

# LOGIC PUZZLE

## MULTI-DIGIT MULTIPLICATION

**Math Review Logic Puzzle: Class Celebrations Answer Sheet**

Name \_\_\_\_\_

Use the answers from your "Problems Sheet" to circle the correct answer in the chart below. Then, look at the clue letter underneath the correct answer to determine what grade level each teacher teaches and what treat he/she brought.

#	Answer 1	Answer 2	Answer 3
1	644 J	734 B	744 G
2	18,178 C	18,288 A	18,298 Q
3	3,066 Q	4,076 P	4,066 A
4	2,589 D	2,799 O	2,698 N
5	4,224 K	3,294 I	3,324 G
6	3,178 L	2,058 F	3,068 D
7	611 L	501 H	601 O
8	1,068 C	1,178 M	1,168 I
9	48,198 L	42,088 K	42,188 E
10	1,855 A	1,905 B	1,895 O
11	278 P	289 I	297 M
12	4,558 C	4,586 F	5,546 N
13	3,248 D	3,228 H	3,353 P

**Math Review Logic Puzzle I: Class Celebrations Puzzle Sheet**

Name \_\_\_\_\_

Six teachers from different grade levels had parties to celebrate the end of the school year. Each teacher brought a different treat for his/her students. Use the correct clues from your "Clues Sheet" to determine what grade level each teacher teaches and what treat he/she brought.

	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade	Cookies	Cupcakes	Ice Cream Sundaes	Popsicles	Brownies	Candy Bars
Mrs. Hannon												
Mr. Wheeler												
Mrs. Martin												
Mr. Snider												
Mrs. Blair												
Mr. Davis												
Cookies												
Cupcakes												
Ice Cream Sundaes												
Popsicles												
Brownies												
Candy Bars												

**FREE!**

**Math Review Logic Puzzle I: Clues Sheet**

Name \_\_\_\_\_

Use that clue to solve the logic puzzle. Clues with only one checkmark. These clues are meant to "trick" you!

	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade	6th Grade	Cookies	Cupcakes	Ice Cream Sundaes	Popsicles	Brownies	Candy Bars	Checkmarks
All melt-off their sticks.													
1st grade.													
es.													
e level.													
Davis.													
ed alphabetically.													

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**Practice Critical Thinking + Math!**





## Thank You!

I'd like to thank you for downloading this resource. I sincerely hope that it helps your kids to practice these skills in a meaningful and engaging way – and that they have fun in the process!

Much gratitude,  
Brittney

P.S. If you found this resource useful, please consider leaving your feedback.

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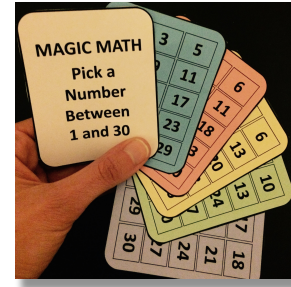
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# Multi-Digit Multiplication Logic Puzzle

## Activity Setup

In this packet, you will find:

- Instructions for use
- Class Celebrations Problem Sheet
- Class Celebrations Answer Sheet
- Class Celebrations Clues Sheet
- Class Celebrations Puzzle Sheet
- Answer keys

Other materials you will need:

- Pencils

Preparation:

1. Print the four activity pages (Problem Sheet, Answer Sheet, Clues Sheet, and Puzzle Sheet) for each student.
2. Print the answer keys, if needed.
3. Give one set of activity pages to each student.

# Multi-Digit Multiplication Logic Puzzle Instructions

## Completing the activity:

1. Solve all of the problems on your Problem Sheet.
2. Look at your Answer Sheet. For each problem number, circle the correct answer to that problem (based on the answers you found when doing all of the problems on the Problems Sheet). Then, look at the letter underneath your circled answer. Turn to your Clues Sheet and put one checkmark beside the clue for just that letter.
3. Repeat until you have done the same for every problem.
4. On your Clues Sheet, highlight the clues with TWO checkmarks. These are the ONLY clues that you'll use to solve the logic puzzle on your Puzzle Sheet. *Note: Clues with only one checkmark should not be used to solve any part of the logic puzzle. In fact, it may be easier to cross these clues out.*
5. Use the clues with two checkmarks to eliminate any possibilities on the logic puzzle by marking an X. If the clue confirms a possibility, mark an O. *If you do not know how to solve logic puzzles, here's an excellent resource to get you started:*  
<http://bit.ly/LogicPuzzle>
6. Work through the clues and the logic puzzle until you get to the final answer.

# Multi-Digit Multiplication Logic Puzzle: Class Celebrations Problems Sheet

Name \_\_\_\_\_

Solve each problem on this worksheet. Then, find the answers on your "Answer Sheet."

1.  $12 \times 62 =$  \_\_\_\_\_

14.  $92 \times 5 =$  \_\_\_\_\_

2.  $4,572 \times 4 =$  \_\_\_\_\_

15.  $11 \times 43 =$  \_\_\_\_\_

3.  $42 \times 73 =$  \_\_\_\_\_

16.  $61 \times 93 =$  \_\_\_\_\_

4.  $9 \times 311 =$  \_\_\_\_\_

17.  $8 \times 536 =$  \_\_\_\_\_

5.  $49 \times 66 =$  \_\_\_\_\_

18.  $81 \times 61 =$  \_\_\_\_\_

6.  $2 \times 1,534 =$  \_\_\_\_\_

19.  $6 \times 183 =$  \_\_\_\_\_

7.  $47 \times 13 =$  \_\_\_\_\_

20.  $35 \times 9 =$  \_\_\_\_\_

8.  $89 \times 12 =$  \_\_\_\_\_

21.  $7 \times 3,872 =$  \_\_\_\_\_

9.  $8 \times 5,261 =$  \_\_\_\_\_

22.  $486 \times 5 =$  \_\_\_\_\_

10.  $53 \times 35 =$  \_\_\_\_\_

23.  $51 \times 84 =$  \_\_\_\_\_

11.  $3 \times 99 =$  \_\_\_\_\_

24.  $3 \times 6,573 =$  \_\_\_\_\_

12.  $72 \times 63 =$  \_\_\_\_\_

25.  $33 \times 21 =$  \_\_\_\_\_

13.  $479 \times 7 =$  \_\_\_\_\_

26.  $25 \times 15 =$  \_\_\_\_\_

# Multi-Digit Multiplication Logic Puzzle: Class Celebrations Answer Sheet

Name \_\_\_\_\_

Use the answers from your "Problems Sheet" to circle the correct answer for each problem number in the chart below. Then, look at the clue letter underneath the correct answer. Put one checkmark beside that letter's clue on your "Clues Sheet."

#	Answer 1	Answer 2	Answer 3
1	644 J	734 B	744 G
2	18,178 G	18,288 A	18,298 Q
3	3,066 Q	4,076 P	4,066 A
4	2,589 D	2,799 O	2,698 N
5	4,224 K	3,234 I	3,324 G
6	3,178 L	2,058 F	3,068 D
7	611 L	501 H	601 O
8	1,068 G	1,178 M	1,168 I
9	43,198 L	42,088 K	42,188 E
10	1,855 A	1,905 B	1,895 O
11	278 P	289 I	297 M
12	4,558 G	4,536 F	5,546 N
13	3,243 D	3,223 H	3,353 P

#	Answer 1	Answer 2	Answer 3
14	460 E	560 M	370 F
15	374 A	437 G	473 K
16	5,673 J	6,583 Q	5,783 E
17	4,288 N	4,388 J	5,288 K
18	3,931 G	3,041 I	4,941 F
19	998 D	1,098 B	1,908 P
20	215 O	305 H	315 E
21	27,104 Q	17,104 M	26,104 E
22	4,250 Q	2,430 H	3,540 G
23	3,274 B	4,284 L	3,194 N
24	19,829 J	18,709 F	19,719 I
25	693 D	503 L	713 A
26	265 N	375 O	475 K

# Multi-Digit Multiplication Logic Puzzle: Class Celebrations Clues Sheet

Name \_\_\_\_\_

As soon as a clue has **TWO** checkmarks beside it, you can use that clue to solve the logic puzzle. Once you have solved all of the problems, there will be some clues with only one checkmark. These clues cannot be used to solve the logic puzzle. They are incorrect clues and are meant to “trick” you!

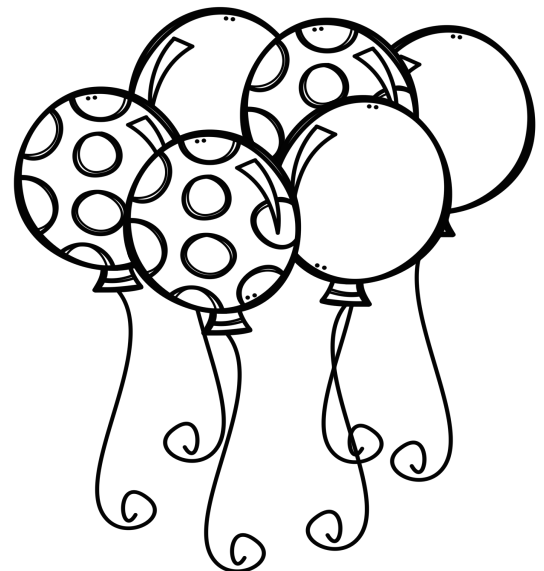
Letter	Clue	Checkmarks
A	Mrs. Martin brought lots of napkins because her treats will melt off their sticks.	
B	Neither Mrs. Hannon nor Mrs. Bair teach 3 <sup>rd</sup> grade.	
G	Mr. Snider's class enjoyed their cupcakes.	
D	A female teacher teaches the lowest grade level.	
E	The 4 <sup>th</sup> graders received cupcakes from Mr. Davis.	
F	The 3 <sup>rd</sup> graders got the treat that comes first when listed alphabetically.	
G	Mrs. Bair did not bring in a treat that starts with the letter G.	
H	Mr. Davis has been teaching the 5 <sup>th</sup> graders for the past 10 years.	
I	The treat that Mr. Wheeler brought to school begins with a vowel.	
J	The 2 <sup>nd</sup> graders are taught by Mr. Wheeler.	
K	Mrs. Martin and Mr. Snider teach the two youngest grades in the school.	
L	The 6 <sup>th</sup> graders got candy bars as treats for their classroom celebration.	
M	The treats that Mr. Snider brought do not have to be baked in an oven.	
N	Mrs. Hannon had to keep her treats in the freezer.	
O	Neither the popsicles nor the brownies were brought to school by Mrs. Bair or a male teacher.	
P	The teacher who teaches 3 <sup>rd</sup> grade brought in cupcakes.	
Q	Neither Mr. Wheeler nor Mrs. Hannon teach 4 <sup>th</sup> grade.	

# Multi-Digit Multiplication Logic Puzzle: Class Celebrations Puzzle Sheet

Name \_\_\_\_\_

Six teachers from different grade levels had parties to celebrate the end of the school year. Each teacher brought a different treat for his/her students. Use the correct clues from your "Clues Sheet" to determine what grade level each teacher teaches and what treat he/she brought.

	1 <sup>st</sup> Grade	2 <sup>nd</sup> Grade	3 <sup>rd</sup> Grade	4 <sup>th</sup> Grade	5 <sup>th</sup> Grade	6 <sup>th</sup> Grade	Cookies	Cupcakes	Ice Cream Sundaes	Popsicles	Brownies	Candy Bars
Mrs. Hannon												
Mr. Wheeler												
Mrs. Martin												
Mr. Snider												
Mrs. Bair												
Mr. Davis												
Cookies												
Cupcakes												
Ice Cream Sundaes												
Popsicles												
Brownies												
Candy Bars												



# Multi-Digit Multiplication Logic Puzzle: Class Celebrations Answer Sheet

## ANSWER KEY

#	Answer 1	Answer 2	Answer 3
1	$\begin{array}{r} 644 \\ J \end{array}$	$\begin{array}{r} 734 \\ B \end{array}$	$\begin{array}{r} 744 \\ G \end{array}$
2	$\begin{array}{r} 18,178 \\ C \end{array}$	$\begin{array}{r} 18,288 \\ A \end{array}$	$\begin{array}{r} 18,298 \\ Q \end{array}$
3	$\begin{array}{r} 3,066 \\ Q \end{array}$	$\begin{array}{r} 4,076 \\ P \end{array}$	$\begin{array}{r} 4,066 \\ A \end{array}$
4	$\begin{array}{r} 2,589 \\ D \end{array}$	$\begin{array}{r} 2,799 \\ O \end{array}$	$\begin{array}{r} 2,698 \\ N \end{array}$
5	$\begin{array}{r} 4,224 \\ K \end{array}$	$\begin{array}{r} 3,234 \\ I \end{array}$	$\begin{array}{r} 3,324 \\ G \end{array}$
6	$\begin{array}{r} 3,178 \\ L \end{array}$	$\begin{array}{r} 2,058 \\ F \end{array}$	$\begin{array}{r} 3,068 \\ D \end{array}$
7	$\begin{array}{r} 611 \\ L \end{array}$	$\begin{array}{r} 501 \\ H \end{array}$	$\begin{array}{r} 601 \\ O \end{array}$
8	$\begin{array}{r} 1,068 \\ G \end{array}$	$\begin{array}{r} 1,178 \\ M \end{array}$	$\begin{array}{r} 1,168 \\ I \end{array}$
9	$\begin{array}{r} 43,198 \\ L \end{array}$	$\begin{array}{r} 42,088 \\ K \end{array}$	$\begin{array}{r} 42,188 \\ E \end{array}$
10	$\begin{array}{r} 1,855 \\ A \end{array}$	$\begin{array}{r} 1,905 \\ B \end{array}$	$\begin{array}{r} 1,895 \\ O \end{array}$
11	$\begin{array}{r} 278 \\ P \end{array}$	$\begin{array}{r} 289 \\ I \end{array}$	$\begin{array}{r} 297 \\ M \end{array}$
12	$\begin{array}{r} 4,558 \\ C \end{array}$	$\begin{array}{r} 4,536 \\ E \end{array}$	$\begin{array}{r} 5,546 \\ N \end{array}$
13	$\begin{array}{r} 3,243 \\ D \end{array}$	$\begin{array}{r} 3,223 \\ H \end{array}$	$\begin{array}{r} 3,353 \\ P \end{array}$

#	Answer 1	Answer 2	Answer 3
14	$\begin{array}{r} 460 \\ E \end{array}$	$\begin{array}{r} 560 \\ M \end{array}$	$\begin{array}{r} 370 \\ F \end{array}$
15	$\begin{array}{r} 374 \\ A \end{array}$	$\begin{array}{r} 437 \\ G \end{array}$	$\begin{array}{r} 473 \\ K \end{array}$
16	$\begin{array}{r} 5,673 \\ J \end{array}$	$\begin{array}{r} 6,583 \\ Q \end{array}$	$\begin{array}{r} 5,783 \\ E \end{array}$
17	$\begin{array}{r} 4,288 \\ N \end{array}$	$\begin{array}{r} 4,388 \\ J \end{array}$	$\begin{array}{r} 5,288 \\ K \end{array}$
18	$\begin{array}{r} 3,931 \\ C \end{array}$	$\begin{array}{r} 3,041 \\ I \end{array}$	$\begin{array}{r} 4,941 \\ F \end{array}$
19	$\begin{array}{r} 998 \\ D \end{array}$	$\begin{array}{r} 1,098 \\ B \end{array}$	$\begin{array}{r} 1,908 \\ P \end{array}$
20	$\begin{array}{r} 215 \\ O \end{array}$	$\begin{array}{r} 305 \\ H \end{array}$	$\begin{array}{r} 315 \\ E \end{array}$
21	$\begin{array}{r} 27,104 \\ Q \end{array}$	$\begin{array}{r} 17,104 \\ M \end{array}$	$\begin{array}{r} 26,104 \\ E \end{array}$
22	$\begin{array}{r} 4,250 \\ Q \end{array}$	$\begin{array}{r} 2,430 \\ H \end{array}$	$\begin{array}{r} 3,540 \\ G \end{array}$
23	$\begin{array}{r} 3,274 \\ B \end{array}$	$\begin{array}{r} 4,284 \\ L \end{array}$	$\begin{array}{r} 3,194 \\ N \end{array}$
24	$\begin{array}{r} 19,829 \\ J \end{array}$	$\begin{array}{r} 18,709 \\ F \end{array}$	$\begin{array}{r} 19,719 \\ I \end{array}$
25	$\begin{array}{r} 693 \\ D \end{array}$	$\begin{array}{r} 503 \\ L \end{array}$	$\begin{array}{r} 713 \\ A \end{array}$
26	$\begin{array}{r} 265 \\ N \end{array}$	$\begin{array}{r} 375 \\ O \end{array}$	$\begin{array}{r} 475 \\ K \end{array}$

# Multi-Digit Multiplication Logic Puzzle: Class Celebrations Clues Sheet

## ANSWER KEY

Letter	Clue	Checkmarks
A	<u>Mrs. Martin brought lots of napkins because her treats will melt off their sticks.</u>	✓✓
B	Neither Mrs. Hannon nor Mrs. Bair teach 3 <sup>rd</sup> grade.	✓
G	Mr. Snider's class enjoyed their cupcakes.	✓
D	<u>A female teacher teaches the lowest grade level.</u>	✓✓
E	<u>The 4<sup>th</sup> graders received cupcakes from Mr. Davis.</u>	✓✓
F	<u>The 3<sup>rd</sup> graders got the treat that comes first when listed alphabetically.</u>	✓✓
G	Mrs. Bair did not bring in a treat that starts with the letter G.	✓
H	Mr. Davis has been teaching the 5 <sup>th</sup> graders for the past 10 years.	✓
I	<u>The treat that Mr. Wheeler brought to school begins with a vowel.</u>	✓✓
J	The 2 <sup>nd</sup> graders are taught by Mr. Wheeler.	✓
K	<u>Mrs. Martin and Mr. Snider teach the two youngest grades in the school.</u>	✓✓
L	<u>The 6<sup>th</sup> graders got candy bars as treats for their classroom celebration.</u>	✓✓
M	The treats that Mr. Snider brought do not have to be baked in an oven.	✓
N	Mrs. Hannon had to keep her treats in the freezer.	✓
O	<u>Neither the popsicles nor the brownies were brought to school by Mrs. Bair or a male teacher.</u>	✓✓
P	The teacher who teaches 3 <sup>rd</sup> grade brought in cupcakes.	✓
Q	<u>Neither Mr. Wheeler nor Mrs. Hannon teach 4<sup>th</sup> grade.</u>	✓✓

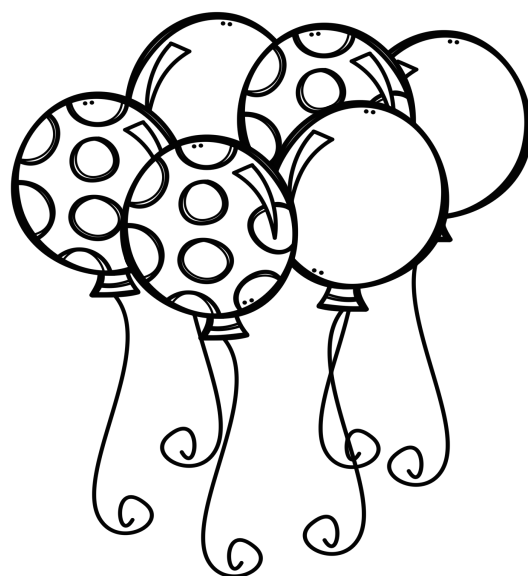
# Multi-Digit Multiplication Logic Puzzle: Class Celebrations Puzzle Sheet

## ANSWER KEY

Mrs. Hannon - 3<sup>rd</sup> Grade, Brownies  
Mr. Wheeler - 5<sup>th</sup> Grade, Ice Cream Sundaes  
Mrs. Martin - 1<sup>st</sup> Grade, Popsicles

Mr. Snider - 2<sup>nd</sup> Grade, Cookies  
Mrs. Bair - 6<sup>th</sup> Grade, Candy Bars  
Mr. Davis - 4<sup>th</sup> Grade, Cupcakes

	1 <sup>st</sup> Grade	2 <sup>nd</sup> Grade	3 <sup>rd</sup> Grade	4 <sup>th</sup> Grade	5 <sup>th</sup> Grade	6 <sup>th</sup> Grade	Cookies	Cupcakes	Ice Cream Sundaes	Popsicles	Brownies	Candy Bars
Mrs. Hannon	X	X	O	X	X	X	X	X	X	X	O	X
Mr. Wheeler	X	X	X	X	O	X	X	X	O	X	X	X
Mrs. Martin	O	X	X	X	X	X	X	X	X	O	X	X
Mr. Snider	X	O	X	X	X	X	O	X	X	X	X	X
Mrs. Bair	X	X	X	X	X	O	X	X	X	X	X	O
Mr. Davis	X	X	X	O	X	X	X	O	X	X	X	X
Cookies	X	O	X	X	X	X						
Cupcakes	X	X	X	O	X	X						
Ice Cream Sundaes	X	X	X	X	O	X						
Popsicles	O	X	X	X	X	X						
Brownies	X	X	O	X	X	X						
Candy Bars	X	X	X	X	X	O						





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