

# Specific needs in mathematics Part 2

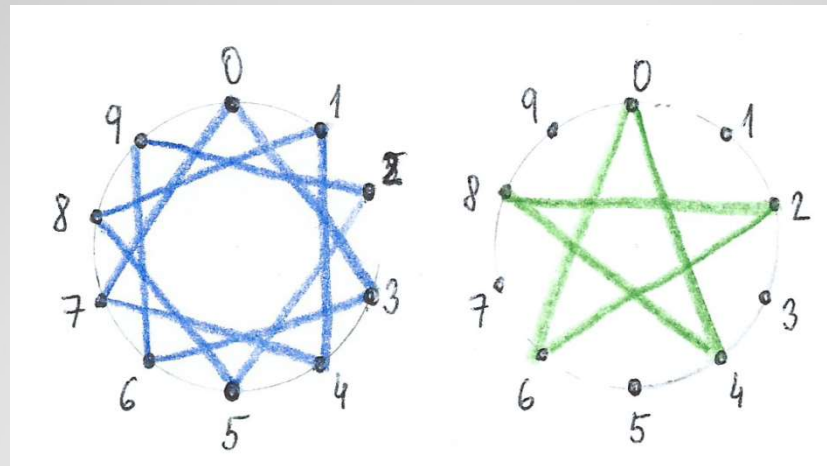
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# Multiplication and division

- Children should understand what multiplication is.
- Multiplication of natural numbers is derived on the basis of addition of several equal addends.
- Children can work with **multiplication table**, derive the multiplication of two, three, and so on.
- Finally, children have to memorize multiplications.

**Multiplication of natural numbers**

- When children have understood the multiplication principle, we teach them how to multiply by number one, number zero and number ten, which are very specific numbers.
- We can use multiplication mandalas:



**Multiplication of natural numbers**

- When multiplying more demanding examples, we use some rules:
- $12.5 = (10+2).5 = 10.5 + 2.5 = 50 + 10 = 60$   
(distributive rule)
- $4.30 = (4.3).10 = 12.10 = 120$  (associative rule)
- We can show multiplication on the Bank.

**The multiplication outside the tables of mutliplikations**

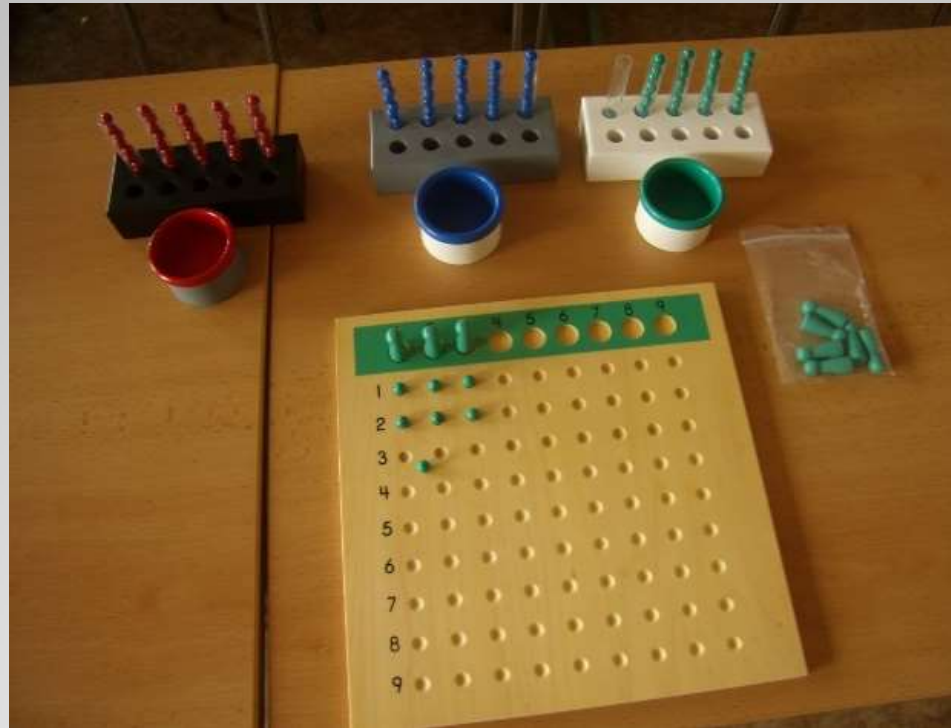
- Children do not understand the meaning of the operation multiplication at all, they do not know what to do with numbers.
- Children confuse the operation multiplication and the notation of number, a.g.  $6.5=65$ .
- They make mistake at deriving multiplication, one factor is dominant for them, e.g.  
 $5.7=5+5+5+5+5$
- Children confuse some products, e.g.  
 $4.8=24$ ,  $7.8=54$ ,  $5.7=37$ , etc.

## **Children's problem at the mental multiplication**

- Mastering the **written multiplication algorithm** requires both the knowledge of the mental multiplication and the knowledge how to proceed correctly and write figures into the multiplication scheme.
- Children make many mistakes at the written multiplication
- The Bank can help us when deriving the written multiplication algorithm.

## Written multiplication

- We can start the division by the imagine of the **fair division**.
- We can use teaching aid **Division table**



**Division of natural numbers**



- **Division to parts:** Divide 20 marbles among five children so that all of them have the same amount and you have divided all marbles.
- **Division according to the content:** Divide 20 marbles into groups by five. How many groups will you make?
- **Special cases at division:** division by number 1, the dividend equals the divisor, division of zero, division by zero

## Division of natural numbers

- First of all, children master the basic mental division links. Later on, children derive written algorithm of division.
- The first set of examples is devised in the way that children divide a double-digit number by a single-digit one.
- Division with remainder
- Special cases at division
- Division by double digit divisor (children must estimate partial quotient)

## **Division of natural numbers**

- Watch this video:
- <https://www.youtube.com/watch?v=izP2dUgTCo4>
- Division stamp game – watch this video:
- <https://www.youtube.com/watch?v=fCDNoyBMHnk>

**Division of natural numbers**