?
Divide.

1. \(39 \div 2,886\)  
2. \(81 \div 7,533\)  
3. \(68 \div 4,967\)  
4. \(72 \div 4,968\)

5. \(28 \div 2,520\)  
6. \(33 \div 1,287\)  
7. \(46 \div 1,426\)  
8. \(55 \div 990\)

Solve.

9. The lunchroom has enough seats for 168 students. Each class has 24 students. How many classes can eat in the lunchroom at the same time?

10. Mrs. Randall bought tickets to the art museum for all the fifth-grade students. Each ticket cost $12, and the total cost of the tickets was $1,152. How many fifth-grade students are there?

11. The Harmony Hotel has a total of 1,596 rooms. There are 42 rooms on each floor. How many floors does the Harmony Hotel have?

12. This year Martin earned $1,615 mowing lawns, shoveling driveways, and doing yardwork. This is 19 times as much as he earned last year. How much did Martin earn last year?
Solve. Use any method.  

1. \[ 68 \times 21 \]  
2. \[ 36 \times 92 \]  
3. \[ 25 \times 44 \]

Show your work.

Complete each division. Check your answer.

4. \[ 5 \div 1,267 \]  
5. \[ 3 \div 1,374 \]  
6. \[ 7 \div 4,618 \]

7. Chloe sorts her beads. The number of red beads she has is \[ \frac{5}{6} \] times the number of green beads. If she has 60 green beads, how many red beads does she have?

8. Brad plans to bike \[ 15\frac{3}{4} \] miles. He has gone \[ \frac{2}{3} \] of the entire distance. How far has he gone?

9. Stretch Your Thinking Write and solve a division problem that divides a 4-digit number by a 2-digit number. How did you estimate the first digit of the quotient?
Divide.

1. \(34\)
   \[\underline{7,276}\]  
2. \(85\)
   \[\underline{6,120}\]  
3. \(73\)
   \[\underline{4,309}\]  
4. \(38\)
   \[\underline{3,576}\]  
5. \(57\)
   \[\underline{4,722}\]  
6. \(26\)
   \[\underline{7,903}\]  
7. \(65\)
   \[\underline{5,918}\]  
8. \(69\)
   \[\underline{1,796}\]  

Solve.

9. A carousel factory has 1,252 carousel horses.  
   48 horses are placed on each carousel. How many carousels can the factory build?  
   Show your work.  
   ______________________________________________________________________  
   How many horses will be left over?  
   ______________________________________________________________________  
10. Farmer Parson collected 1,183 chicken eggs this morning. He will put them in cartons that hold a dozen eggs each.  
   How many cartons will he fill?  
   ______________________________________________________________________  
   How many eggs will be left over?  
   ______________________________________________________________________  
   ______________________________________________________________________  
   ______________________________________________________________________  
   ______________________________________________________________________
Multiply. Simplify first if you can.

1. \(\frac{3}{4} \cdot \frac{12}{13} = \) ________________
2. \(\frac{1}{4} \cdot \frac{3}{7} = \) ________________

3. \(\frac{7}{8} \cdot \frac{4}{5} = \) ________________
4. \(\frac{3}{8} \cdot \frac{4}{15} = \) ________________

5. \(\frac{4}{5} \cdot \frac{10}{12} = \) ________________
6. \(\frac{1}{3} \cdot \frac{5}{6} = \) ________________

Complete the equations.

7. \(0.65 \times 10^1 = \) ______
8. \(0.8 \times 10^1 = \) ______
9. \(2.45 \times 10^1 = \) ______

0.65 \(\times 10^2 = \) ______
0.8 \(\times 10^2 = \) ______
2.45 \(\times 10^2 = \) ______

0.65 \(\times 10^3 = \) ______
0.8 \(\times 10^3 = \) ______
2.45 \(\times 10^3 = \) ______

Divide.

10. \(41 \div 3,444 = \) ______
11. \(36 \div 1,944 = \) ______
12. \(93 \div 7,254 = \) ______

13. In Marla’s school, \(\frac{6}{15}\) of the students do not ride the bus to school. Of these students \(\frac{5}{9}\) walk to school. What fraction of the students in Marla’s school walk to school?

14. Stretch Your Thinking Ben starts with a certain number of fruit chew packages. He puts 27 packages into each of 85 cases. He has 3 packages left. How many packages of fruit chews did Ben start with? Explain how you know.
Solve. Circle the choice that tells how you gave your answer.  

1. A Ferris wheel holds 48 people. There are 823 people with tickets to ride the Ferris wheel. How many times will the Ferris wheel need to be run to give everyone a ride?  

<table>
<thead>
<tr>
<th>whole number only</th>
<th>round up</th>
<th>mixed number</th>
<th>decimal</th>
<th>remainder only</th>
</tr>
</thead>
</table>

2. Bananas cost 89 cents each at the fruit stand. Isabel has $11.75. How many bananas can she buy?  

<table>
<thead>
<tr>
<th>whole number only</th>
<th>round up</th>
<th>mixed number</th>
<th>decimal</th>
<th>remainder only</th>
</tr>
</thead>
</table>

3. The 15 members of a running club made $1,338 selling magazines. They will divide the money equally. How much should each runner get?  

<table>
<thead>
<tr>
<th>whole number only</th>
<th>round up</th>
<th>mixed number</th>
<th>decimal</th>
<th>remainder only</th>
</tr>
</thead>
</table>

4. There are 524 goldfish in the fish pond. They will be put in indoor tanks for the winter. If each tank holds 45 fish, how many tanks will be needed?  

<table>
<thead>
<tr>
<th>whole number only</th>
<th>round up</th>
<th>mixed number</th>
<th>decimal</th>
<th>remainder only</th>
</tr>
</thead>
</table>

5. Mr. Lopez made 339 ounces of strawberry jam. He plans to divide the jam equally among his 12 cousins. How many ounces of jam will each cousin get?  

<table>
<thead>
<tr>
<th>whole number only</th>
<th>round up</th>
<th>mixed number</th>
<th>decimal</th>
<th>remainder only</th>
</tr>
</thead>
</table>
Remembering

Compare. Write > (greater than) or < (less than).

1. $0.6 \bigcirc 0.06$
2. $0.4 \bigcirc 0.41$
3. $0.87 \bigcirc 0.8$
4. $0.67 \bigcirc 0.76$
5. $0.44 \bigcirc 0.39$
6. $0.657 \bigcirc 0.668$

Divide.

7. $66 \div 5,745$
8. $54 \div 4,806$
9. $36 \div 2,597$

Solve.

10. Martin asked friends to buy raffle tickets. On Saturday, he sold tickets to 5 of the 12 friends he asked. On Sunday, he sold tickets to 7 of the 9 friends he asked. On which day did he sell tickets to the greater fraction of the friends he asked?

11. Emma bought $\frac{7}{8}$ yard of striped ribbon and $\frac{8}{9}$ yard of solid ribbon. Which kind of ribbon did she buy more of?

12. Stretch Your Thinking Write and solve a division word problem for which the remainder is the answer.
1. 7)3,990
2. 44)2,156
3. 5)7,003

4. 28)1,763
5. 54)4,458
6. 6)3,039

Solve.

7. This morning, a factory produced 6,000 cans of beans and packaged them in boxes of 48 cans. How many boxes were filled?

8. Six friends earned $645 for painting some rooms in a neighbor’s house. If they divide the money equally, how much will each friend get?

9. The floor of a ballroom has an area of 2,470 square feet. If the length of the floor is 65 feet, what is its width?

10. Felipe just started collecting stamps. He has 36 stamps so far. His uncle Carlo has 1,890 stamps in his collection. The number of stamps Carlo has is how many times the number Felipe has?
Multiply.

1. 326 \times 2
2. 575 \times 5
3. 5,492 \times 8
4. 4,512 \times 9

5. 58 \times 43
6. 79 \times 52
7. 36 \times 21
8. 89 \times 67

Solve. Give your answer in simplest form.

9. \frac{1}{8} \div 5 = ________
10. \frac{1}{4} \cdot 1\frac{2}{3} = ________
11. \frac{5}{6} - \frac{2}{3} = ________

12. 6 \div \frac{1}{3} = ________
13. \frac{5}{6} + \frac{5}{8} = ________
14. \frac{63}{4} \cdot \frac{1}{6} = ________

Solve. Circle the choice that tells how you gave your answer. Show your work.

15. A rollercoaster holds 45 people. There are 387 people waiting to board the rollercoaster. How many times will the rollercoaster need to run to give everyone a ride?

\underline{whole number only} \quad \underline{round up} \quad \underline{mixed number} \quad \underline{decimal} \quad \underline{remainder only}

16. Stretch Your Thinking I am a number less than 3,000. When you divide me by 32, my remainder is 30. When you divide me by 58, my remainder is 44. What number am I?
Solve.

1. $9 \div 6.57$
2. $5 \div 36.41$
3. $4 \div 9.584$
4. $6 \div 207.9$
5. $23 \div 153.87$
6. $7 \div 654.5$
7. $45 \div 431.1$
8. $2 \div 7.006$
9. $16 \div 5.76$

10. Teresa bought 16 roses for $20.64. How much did she pay for each rose?

11. Barry’s dog Cubby is 1.26 meters long. Cubby is 7 times as long as Douglas’s guinea pig Taffy. How long is Taffy?

12. Farmer Sanchez has 1,408.86 acres of land. He will divide it into 27 equal fields for spring planting. How many acres will be in each field?

13. Six friends will stay at a cabin in the woods this weekend. The distance to the cabin is 148.5 miles. Each person will drive one sixth of the distance. How far will each person drive?
Solve.

1. Aiden buys a pair of jeans that costs $45.28. The sales tax that will be added to the cost of the jeans is $3.62. What is the total cost of the jeans?

2. When Madison got her kitten, Fluffy, he weighed 787.37 grams. He now weighs 2,085.8 grams more than he did when Madison first brought him home. How much does Fluffy weigh now?

Solve.

3. \(150 \times 0.6\)
4. \(3.41 \times 48\)
5. \(2.28 \times 5\)

6. \(0.9 \times 4\)
7. \(0.45 \times 86\)
8. \(0.03 \times 80\)

Divide.

9. \(33 \div 2,143\)
10. \(9 \div 4,140\)
11. \(4 \div 6,403\)

12. **Stretch Your Thinking** What part of this problem needs to be changed to make it correct? Explain how you know. 
\[46 \div 8 = 6.75\]
Solve.

1. Nella and Lydia are hiking 15 miles today. After every 0.5 mile, they will stop and rest. How many times will they rest during the hike?

2. A cookie cutter shark is 0.4 meter long, and a thresher shark is 6 meters long. How many times as long as the cookie cutter shark is the thresher shark?

3. At a large wedding, the cakes were cut into hundredths, so each piece was 0.01 of a whole cake. If there were 12 cakes, how many pieces were there?

4. A millimeter is 0.001 of a meter. How many millimeters are there in 7 meters?

5. Paco saves $0.75 each day for a new bicycle helmet. He has saved $36. For how many days has Paco been saving?

Solve.

6. \(0.9\overline{63}\)

7. \(0.08\overline{72}\)

8. \(0.007\overline{42}\)

9. \(0.6\overline{420}\)

10. \(0.4\overline{372}\)

11. \(0.6\overline{534}\)

12. \(0.26\overline{884}\)

13. \(0.71\overline{1,136}\)
Solve.

1. Tyler is making a history project and needs two poster boards. He cuts one to measure 42.25 inches in length. He cuts the second to measure 34.75 inches in length. What is the difference between the two lengths of poster board?

2. Ella has $2,251.88 in her bank account. She withdraws $852. How much money is left in her bank account?

Solve.

3. \[0.05 \times 0.4\]
4. \[2.5 \times 5\]
5. \[0.32 \times 70\]

6. \[0.2 \times 0.8\]
7. \[0.09 \times 0.4\]
8. \[0.6 \times 0.09\]

Solve.

9. \[5) 17.4\]
10. \[6) 416.46\]
11. \[7) 32.55\]

12. **Stretch Your Thinking** Look at the division problem \[112 \div 0.056\]. Without solving, how many zeros will be in the quotient? How do you know?
Divide.

1. $0.07 \div 4.2$
2. $0.8 \div 2.4$
3. $0.05 \div 4.8$
4. $0.24 \div 2.064$

5. Circle the division that does not have the same answer as the others.
   $54 \div 6$  $5.4 \div 0.6$  $0.54 \div 0.06$  $0.054 \div 0.006$

Solve.

6. A beekeeper collected 7.6 liters of honey. She will pour it into bottles that each hold 0.95 liter. How many bottles will she fill?

7. A very small dinosaur, the microraptor, was only 1.3 feet long. One of the largest dinosaurs, the diplodocus, was about 91 feet long. How many times as long as the microraptor was the diplodocus?

8. Tomorrow, in the town of Eastwood, there will be a big race. The course is 5.25 kilometers long. A water station will be set up every 0.75 kilometer, including at the finish line. How many water stations will there be?

9. Marisol’s bedroom has an area of 29.76 square meters. The length of the room is 6.2 meters. What is its width?
Remembering

Round to the nearest tenth.

1. 1.28 [ ]
2. 14.21 [ ]
3. 8.148 [ ]

Round to the nearest hundredth.

4. 4.769 [ ]
5. 45.124 [ ]
6. 16.107 [ ]

Solve.

7. \(7.7 \times 1.4\)
8. \(3.1 \times 0.05\)
9. \(5.79 \times 0.9\)

10. \(3.4 \times 8.8\)
11. \(3.5 \times 0.46\)
12. \(8.6 \times 0.90\)

Solve.

13. \(0.9 \div 36\)
14. \(0.006 \div 48\)
15. \(0.04 \div 32\)

16. \(0.7 \div 364\)
17. \(0.34 \div 2,210\)
18. \(0.83 \div 1,494\)

19. **Stretch Your Thinking** Must a decimal divisor and a decimal dividend have the same number of decimal places in order to have a whole-number quotient? Write a division equation using two decimal numbers to support your answer.
Divide.

1. $0.7 \overline{)35}$  
2. $0.06 \overline{)24}$  
3. $0.8 \overline{)0.64}$  
4. $0.03 \overline{)18}$

5. $3 \overline{)33}$  
6. $0.05 \overline{)0.65}$  
7. $12 \overline{)72}$  
8. $0.04 \overline{11.56}$

9. $8 \overline{)216}$  
10. $0.8 \overline{)490.4}$  
11. $28 \overline{)2,380}$  
12. $0.033 \overline{)5.148}$

Solve. Explain how you know your answer is reasonable.

13. Georgia works as a florist. She has 93 roses to arrange in vases. Each vase holds 6 roses. How many roses will Georgia have left over?

14. Julia is jarring peaches. She has 25.5 cups of peaches. Each jar holds 3 cups. How many jars will Julia need to hold all the peaches?

15. The area of a room is 114 square feet. The length of the room is 9.5 feet. What is the width of the room?
Add or subtract.

1. \( \frac{11}{2} + \frac{5}{6} \)
2. \( \frac{2}{3} + \frac{3}{10} \)
3. \( \frac{1}{3} - \frac{1}{6} \)
4. \( \frac{7}{10} + \frac{3}{5} \)
5. \( \frac{9}{8} - \frac{3}{4} \)
6. \(-\frac{5}{3} \)

Find each product.

7. \( 7.8 \times 1.2 \)
8. \( 3.3 \times 0.67 \)
9. \( 91 \times 0.49 \)
10. \( 0.25 \times 72 \)
11. \( 68 \times 0.17 \)
12. \( 0.76 \times 28 \)

Divide.

13. \( 0.08 \div 6.4 \)
14. \( 0.8 \div 7.2 \)
15. \( 0.07 \div 5.67 \)
16. \( 0.58 \div 5.336 \)
17. \( 0.9 \div 6.3 \)
18. \( 0.05 \div 1.75 \)

19. **Stretch Your Thinking** Write a real world division problem for which you would drop the remainder.

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________
Multiply or divide.

1. $1.5 \times 5 = \underline{______}$
2. $0.4 \times 0.05 = \underline{______}$
3. $0.004 \times 0.03 = \underline{______}$

4. $0.55 \quad \times 0.07$
5. $0.25 \quad \times 0.12$
6. $22.3 \quad \times 6.2$
7. $20.8 \quad \times 0.26$

8. $0.3)\underline{0.108}$
9. $0.11)\underline{407}$
10. $0.67)\underline{32.16}$
11. $0.44)\underline{105.6}$

For each problem, decide whether you need to multiply or divide. Then solve. Explain how you know your answer is reasonable.

12. Harriet makes yo-yos. She needs 38 inches of string for each yo-yo. How many yo-yos can she make with 875 inches of string? How many inches of string will be left over?

13. Roberto will save $\frac{1}{6}$ of his allowance each day. If he gets $2.00 a day, about how much money will he save each day? Round your answer to the nearest penny.

14. Raisins cost $0.97 per pound. Michael bought $15.52 worth of raisins. How many pounds of raisins did he buy?
Remembering

Multiply.

1. \[ 47 \times 7 \]
2. \[ 181 \times 3 \]
3. \[ 4,609 \times 5 \]
4. \[ 2,115 \times 6 \]
5. \[ 86 \times 75 \]
6. \[ 22 \times 15 \]
7. \[ 53 \times 25 \]
8. \[ 38 \times 36 \]

Divide.

9. \( 0.06 \overline{)24} \)
10. \( 0.3 \overline{)228.6} \)
11. \( 0.08 \overline{)28.4} \)

Tell whether you need to multiply or divide. Then solve. 

12. A rectangle has an area of 4 square meters. The width is \( \frac{1}{5} \) meter. What is the length of the rectangle? 

13. Audubon Preschool has 154 children in one age group. One seventh of those children arrive for early morning drop off. How many children arrive for early morning drop off? 

14. Stretch Your Thinking Write a division word problem that requires dividing two decimals to solve. Write a multiplication equation to check your answer.
Dividing numbers involves dividends, divisors, and quotients.

Write a division problem (including the quotient) that satisfies all three statements.

1. The dividend is a one-digit whole number.
   The divisor is a one-digit whole number.
   The quotient is a one-digit whole number.

2. The dividend is a two-digit whole number.
   The divisor is a one-digit whole number.
   The quotient is a one-digit whole number.

3. The dividend is a two-digit whole number.
   The divisor is less than 1, and a number in tenths.
   The quotient is a two-digit whole number.

4. The dividend is a two-digit whole number.
   The divisor is greater than 1, and a number in tenths.
   The quotient is a two-digit whole number.

5. The dividend is a number in tenths.
   The divisor is a one-digit whole number.
   The quotient is a number in tenths.

6. The dividend is a decimal in hundredths.
   The divisor is a decimal in hundredths.
   The quotient is a one-digit whole number.

7. The dividend is a decimal in hundredths.
   The divisor is a decimal in hundredths.
   The quotient is a two-digit whole number.
Add or subtract.

1. \(21 + 1.08 = \) _______
2. \(0.62 + 0.49 = \) _______
3. \(0.06 + 0.5 = \) _______

4. \(6 - 0.09 = \) _______
5. \(3.01 - 0.8 = \) _______
6. \(12.05 - 8 = \) _______

Complete each fraction box.

7. \[\frac{1}{3} \text{ and } \frac{4}{9}\]
   
   >
   +
   -
   *

8. \[\frac{2}{7} \text{ and } \frac{1}{4}\]
   
   >
   +
   -
   *

Multiply or divide.

9. \(37.5 \times 3.5 = \) _______
10. \(0.63 \times 0.27 = \) _______
11. \(0.93 \div 567.3 = \) _______

12. **Stretch Your Thinking** Use the term *dividend*, *divisor*, or *quotient* to complete each sentence. Then write a division equation that fits the description.

   The ________ is a decimal in thousandths.

   The ________ is a decimal in thousandths.

   The ________ is a two-digit whole number.

   Division problem: ________________
**Fiction Reading Response “Tic-Tac-Toe” Grades 3-5**

Complete one of the activities below in writing and mark it off with an X. The next time you do an activity, mark it with an O. Switch back and forth between X and O until you have a tic tac toe! You may read multiple books to complete your board.

<table>
<thead>
<tr>
<th>If you could meet the author of your book/story, what question would you ask for him/her? Please write three questions.</th>
<th>Compare the main character in this book to the main character in another book you have read. How are they alike/different?</th>
<th>Good readers always visualize the events in a story as they read. Illustrate your favorite part you read. Include details in your illustration. Write at least three sentences explaining why you selected this part.</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the genre of your text? Give evidence from the text supporting your answer.</td>
<td>Complete a summary of your story. Make sure you include the setting, main characters, and the problem/solution. Be specific and use evidence from the text.</td>
<td>Think about the sequence of events in your story. Write the events in the order as they occurred using complete sentences.</td>
</tr>
<tr>
<td>What was the author’s purpose for writing this book? Support your answer with evidence from the text.</td>
<td>Create an imaginary Voki for the author telling why he/she wrote this book. Include details from the story. <a href="http://www.Voki.com">www.Voki.com</a></td>
<td>If you were able to meet one of the characters, whom would you choose and what would you talk about? What questions would you have?</td>
</tr>
</tbody>
</table>
Nonfiction Reading Response “Tic-Tac-Toe” Grades 3-5

Complete one of the activities below in writing and mark it off with an X. The next time you do an activity, mark it with an O. Switch back and forth between X and O until you have a tic tac toe! You may read multiple books to complete your board.

<table>
<thead>
<tr>
<th><strong>Interesting Facts</strong></th>
<th><strong>What I learned</strong></th>
<th><strong>Opinion</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Write down the most interesting thing you have learned. Write why it stood out to you. Be sure to use evidence from the text.</td>
<td>Write two new pieces of information that you learned and explain why these were important.</td>
<td>Write an opinion about the text. Did you like it? Tell why or why not. Use evidence from the text to support your opinion.</td>
</tr>
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<tr>
<th><strong>Main Idea</strong></th>
<th><strong>Vocabulary</strong></th>
<th><strong>Details</strong></th>
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<td>What is the main idea of the text? Write a 2-4 sentence summary in your own words.</td>
<td>Find 2-3 words that are either new to you or are important to the main idea of the text. Define and draw a quick picture for each word.</td>
<td>Find 3 details that support the main idea of the text. List the details and then give evidence as to why these are important.</td>
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<th><strong>Questions</strong></th>
<th><strong>Visual Images</strong></th>
<th><strong>Summary</strong></th>
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<td>Write two questions that you have after reading the text. These questions can be clarifying questions or I wonder questions.</td>
<td>Choose a diagram, map, chart, graph, or image from the text that is important and explain its significance to the text. Or, draw a quick picture about the text and example its significance to the text.</td>
<td>List answers (in complete sentences) to the follow about the text: Who or What, Where, When, Why, How.</td>
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All About Squid

A squid is an ocean-dwelling invertebrate. This means that squid live in salt water and do not have a backbone. Squid are related to the octopus, cuttlefish, and nautilius, which all belong to a group of mollusks known as cephalopods. Cephalopod means “head-foot,” which describes a squid perfectly. Their feet, which are the tentacle structures, are directly attached to their head. The top part of a squid is called a mantle, and this is where most of their organs are located. In other words, from top to bottom, the squid’s body plan is mantle, head, and then feet/tentacles.

There are over 300 species, or different kinds, of squid. The smallest squid is less than 2.5 cm (1 inch) long, while the largest can be around 15 m (50 ft) long! Squid do not exactly swim in the water. They move instead by jet propulsion. They take in water through their mantle and then push it out of a structure called a siphon. As they push the water out, the force propels them forward through the water.

No matter how big or how small, squid are predatory carnivores and hunt for their food. They use their two long tentacles, which have sucker cups, to reach out in the water and grab their prey. Once they catch something, the tentacles bring it to their eight shorter arms. These eight arms are covered in sucker cups to hold the prey in place. The squid then uses the beak inside its mouth to tear the food into smaller pieces. Squid eat fish, shrimp, crabs, and sometimes even other squid!

A squid’s body is very soft and is vulnerable to predators. Some animals that hunt squid include sharks, whales, fish, penguins, seals, and even humans.

Have you ever ordered calamari at a restaurant? Calamari is fried squid!

Squid have different structures that help them survive in their habitat. A squid has an internal structure called an ink sac. An ink sac is just like it sounds, a structure filled with ink! If a predator approaches, the squid will release a lot of black ink into the water, creating a black cloud that tastes horrible to predators. This ink cloud usually confuses the predator and allows the squid to swim away and hide.

Squid also have the ability to change color and blend in with their surroundings. They have special cells called chromatophores, which help the squid change color when it feels scared or threatened by a predator. By camouflaging themselves, they have a better chance at surviving in their environment.

Squid have been around for millions of years and are well adapted to their ocean environment. Later in this lesson, you will take a closer look at a squid and the other structures it has to help it survive during its lifetime.

Credit: Jiang Zhongyan/Shutterstock.com
Questions

1. How many tentacles/arms does a squid have?

2. What do the tentacles/arms do for the squid?

3. In your own words, explain how squid can avoid being eaten.

4. Why do scientists classify squid as “cephalopods”?

5. How are chromatophores helpful to squid?

6. Construct an argument, using evidence from this reading, that squid have internal and external structures that help them survive, grow, and reproduce.
How Many Stomachs Does It Take?

Different animals have specialized internal and external structures that help them survive in specific environments. External structures are found on the outside of the body. Internal structures are found inside the body.

Think about the structures of the human digestive system. You take in food through the mouth, where digestion starts. It passes down the esophagus and into the stomach, where it is mixed with digestive liquids. The food then moves through the intestines, where nutrients are absorbed into the body. But not all animals have such a straightforward digestive path. Take cows, for example. Did you know that cows have more than one stomach? In fact, they have four! These stomachs allow a cow’s digestive system to break down the tough food it eats.

Here’s how a cow’s digestive system works. As with humans, digestion starts in a cow’s mouth, where food is briefly chewed into small pieces. When swallowed, the food moves to the cow’s first stomach, where it begins to be broken down by digestive juices. The first stomach has large muscles to break the food into pieces. Once the first stomach makes the food pieces small enough, they can move into the second stomach. Sometimes the food pieces are too large for the first stomach to break apart; when this happens, the food is pushed back into the mouth. Have you heard the expression “chewing the cud”? This is when a cow rechews its food and swallows it again. This can happen several times until the pieces are small enough to move into the second stomach. In the second stomach, bacteria break food down into even smaller pieces. The third stomach filters the food and stores it until the fourth stomach has enough space. In the fourth stomach, more digestive juices continue the breakdown of food into particles. Finally, the food moves to the small intestine, where nutrients, or energy, can be absorbed for the cow to perform its daily tasks. It takes one to three days for this entire process, depending on what a cow eats.

The next time you see a cow, think about how amazing its internal structures are.

Questions

1. What is the importance of the digestive system? What would happen if animals didn’t have this system?

2. What does “chewing the cud” mean?

3. Other animals have multiple stomachs. Make a prediction about what other animals might benefit from having many stomachs. Explain your answer.
Surviving in the Desert

Cacti are a group of plants that adapted to desert conditions. There are many varieties of cacti. Cacti do not have broad, flat leaves like most other plants. Instead, cacti leaves are so tiny you'd have to use a microscope to see them. These microscopic leaves are specially adapted to reduce water loss. Because they are so small, there is very little area from which water can leave the plant. Cacti also have modified leaves that look like needles, spines, or short hairs. These structures have several purposes. The needles and spines protect the plant from hungry and thirsty desert animals. One encounter with a cactus would teach most animals to steer clear! Spines and hairs gather water from mist, fog, and dew and channel that water to the roots. The spines do not allow any water to pass through.

It is not only the leaves of cacti that are modified for desert conditions. Cacti have thick, fleshy stems that are usually shaped like cylinders or thick paddles. These fleshy stems serve several functions. The stems of a cactus are green. It is in the stems that cacti make most of their food through photosynthesis. The stems also store water. When conditions are wet, the roots absorb water, which enters the stems. The stems swell. A waxy coating on the outside of the stem keeps the water from evaporating. When conditions are dry, the plant can absorb the water from the stems to keep itself alive.

The roots of cacti also are adapted to help the plants survive in dry conditions. Many cacti have very shallow roots that spread out far and wide from the base of the plant. When rain falls, the roots quickly take in water. When conditions are very dry, roots may break off so water does not move from the plant through the roots into the dry soil.

Questions

1. The Venus flytrap gets most of its nutrients from insects. When an insect lands on the thick, fleshy leaves, tiny hairs make the leaves snap shut. Digestive juices dissolve the insect, and the leaves absorb the nutrients. How are the functions of the leaves of cacti and Venus flytraps different?

2. Baobab trees are found in a hot, dry climate. These trees are shaped like bottles, with a wide bottom and thin trunk. The wide bottom can hold over 300 liters (79 gallons) of water. How is the bottle-like structure of the Baobab similar to the fleshy stem of the cactus?

3. Cacti have structures that are adapted for very dry conditions. Think about plants in a rain forest, where the conditions are very wet year-round. What adaptations might a plant need to survive in the rain forest?
Observing the Great Outdoors

Bird Characteristics

Location: In your backyard or at a local park.
Challenge: Determine how unique external structures help the plants and animals survive in their environment.
Who: You and any other person who will help (like brothers, sisters, parents, or friends).

1. What to look for: Three different living things in your neighborhood. Include at least one plant.

2. What to record: Complete the table on the next page to record specific external structures, or characteristics, you observe on each plant or animal. Predict what you think the function of that structure is and then research to find the answer.

3. What to report: Bring your completed chart to class. Be prepared to share what you have discovered during your observations and research.

Vocabulary

Characteristic: A feature that helps identify a person or thing.
External structure: A part found on the outside of an organism's body that aids in survival.
Function: A purpose or job; how something works or operates.

Did You Know?

- All living things have unique structures and characteristics that help them grow and survive in their environment. Color is one of these characteristics.
- Many animal species have clear differences between males and females. In birds, males are often much more colorful than females. This vibrant coloring is used to attract a mate for reproduction. Female birds are usually brown or gray. Why might female birds be brown rather than colorful, like the males? Hint: Think about the nest.
- Even plants use color to their advantage. The petals on many flowers are vibrant in color. The plants make these colorful flowers to attract pollinators like bees, butterflies, birds, and other animals. These animals stop by different flowers to take a drink of nectar and spread pollen in the process. This leads to plant reproduction.
Observing the Great Outdoors

Observe the plants and animals in your backyard or neighborhood park. Look carefully at their external structures. What do you think these special structures are for? Record your observations and predictions in the chart below, then use books or the Internet to find out if you were right. Make sure you include at least one structure of a plant! Bring the completed chart to school to share with your classmates. An example has been done for you.

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<tr>
<th>Living thing</th>
<th>Picture of living thing</th>
<th>External structure</th>
<th>I think the purpose is...</th>
<th>Research</th>
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<tr>
<td>Hummingbird</td>
<td><img src="image" alt="Hummingbird" /></td>
<td>Long beak</td>
<td>To drink out of flowers</td>
<td>Hummingbirds drink nectar from tubular flowers and need a long beak to reach the nectar.</td>
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Unusual Animal Senses

Animals use their senses to survive in their environment. Because environments vary greatly, so do the ways that animals have adapted to use their senses.

Bloodhounds are dogs with an extremely keen sense of smell. Sometimes called “a nose with a dog attached,” bloodhounds can smell more than 1,000 times better than humans. Their noses have about 230 million scent receptors in an area about the size of a handkerchief. These amazing sniffers can be trained to detect people even 300 hours after the person has passed by. How do they do it? When a bloodhound sniffs an object, air carries odors through the nose. The odors get stuck in mucus and stimulate the scent receptors. The brain analyzes the smell and makes an “odor image.” The dog can identify this image and follow it. Some dogs have been able to follow an odor trail for more than 209 kilometers (130 miles)!

A platypus is an odd-looking animal. In fact, when scientists first saw these animals, they thought someone was playing a joke on them. A platypus has a bill and webbed feet like a duck, a tail like a beaver, and a furry body that looks like an otter. They also have a unique way to hunt prey—electroreception. Within the skin of their bills are electroreceptors that can detect weak electrical fields generated by their prey. Platypuses actually close their eyes, ears, and noses when they start to hunt and let this sixth sense take over.

Bats also have an extra sense. This sense is called echolocation, and it helps bats detect prey in the dark. Echolocation starts with some bats producing sounds through their vocal cords, much like humans do.

Other bats produce the sound through their nose. These sounds are high pitched; in fact, these sounds are so high that humans can’t hear them. The sound waves produced by these sounds travel through the air. They bounce off objects they encounter, including prey. Bats determine how far away prey is by how long it takes a sound to bounce back. The bats can even determine how large something is and what direction it is moving.

Questions

1. You’ve read that people use bloodhounds and their highly developed sense of smell to find people. How might the dog use this sense to help it survive?

2. How might closing off eyes, ears, and nose be an advantage when the platypus hunts by electroreception?

3. How is sound used in echolocation?

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Credit: gallimaufry/Shutterstock.com
Did You See That?

The eyes and the brain work together to help animals experience sight. The eyes detect light and focus it to form images. The images are processed by the brain, and an animal “sees.”

There are two types of cells that detect light. Both are located on the retina. Rods can detect low levels of light, but not color. That is why you only see shades of gray at night or when you are in a dark room. Cones need a lot of light to be activated. They help us see color. Humans have three kinds of cones, each of which sees a different color. Some cones see blue. Others see green or red. The number of cones in the eye affects the amount of color seen. Many animals have three cones and see color much the same way that humans do. Birds have four cones in their eyes. They see color much better than humans. An undersea animal called the mantis shrimp has the most complex eyes of all animals. Their eight cones can detect ten times more color than a human!

Different animals see color differently. Dogs, cats, rabbits, and mice see in shades of yellow, blue, and grey. They distinguish objects based on their hue. People who can only see in these colors suffer from a color vision deficiency called deuteranopia, which means red–green color blindness.

Most animals can be classified by where their eyes are placed on their head. Some animals, such as monkeys, hawks, wolves, and monkeys, have forward-facing eyes. The eyes are close together on the front of the face. Forward-facing eyes allows organisms to judge depth and distance.

On the other hand, animals such as chickens, deer, rabbits, and horses have eyes on the sides of their heads. These animals are not as good at judging depth and distance, but they have a very wide field of vision.

Questions

1. Sharks, bulls, and stingrays only see in black and white. Use what you learned in this article to explain the structure of these animals’ eyes.

2. Imagine that you are watching a hawk hunt a rabbit. Explain how the position of each animal’s eyes could help it survive.

3. Many mammals can only detect visible light. But there are other kinds of light. Some animals can also detect ultraviolet or infrared light. What might be the advantage of this kind of adaptation?
Everything around us is made of matter-your clothes, the trees, even the water you drink! We divide matter into four major categories, which are called the four states of matter: liquid, gaseous, solid, and plasma. However, we will focus on the first three. Whatever the state of matter may be, all matter is made of tiny particles called atoms. These particles are too tiny to see with the naked eye; they're even too small to see with a regular microscope. If you line up a million atoms next to each other, they will be as thick as a single piece of human hair. So, we can only look at atoms through very powerful tools, one of them being the "scanning tunneling" microscope.

How Do We Know?

We can easily see liquids and solids around us, but most gases aren't visible. We can't see the air around us, but it is still made of atoms that constantly move around freely in space. How can we tell?

Take a balloon, for example. When we pump air into a balloon, it visibly inflates. That means that gaseous
matter is filling the balloon and taking up space. The more air we blow into the balloon, the bigger it gets. Therefore, we can observe the way gas moves around space. In the same way, inflatable pool toys also fill with air so that they can float on water. When we fill the plastic shells with air, the toys take shape. Since air is lighter than water, the pool toys can rest on the water without sinking. And then we can enjoy a sunny day while floating in a pool!

Moving Atoms

Atoms are constantly moving. However, atoms move at different speeds within different states of matter. We have been able to determine that atoms move slower in solids than they do in liquids. That's because atoms in solids are tightly packed, and there is less space to move around freely. The atoms in gas move the fastest. Since the atoms move more freely in liquids and gases, they can undergo a process called diffusion. (Solids can diffuse as well, although it's a much longer process.) Diffusion is the movement of particles from a higher concentration to a lower concentration. That's why, when you spray perfume in a corner of a room, you will eventually smell it on the other side of the room. The atoms from the perfume diffuse through the air. Because of this diffusion, the perfume scent is spread.

Identification

We can identify materials according to a variety of properties. Scientists have determined several different measurements to help label materials. Some examples are temperature, hardness, color and length. Usually, these are used to measure solids, like rocks and minerals. However, temperature can be used to measure liquids as well. When geologists study rocks, they often use the Mohs scale of mineral hardness. This scale allows us to characterize the scratch resistance of various minerals. A diamond is described as hard because it is extremely difficult to scratch. Scientists can measure hardness with the Mohs scale and compare minerals to other minerals.

Scientists always use various methods to group materials together—that way, it's easier to study and compare them. That's another reason why we differentiate between liquids, gases, solids and plasmas!
1. Everything around us is made of
   A. liquids
   B. matter
   C. plasma
   D. gas

2. Why does the author describe the balloon and inflatable pool toys filling up with air?
   A. in order to explain that it is impossible to observe the way gas moves around space
   B. in order to explain that air is not made of atoms that take up space
   C. in order to explain that air is made of atoms that take up space even though air is invisible
   D. in order to prove that these are fun objects to inflate

3. Atoms move slower in solids than they do in liquids. Which evidence from the passage best supports this statement?
   A. Solids, liquids, and gases can all undergo the process of diffusion.
   B. Diffusion is the movement of particles from a higher concentration to a lower concentration.
   C. The atoms in gas move the fastest.
   D. Atoms in solids are more tightly packed than atoms in liquids, so there is less space to move around freely in solids.

4. Based on the passage, the corner where a perfume is initially sprayed has
   A. has no concentration of perfume particles
   B. has the same concentration of perfume particles as the rest of the room
   C. a lower concentration of perfume particles than the other corners of the room
   D. a higher concentration of perfume particles than the other corners of the room
5. What is this passage mainly about?
   A. matter and the properties it has in certain states
   B. the process of diffusion
   C. the different measurement scientists use to label materials
   D. the inflation of balloons and pool toys

6. Read the following sentences from the passage: "Whatever the state of matter may be, all matter is made of tiny particles called atoms. These particles are too tiny to see with the naked eye; they're even too small to see with a regular microscope. If you line up a million atoms next to each other, they will be as thick as a single piece of human hair."

   The author uses the example of "a single piece of human hair" to illustrate
   A. how atoms can be seen with a regular microscope
   B. how tiny atoms actually are
   C. how hairy atoms actually are
   D. how much they look like hair

7. Choose the answer that best completes the sentence below.

   Scientists group materials together ____________ it is easier to compare and study them that way.
   A. however
   B. but
   C. although
   D. because

8. Explain why atoms move at different speeds depending on whether they are in liquids or solids.

9. What is diffusion?

10. Explain whether smoke filling up a room is diffusion or not.
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