

June 2020

Dear Parent & Student (incoming Grade 5),

The Wallington Board of Education has approved a **Summer Math Program** for all students entering grades 4-8 for the 2020-2021 school year. We encourage all parents and students to fully participate in this important program that is designed to help maintain and improve math skills during the summer months.

Attached, please find a grade level **Math Packet** that should be completed by your child during the summer vacation.

Many educators argue that children learn best when instruction is continuous. The long summer vacation disrupts the rhythm of instruction, leads to forgetting, and requires time be spent reviewing old material when students return to school in September. This packet is designed to help review and reinforce math skills that your child has already learned during the current school year that he/she just completed. It is meant to be completed a little at a time over two months, not in one sitting. The packet should be returned to school on the first day of the new school year and will be reviewed in September by your child's math teacher. **Please be aware that the completed packet will be counted as extra credit.**

**Additionally, you will need to make sure that the math computations (the work for the problems) are written and shown on a separate piece of paper to be returned with the packet. Packets without written work will not be accepted.

It is important to return the math packet and accompanying work so that your child receives credit for their work completed over the summer. It is our hope that participation in this program will provide your child with a good opportunity to maintain and reinforce their math skills.

Should you have any questions, please feel free to contact my office.

Sincerely,

Nancy J. Giambrone
Principal
Frank W. Gavlak & Jefferson School Annex

Mr. Reddy
4th Grade Math Teacher
Frank W. Gavlak

Rounding

Round 15,897 to the nearest thousand.
Look at the hundreds digit. 15,897

8 is greater than or equal to 5, so round 5 to 6 in the thousands place. Follow with zeros.

16,000

Round 234,054 to the nearest hundred.
Look at the tens digit. 234,054

5 is greater than or equal to 5, so round 0 to 1 in the hundreds place. Follow with zeros.

234,100

Round to the nearest ten.

1. 6,421

2. 45,288

3. 975

Round to the nearest hundred.

1. 325,793

2. 49,832

3. 123,652

Round to the nearest thousand.

1. 567,523

2. 4,378

3. 987,436

Round to the nearest ten thousand.

1. 726,034

2. 34,596

3. 5,745,976

Round to the nearest hundred thousand.

1. 4,835,694

2. 1,057,251

3. 981,285

Round to the nearest million.

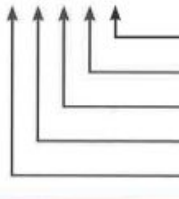
1. 7,499,887

2. 6,576,362

3. 3,660,534

Addition

$$\begin{array}{r} 53240 \\ + 7640 \\ \hline 60880 \end{array}$$


 Add the ones.
 Add the tens.
 Add the hundreds.
 Add the thousands.
 Add the ten thousands.

$$\begin{array}{r} 53240 \\ + 7640 \\ \hline 60880 \end{array}$$

← addend
 ← addend
 ← sum

- | | | | | | |
|-----------|--|--|--|---|--|
| | a | b | c | d | e |
| 1. | $\begin{array}{r} 4301 \\ + 7256 \\ \hline \end{array}$ | $\begin{array}{r} 23125 \\ + 1150 \\ \hline \end{array}$ | $\begin{array}{r} 7372 \\ + 1727 \\ \hline \end{array}$ | $\begin{array}{r} 74323 \\ + 28057 \\ \hline \end{array}$ | $\begin{array}{r} 2248 \\ + 1184 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 23703 \\ + 6147 \\ \hline \end{array}$ | $\begin{array}{r} 9100 \\ + 3498 \\ \hline \end{array}$ | $\begin{array}{r} 13788 \\ + 9093 \\ \hline \end{array}$ | $\begin{array}{r} 5009 \\ + 5009 \\ \hline \end{array}$ | $\begin{array}{r} 10735 \\ + 5781 \\ \hline \end{array}$ |
| 3. | $\begin{array}{r} 5112 \\ + 3227 \\ \hline \end{array}$ | $\begin{array}{r} 45173 \\ + 3217 \\ \hline \end{array}$ | $\begin{array}{r} 4880 \\ + 2009 \\ \hline \end{array}$ | $\begin{array}{r} 25883 \\ + 24458 \\ \hline \end{array}$ | $\begin{array}{r} 82048 \\ + 8953 \\ \hline \end{array}$ |

Subtraction

Subtract the ones.

$$\begin{array}{r} 13546 \\ - 7643 \\ \hline 3 \end{array}$$

Subtract the tens.

$$\begin{array}{r} 13546 \\ - 7643 \\ \hline 03 \end{array}$$

Rename and subtract the hundreds.

$$\begin{array}{r} 215 \\ 13546 \\ - 7643 \\ \hline 903 \end{array}$$

Rename and subtract the thousands.

$$\begin{array}{r} 1215 \\ 13546 \\ - 7643 \\ \hline 5903 \end{array}$$

← minuend
 ← subtrahend
 ← difference

- | | | | | | |
|-----------|---|---|--|---|---|
| | a | b | c | d | e |
| 1. | $\begin{array}{r} 25625 \\ - 6510 \\ \hline \end{array}$ | $\begin{array}{r} 73461 \\ - 3861 \\ \hline \end{array}$ | $\begin{array}{r} 40305 \\ - 6307 \\ \hline \end{array}$ | $\begin{array}{r} 15898 \\ - 4775 \\ \hline \end{array}$ | $\begin{array}{r} 66859 \\ - 34437 \\ \hline \end{array}$ |
| 2. | $\begin{array}{r} 80247 \\ - 15136 \\ \hline \end{array}$ | $\begin{array}{r} 33969 \\ - 20979 \\ \hline \end{array}$ | $\begin{array}{r} 95348 \\ - 6007 \\ \hline \end{array}$ | $\begin{array}{r} 59109 \\ - 45207 \\ \hline \end{array}$ | $\begin{array}{r} 82468 \\ - 3547 \\ \hline \end{array}$ |

Factors

A number is called **prime** if its only factors are 1 and itself.

For example, 7 is a prime number. The only factors of 7 are 1 and 7.

A number is called **composite** if it has more than two factors.

For example, 8 is a composite number. 1, 2, 4, and 8 are all factors of 8.

List all the factors of each number. Then, label each number as prime or composite.

- 64
- 43
- 53
- 72
- 19
- 48

Multiplying 3 digits by 1 digit

$$\begin{array}{r} 7 \overset{1}{5} 2 \\ \times 8 \\ \hline 6 \end{array}$$

Multiply 2 ones by 8. Put 1 ten above the 5.

$$\begin{array}{r} 7 \overset{4}{5} 2 \\ \times 8 \\ \hline 16 \end{array}$$

Multiply 5 tens by 8. Then, add 1 ten. Put 4 hundreds above the 7.

$$\begin{array}{r} 7 \overset{4}{5} 2 \\ \times 8 \\ \hline 6016 \end{array}$$

Multiply 7 hundreds by 8. Then, add 4 hundreds.

- $118 \times 3 =$
- $302 \times 4 =$
- $224 \times 5 =$
- $327 \times 3 =$
- $158 \times 3 =$
- $235 \times 6 =$
- $405 \times 5 =$
- $118 \times 8 =$

Multiplying 2 digits by 2 digits

$\begin{array}{r} 19 \\ \times 27 \\ \hline \end{array}$	$\begin{array}{r} 6 \\ 19 \\ \times 27 \\ \hline 133 \end{array}$ <p>Multiply 9 ones by 7. Put 6 tens above the 1. Multiply 1 ten by 7. Then, add 6 tens.</p>	$\begin{array}{r} 1 \\ 19 \\ \times 27 \\ \hline 133 \\ 380 \\ \hline \end{array}$ <p>Multiply 9 ones by 20. Put 1 ten above the 1. Multiply 1 ten by 20. Then, add 1 ten.</p>
$\begin{array}{r} 19 \\ \times 27 \\ \hline 133 \\ + 380 \\ \hline 513 \end{array} \left. \vphantom{\begin{array}{r} 19 \\ \times 27 \\ \hline 133 \\ + 380 \\ \hline 513 \end{array}} \right\} \text{Add.}$		

1. $22 \times 33 =$

5. $65 \times 17 =$

2. $31 \times 23 =$

6. $83 \times 29 =$

3. $78 \times 56 =$

7. $11 \times 30 =$

4. $97 \times 41 =$

8. $44 \times 77 =$

Dividing 4 digits

$8 \div 4 = 2$ $4 \times 2 = 8$ $\begin{array}{r} 2 \\ 4 \overline{) 8917} \\ \underline{-8} \\ 09 \end{array}$ <div style="display: flex; justify-content: space-around; width: 100%;"> divisor dividend </div>	$9 \div 4 = 2$ remainder 1 $\begin{array}{r} 22 \\ 4 \overline{) 8917} \\ \underline{-8} \\ 09 \\ \underline{-8} \\ 11 \end{array}$	$11 \div 4 = 2$ remainder 3 $\begin{array}{r} 222 \\ 4 \overline{) 8917} \\ \underline{-8} \\ 09 \\ \underline{-8} \\ 11 \\ \underline{-8} \\ 37 \end{array}$	$37 \div 4 = 9$ remainder 1 $\begin{array}{r} 222 \\ 4 \overline{) 8917} \\ \underline{-8} \\ 09 \\ \underline{-8} \\ 11 \\ \underline{-8} \\ 37 \\ \underline{-36} \\ 1 \end{array}$ <div style="display: flex; justify-content: space-between; width: 100%;"> ← quotient ← remainder </div>
--	---	---	---

$$2 \overline{) 2,612}$$

$$5 \overline{) 8,603}$$

$$4 \overline{) 8,263}$$

$$3 \overline{) 6,363}$$

$$7 \overline{) 6,137}$$

$$6 \overline{) 6,219}$$

$$2 \overline{) 4,921}$$

$$8 \overline{) 9,061}$$

$$9 \overline{) 1,616}$$

$$3 \overline{) 8,813}$$

Finding Equivalent Fractions

$\frac{3}{4}$ To find an equivalent fraction, multiply both the numerator and denominator by the same number.

$$\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$$

← Multiply the numerator by 3.
← Multiply the denominator by 3.

$$\frac{3}{4} = \frac{9}{12}$$

$\frac{3}{4}$ and $\frac{9}{12}$ are equivalent fractions.

To find an equivalent fraction, multiply the fraction by the number in the circle.

$$\frac{3}{4} = \underline{\quad} \textcircled{3} \quad \frac{1}{4} = \underline{\quad} \textcircled{4} \quad \frac{2}{3} = \underline{\quad} \textcircled{5} \quad \frac{1}{2} = \underline{\quad} \textcircled{2}$$

$$\frac{1}{3} = \underline{\quad} \textcircled{6} \quad \frac{3}{12} = \underline{\quad} \textcircled{2} \quad \frac{1}{5} = \underline{\quad} \textcircled{3} \quad \frac{2}{10} = \underline{\quad} \textcircled{4}$$

$$\frac{5}{7} = \underline{\quad} \textcircled{2} \quad \frac{3}{6} = \underline{\quad} \textcircled{4} \quad \frac{2}{8} = \underline{\quad} \textcircled{4} \quad \frac{1}{6} = \underline{\quad} \textcircled{6}$$

Comparing Fractions Using Least Common Multiple

$$\frac{1}{7} \textcircled{>} \frac{2}{3}$$

$$\frac{1 \times 3}{7 \times 3} = \frac{3}{21}$$

$$\frac{2 \times 3}{3 \times 3} = \frac{6}{9}$$

$$\frac{3}{21} \textcircled{<} \frac{6}{21}$$

To compare fractions without pictures, the denominators must be the same. When you have unlike denominators, find the **least common multiple (LCM)** and rename the fractions.

In the example, the denominators are 3 and 7, so find the LCM of 3 and 7.

Multiples of 3: 3, 6, 9, 12, 15, 18, **21**, 24

Multiples of 7: 7, 14, **21**, 28

The least common multiple of 3 and 7 is 21. To change each fraction so it has the same denominator, multiply both the numerator and denominator by the same number. Look at the numerator to determine the larger fraction.

1. $\frac{4}{8}$ $\frac{2}{10}$

3. $\frac{3}{8}$ $\frac{10}{12}$

5. $\frac{2}{8}$ $\frac{1}{4}$

2. $\frac{1}{5}$ $\frac{2}{10}$

4. $\frac{3}{12}$ $\frac{1}{3}$

6. $\frac{4}{7}$ $\frac{4}{8}$

Adding Fractions With Like Denominators

$$\frac{2}{8} + \frac{5}{8}$$

Like denominators
are the same number.

Add the numerators.

$$\frac{2}{8} + \frac{5}{8} = \frac{2+5}{8} = \frac{7}{8}$$

Write the sum over the
common denominator.

1. $\frac{3}{12} + \frac{8}{12} =$

2. $\frac{7}{10} + \frac{8}{10} =$

3. $\frac{2}{5} + \frac{1}{5} =$

4. $\frac{2}{7} + \frac{2}{7} =$

5. $\frac{9}{11} + \frac{3}{11} =$

6. $\frac{3}{4} + \frac{3}{4} =$

7. $\frac{1}{3} + \frac{2}{3} =$

8. $\frac{3}{6} + \frac{2}{6} =$

Subtracting With Like Denominators

$$\frac{7}{12} - \frac{5}{12}$$

Like denominators
are the same number.

Subtract the numerators.

$$\frac{7}{12} - \frac{5}{12} = \frac{7-5}{12} = \frac{2}{12}$$

Write the difference over the
common denominator.

$$\frac{11}{12}$$

$$\frac{3}{12}$$

$$\frac{5}{10}$$

$$\frac{3}{10}$$

$$\frac{7}{10}$$

$$\frac{3}{10}$$

$$\frac{8}{12}$$

$$\frac{7}{12}$$

$$\frac{3}{4}$$

$$\frac{1}{4}$$

$$\frac{4}{5}$$

$$\frac{2}{5}$$

$$\frac{6}{7}$$

$$\frac{5}{7}$$

$$\frac{7}{10}$$

$$\frac{4}{10}$$

$$\frac{4}{5}$$

$$\frac{3}{5}$$

$$\frac{5}{8}$$

$$\frac{1}{8}$$

Adding Mixed Numbers With Like Denominators

$$\begin{array}{r} 3\frac{4}{9} \\ + 2\frac{2}{9} \\ \hline 5\frac{6}{9} = 5\frac{2}{3} \end{array}$$

Add the fractions.

$$\frac{4}{9} + \frac{2}{9} = \frac{6}{9}$$

Add the whole numbers.

$$3 + 2 = 5$$

Reduce to simplest form.

$$\frac{6}{9} \div \frac{3}{3} = \frac{2}{3}$$

$$\begin{array}{r} 3\frac{4}{7} \\ + 5\frac{3}{7} \\ \hline \end{array}$$

$$\begin{array}{r} 6\frac{4}{9} \\ + 8\frac{5}{9} \\ \hline \end{array}$$

$$\begin{array}{r} 7\frac{1}{6} \\ + 3\frac{1}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 2\frac{2}{5} \\ + 4\frac{4}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 3\frac{2}{11} \\ + 8\frac{8}{11} \\ \hline \end{array}$$

$$\begin{array}{r} 9\frac{3}{10} \\ + 2\frac{9}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 5\frac{1}{8} \\ + 4\frac{3}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 1\frac{6}{7} \\ + 3\frac{2}{7} \\ \hline \end{array}$$

$$\begin{array}{r} 8\frac{3}{4} \\ + 6\frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 2\frac{2}{9} \\ + 7\frac{2}{9} \\ \hline \end{array}$$

Subtracting Mixed Numbers With Like Denominators

$$\begin{array}{r}
 3\frac{2}{8} = 2\frac{10}{8} \\
 -1\frac{3}{8} \\
 \hline
 1\frac{7}{8}
 \end{array}$$

$\frac{2}{8}$ is less than $\frac{3}{8}$. Rename $3\frac{3}{8}$.
 Subtract the fractions.
 Subtract the whole numbers.

$$\begin{aligned}
 3 &= 2 + 1 + \frac{2}{8} \\
 &= 2 + \frac{8}{8} + \frac{2}{8} = 2\frac{10}{8}
 \end{aligned}$$

$$\begin{array}{r}
 3\frac{3}{4} \\
 -1\frac{1}{4} \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 6\frac{2}{7} \\
 -2\frac{1}{7} \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 9\frac{7}{8} \\
 -3\frac{5}{8} \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 8\frac{5}{6} \\
 -4\frac{1}{6} \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 6\frac{5}{8} \\
 -3\frac{3}{8} \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 7\frac{7}{9} \\
 -4\frac{4}{9} \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 5\frac{7}{10} \\
 -3\frac{1}{10} \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 6\frac{3}{5} \\
 -4\frac{2}{5} \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 9\frac{3}{7} \\
 -7\frac{3}{7} \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 8\frac{7}{9} \\
 -7\frac{2}{9} \\
 \hline
 \end{array}$$

Multiplying Fractions and Whole Number

$$\begin{array}{l}
 \frac{2}{3} \times 6 = \frac{2}{3} \times \frac{6}{1} \\
 = \frac{2 \times 6}{3 \times 1} \\
 = \frac{12}{3} \\
 = 4
 \end{array}$$

Rewrite the whole number as a fraction.
 Multiply the numerators.
 Multiply the denominators.
 Reduce to simplest form.

$$\begin{aligned}
 7 \times \frac{1}{2} &= \frac{7}{1} \times \frac{1}{2} \\
 &= \frac{7 \times 1}{1 \times 2} \\
 &= \frac{7}{2} \\
 &= 3\frac{1}{2}
 \end{aligned}$$

1. $3 \times \frac{1}{8} =$

2. $5 \times \frac{2}{3} =$

3. $\frac{2}{9} \times 8 =$

4. $\frac{4}{7} \times 2 =$

5. $6 \times \frac{3}{5} =$

6. $2 \times \frac{5}{9} =$

7. $\frac{2}{7} \times 3 =$

8. $7 \times \frac{3}{4} =$

Multiplication Fact Practice

It is important to keep your multiplication facts fresh in your mind. Reviewing the every week in the summer will help you do that. This is how it works:

On the internet, go to www.multiplication.com. Click on "Multiplication Games". There are several different games you can play to help you practice your multiplication facts. You must spend **at least 30 minutes** each week practicing facts at this site. You may complete the 30 minutes in one sitting or spread it out over the week. You may play as many different games as you want each week, however, if you start a game you must finish the round. Your parents **must** sign off each week to verify that you have completed your practice. Please use the chart below. Have fun and keep your math skills strong!

WEEK OF:	PARENT SIGNATURE (I verify that my child has completed their multiplication fact practice)
June 26	
July 3	
July 10	
July 17	
July 24	
July 31	
August 7	
August 14	
August 21	
August 28	