

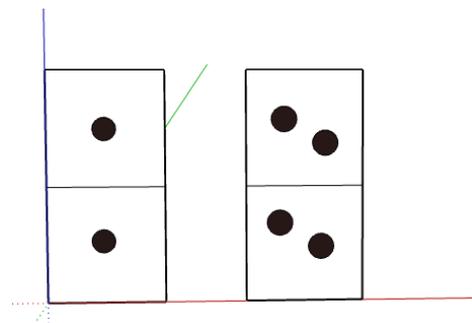
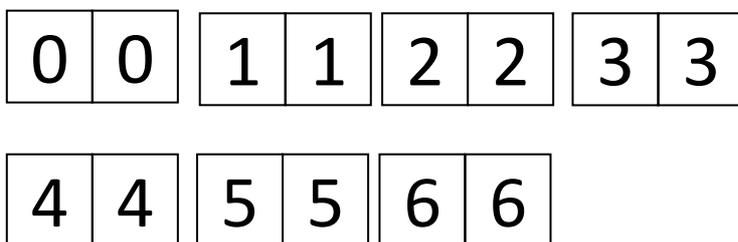
Dominoes

Materials

- Board: A3 paper (to be printed and laminated);
- Dominoes options:
 - ⇒ ready-made from the store
 - ⇒ wood
 - ⇒ PVC
 - ⇒ PLA and a 3D printer.

Brief description

This activity works to develop logical thinking and to problem-solve through the practice of mental calculations. Depending on the wanted outcome, it can be used for addition or multiplication. It uses seven double dominoes tiles to complete the board so that rows and columns add up to the values indicated on the board. The same values are grouped and can only be used twice to make up the numbers on the board.



				10
				10
				10
				12
14	5	13	10	

				13
				13
				8
				8
5	9	15	13	

1	2	2	5	10
1	0	4	5	10
6	0	4	0	10
6	3	3	0	12
14	5	13	10	

0	2	6	5	13
0	2	6	5	13
4	4	0	0	8
1	1	3	3	8
5	9	15	13	

One more option is to use multiplication by changing the end values demonstrated on the board. Like in the example shown below with the same values in the same order but different outcomes.

1	2	2	5	20
1	0	4	5	0
6	0	4		0
6	3	3		54
36	0	96	25	

Assembly

Design of all the pieces

Dominoes: Use the same colour for all dominoes with numbers zero (0) to six (6). Choose colours that create contrast.

Suggested colours: Black for the base and white for the circle or the opposite.

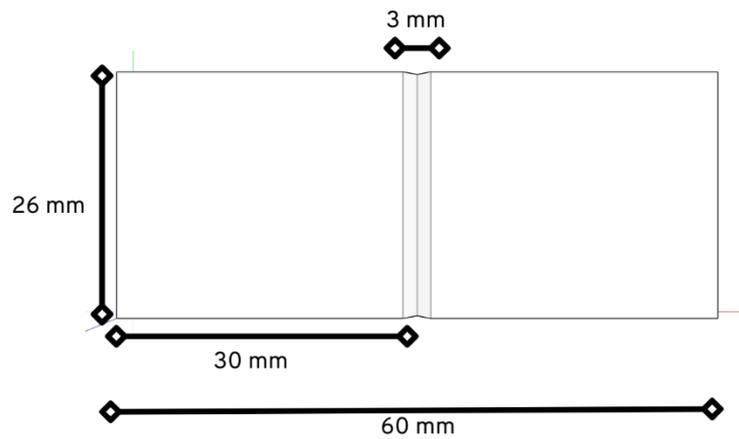


Figure 1. Measurements of domino piece

Assembly

There are no assembly steps required. Once you have the domino pieces and the board, you are ready to use the exhibit.

The Board (DINA3)

Dominoes

Place all seven dominoes on each grid. The multiplications of the numbers of pips equal the numbers on the sides.

Product (*)

				20
				0
				0
				54
36	0	96	25	

Dominoes

Place all seven dominoes on each grid. The pips should add up to the numbers on the sides.

Sum (+)

				13
				13
				8
				8
5	9	15	13	

Other Options

Using tactile dominoes with raised pumps can help adults with visual impairment understand the value more easily.

Explanation

This exhibit uses the numbers 0-6 in groups to enhance the practice of mental calculations. Combinations of numbers to make up specific sums and factor pairs to make up specific products develop problem-solving skills in everyday life practices.

In addition, this exhibit can be extended to use a broader range of dominoes and outcome values to make the activity more challenging, from 20 to 100. It can also include calculations of possible combinations to make up the sum and/or product values for users to engage in probability.

Competences

- Mental arithmetic
- Number combinations
- Factor pairs
- Combinatorics
- Probability
- Experimentation/trial and error process

Observations

No further observations were made.

For 3D Printers (if applicable)

The dominoes can be replicated in 3D software and printed with PLA filament.