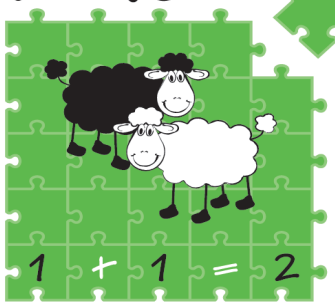
PYTAGORA



NUMBERS IN PUZZLE

5-99 2-4

THE RULES

AIM OF THE GAME

The aim of the game is to use your puzzle pieces to create equations in a crossword formation, along with those made previously. The longer and more complex your equations are, the more points you will score. Younger children will be able to use age appropriate skills, as you can see in the games shown in the back of this sheet.

GAME CONTENTS

- 126 puzzle pieces:
  - 77 digits
  - 31 arithmetical operators
  - 18 equals signs
- a bag, to mix and draw the puzzle pieces
- this instruction sheet

PREPARATION AND START OF THE GAME

All of the puzzle pieces are placed inside the bag and mixed thoroughly. As many 'equals' signs as there are players are then taken from the bag and placed in the play area. Each player randomly chooses 10 puzzle pieces from the bag. The youngest player starts and then the game continues clockwise.

GAME PLAY

During their turn, a player must:

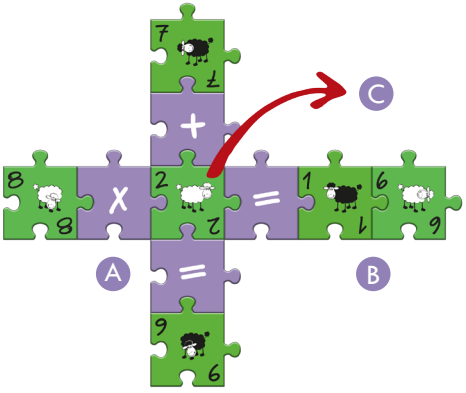
a) create an equation

b) calculate the score of the equation and add that to their total

c) replace used pieces by drawing new ones from the bag in order to have 10 pieces again.

Please note

- You can only create one equation per turn
- The 'equals' signs placed in the play area at the start of the game can be used at any stage
- Each puzzle piece used in your equation scores 1 point apart from the following exceptions: a multiplication sign (A) scores 2 points, a division sign scores 3 points. However, this rule does not apply if you are multiplying or dividing by the number 1
- Creating larger numbers also scores more points; a double digit number (B) scores 3 (2+1), a three digit number scores 6 (3+2+1) and so on
- You are not allowed to create equations which use the same numbers and operations on each side. So, 53 = 53 would not be allowed and 6 x 4 = 6 x 4 would also not be allowed



- Crossing a puzzle piece (C) which has previously been laid scores 1 bonus point
- If a player on their turn is unable to make an equation from their puzzle pieces (including if no 'equals' sign is available), all 10 of their puzzle pieces are returned to the bag and replaced. The player scores -5 points penalty and continue their turn.

ENDING THE GAME

The winner is the first player to reach the winning score, as decided by all players at the start of the game. 35 points is generally thought of as being a good target.

RULES FOR THE DIRECTION OF EQUATIONS

- Equations can be created horizontally or vertically
- When creating a new equation, you can cross over a previous equation or start a new line, but you cannot extend a previously placed equation
- Only one 'equals' sign may be used per turn
- A '0' may not be used at the start of a number (such as 09)
- Players may add and subtract a '0', but may not divide or multiply by '0'
- Only whole numbers may be used
- Negative numbers are not allowed in any part of an equation.

CreativaMente
LUDO ERGO SUM
www.creativamente.eu

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FOR YOUNGEST CHILDREN

GAME NO. 1 - Up and down

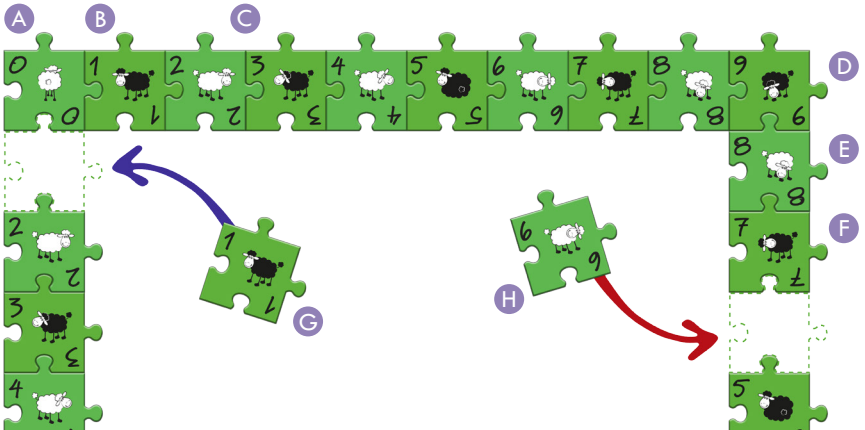
- All the green pieces with numbers are put into the bag, whereas all the purple pieces with operators are left in the box
- Every player is given 10 puzzle pieces, and a piece with the number 0 (A) is put on the table
- The youngest player starts, and then the game continues in a clockwise direction
- They must put the next number in the sequence (at the beginning the number 1 (B), then 2, 3, (C) etc.), by extending to the right the sequence on the table, and then the turn passes to the next player
- If they do not have the right number, they draw a puzzle piece from the bag. If the number drawn is the one that can be included in the sequence, they put it into play immediately, before the next round
- When the first sequence, that was made horizontally, reaches the number 9 (D), the game goes on by continuing the sequence backward, placing the number 8 (E) below number 9, then number 7 (F) below 8, by making a vertical sequence downwards
- When the sequence reaches the number 0, the game continues by starting a new ascending sequence (0, 1, 2, ...) which is composed horizontally, this time from right to left, by placing a number 1 to the left of the 0, then the 2, etc.
- When arriving at number 9 again, the game continues with the fourth and final sequence, descending (9, 8, 7, ...), which is composed vertically, from the bottom to the top, by placing a number 8 above the number 9, then a 7 above 8, etc.
- The game ends when they complete the big square, by placing a number 1 above the 2, and attaching it (G) to the first number 0 that was put into play at the beginning of the match
- The winner is the player who has fewer pieces in his hand.

Variant A - Even and odd

You can also play "Up and down" by making two separate squares: the former with sequences of even numbers (white sheeps) and the latter with odd numbers (black sheeps). At the beginning two pieces with 0 and 1 are put on the table. At every turn of the game they can continue one of the two sequences, at their choice. The square of white sheeps has, at the corners, two numbers 0 and two numbers 8, whereas the square of black sheeps has at the corners numbers 1 and numbers 9.

Variant B - Clockwise and Counterclockwise

You can play "Up and down" by placing the pieces in both directions: either clockwise or counterclockwise. They may decide whether to place their puzzle piece either to the right (clockwise) (H) or to the left (counterclockwise) (G) of the sequence. If they have neither of numbers, they must draw from the bag, and possibly put it into play.



GAME NO. 2 - Plus and minus

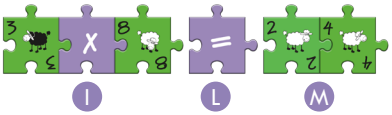
In "Plus and minus" you play with the same rules of the standard Pytagora, but using only the operations of addition and subtraction. Before beginning the game, you must remove some puzzle pieces from the bag:

a) all the signs of multiplication and division
b) 3 pieces with the equals sign and 3 pieces for each number (from 0 to 9)

It is also suggested to slightly lower the winning score.

GAME NO. 3 - Multiplication tables

With Pytagora you can also play with the multiplication tables.



- All the green pieces with numbers are put into the bag, while the 7 purple pieces with the multiplication sign and all the pieces with the equals sign are put on the table
- Every player is given 10 green pieces
- The game consists of 7 rounds
- During each turn they randomly draw from the bag two numbers and takes a multiplication sign from the table to start the multiplication table. For instance, if you draw a 3 and an 8, you will take an X to make the sequence 3 x 8 (I)
- If a player has the number (or the two numbers) corresponding to the result, they take an equals sign (L) and attach it to the sequence. For example, a player who has both number 2 and number 4 (M) takes a = piece from the table to make the sequence
- If more players have the right pieces, each one takes a = from the table and extends the sequence by placing his own pieces: 3 x 8 = 2 4 = 2 4, and so on
- Before moving on to the next round, each player draws a number from the bag
- At the end of the seven rounds of play, the winner is the player who has fewer pieces in his hand.