MATH CENTERS

Math Operation Puzzlers

created by the owl teacher

THE TEACHER'S PAGE

Thank you for purchasing this resource!

The purpose of this resource is to not only help your students with basic operations and numerical fluency skills, but also to build basic problem solving skills.

This resource is perfect for independent work, partner work, small groups, early finishers, enrichment, and so much more!

As you'll see, there is a lot of variety to this resource that allows for differentiation. You can use all of the cards, or only some, depending on what operation you want your students to focus on. If you want your students to focus on only addition and subtraction, you will use the cards with the book symbol in the corner. The dice choices determine how large the target number will be. If you want your students to practice all four operations, you'll use both the book and pencil cards together in one stack. Then, depending on how large you want your target number to be, you will use either white, yellow, and/or blue dice.

This game allows for a variety of playing options, including playing independently, in partners, in small groups, or even as a whole class. I would recommend modeling it up on the overhead for students ahead of time. You could also create a bulletin board version if desired.

For more information on this game, please visit my website https://theowlteacher.com and type in the search bar "puzzler game."

PREVIEW

DIFFERENTIATION

Level	Target #	Dice Color	Operation
2 Operations– Book Only Cards – (target #'s 1 – 12)*			
1	1 to 6	White	+ , -
2	1 to 12	White and Yellow	+, -
All 4 Operations– Book & Pencil Cards – (Target #'s -12 to 36)*			
3	1 to 6	White	+ , - , x , ÷
4	1 to 12	White and Yellow	+ , - , x , ÷
5	1 to 36	White and Blue	+ , - , x , ÷

*Each card can have zero as a target number.

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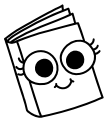

HOW TO PLAY

An Independent Game

1.) To begin, shuffle the cards and place them face down in a pile.
2.) Draw a card and roll two of the dice provided.
3.) Add up the numbers on the dice for a target number. The target number is the sum of the two dice. For example, if you rolled a 2 and a 6, your target number is 8.
4.) Look at the card you have drawn and choose any row, column, or diagonal of three digits on the card.
5.) Use each digit ONLY ONCE of that row, column, or diagonal in ANY order with ANY combination of TWO operations (+, -, x, ÷) and parentheses, if needed, to write a numerical expression that equals the target number.
6.) Be sure to follow the order of operation rules.

A Multi-Player Game

1.) Follow the directions for an independent game above.
2.) Together, all players will look for a way to create an equation to equal the target number.
3.) When a player sees a way to create an equation that makes the target number he or she will shout "Puzzler."
4.) The player that shouted "Puzzler" must then give the equation that formed the target number immediately. If the equation is correct, that player gets to keep the card. If the equation is not given immediately or it is incorrect, that player is out and the other players can continue on until a solution is given.
5.) Once a player has earned the card, a new card is drawn and a target number is rolled. The group plays again in the same manner. The play continues until time runs out or one player has five cards.

Other Game Possibilities

1.) Solutions to the Max! Draw a card and roll a target number. Then using the "Solutions to the Max" recording sheet, try to create as many solutions as possible. Look at the "Possible Solutions" sheet for an example.
2.) Beat the clock! Draw a card and roll a target number. Play the game in the normal fashion, but use a timer. Try to find an equation before the timer goes down!
3.) Zero the Hero! Draw a card and use zero as the target number. See how many cards you can solve using zero as the target number.
4.) Target Ten! Draw a card and using the recording sheet "Target Ten," try to find an equation for each target number, 1 to 10.
5.) Everywhere. Look around and create target numbers from numbers surrounding you. For instance, draw a card and use the date (day of the month) as a target number. Can you create an equation?

PREVIEW

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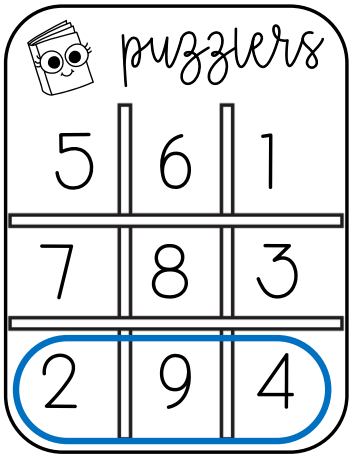
ORDER OF OPERATIONS



Parentheses, (Exponents)
Multiply & Divide (Left to Right)
Add & Subtract (Left to Right)

Please Excuse My Dear Aunt Sally

Example One:

If the target number is 22:

= 4 + 9 x 2 Multiply first
= 4 + 18
= 22

Example Two:

If the target number is 26:

= 2 x (9 + 4)
= 2 x (13)
= 26

PREVIEW

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TARGET TEN

Name _____

card numbers

Directions:

1.) Draw a card and write its numbers in the 9 squares to the left. Below are your target numbers.
2.) Choose any 3 numbers in a row, column, or diagonal. They cannot be all over the board, not touching, etc.
3.) Use each digit ONLY ONCE of that row, column, or diagonal in ANY order with ANY combination of TWO operations (+, -, x, ÷) and parentheses, if needed, to write a numerical expression that equals the target number.

Target Number	Solutions
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

PREVIEW

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SOLUTIONS TO THE MAX!

Name _____

card numbers

Directions:

1.) Draw a card and write its numbers in the 9 squares to the left. Below are your target numbers.
2.) Choose any 3 numbers in a row, column, or diagonal. They cannot be all over the board, not touching, etc.
3.) Use each digit ONLY ONCE of that row, column, or diagonal in ANY order with ANY combination of TWO operations (+, -, x, ÷) and parentheses, if needed, to write a numerical expression that equals the target number.

Solutions	Solutions

PREVIEW

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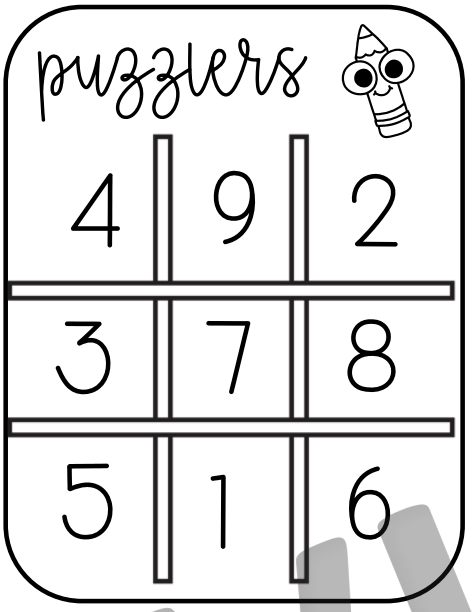
POSSIBLE SOLUTIONS



5 + 1 – 6 = 0

(5 – 1) X 6 = 24

5 X 6 X 1 = 30

(5 + 1) X 6 = 36

6 + 1 – 5 = 2

2 + 9 + 4 = 15

4 + 2 X 9 = 22

5 + 6 + 1 = 12

3 + 4 – 5 = 2

(6 – 1) X 5 = 25

(5 + 7) ÷ 2 = 6

(8 X 6) ÷ 2 = 24

PREVIEW

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LIST IT!

Name _____

Directions:

1.) Draw a card and write its numbers in the 9 squares to the left. Below are your target numbers.

2.) Choose any 3 numbers in a row, column, or diagonal. They cannot be all over the board, not touching, etc.

3.) Use each digit ONLY ONCE of that row, column, or diagonal in ANY order with ANY combination of TWO operations (+, -, x, ÷) and parentheses, if needed, to write a numerical expression that equals the target number.

card numbers

Target Number: _____

Solution:

_____

card numbers

Target Number: _____

Solution:

_____

card numbers

Target Number: _____

Solution:

_____

card numbers

Target Number: _____

Solution:

_____

card numbers

Target Number: _____

Solution:

_____

card numbers

Target Number: _____

Solution:

_____

PREVIEW

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puzzlers

1	8	6
5	9	4
7	3	2

puzzlers

7	3	6
5	9	4
1	8	2

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puzzlers

6	2	3
5	7	9
4	8	1

puzzlers

7	5	1
8	9	3
2	4	6

puzzlers

9	3	6
4	7	5
2	8	1

PREVIEW