

Number Facts & Calculators  
*Mathematics and Millennials – 6th*

---

---

---

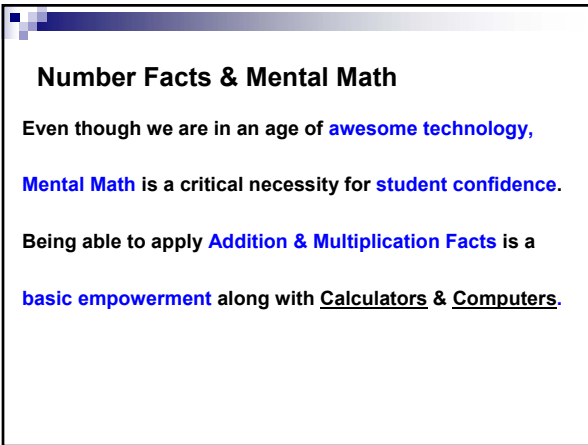
---

---

---

---

---



**Number Facts & Mental Math**

Even though we are in an age of **awesome technology**, **Mental Math** is a critical necessity for **student confidence**.

Being able to apply **Addition & Multiplication Facts** is a **basic empowerment** along with Calculators & Computers.

---

---

---

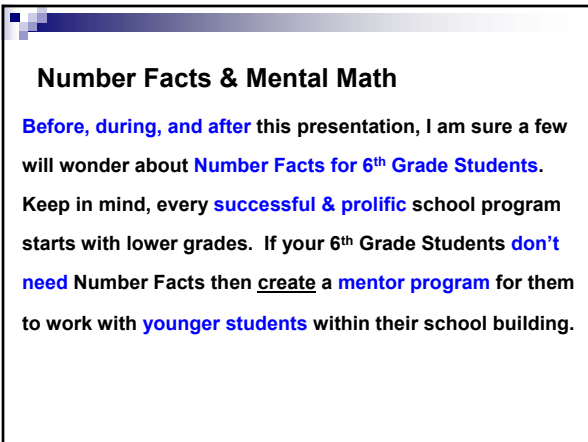
---

---

---

---

---



**Number Facts & Mental Math**

**Before, during, and after** this presentation, I am sure a few will wonder about **Number Facts for 6<sup>th</sup> Grade Students**.

Keep in mind, every **successful & prolific** school program starts with lower grades. If your 6<sup>th</sup> Grade Students **don't need** Number Facts then create a **mentor program** for them to work with **younger students** within their school building.

---

---

---

---

---

---

---

---

## Addition Facts

**Addition Facts** are necessary for **student confidence**.

**Tables** are common and efficient ways to learn facts.

**Columns** of problems is another practical method!

**Before, During, After** Tables & Columns **use Problems!**

$2 + 3 = \underline{\quad}$

$3 + 4 = \underline{\quad}$

$4 + 5 = \underline{\quad}$

$5 + 7 = \underline{\quad}$

$7 + 4 = \underline{\quad}$

$9 + 5 = \underline{\quad}$

---

---

---

---

---

---

---

---

## Multiplication Facts

**Multiplication Facts** are pathways for **student success**.

**Tables** are effective and practical ways to learn facts.

Problems arranged in **columns** are ways to support!

Use Problems, **Before, During, After** Tables & Columns!

$2 \times 3 = \underline{\quad}$

$4 \times 5 = \underline{\quad}$

$6 \times 7 = \underline{\quad}$

$3 \times 6 = \underline{\quad}$

$5 \times 2 = \underline{\quad}$

$7 \times 9 = \underline{\quad}$

---

---

---

---

---

---

---

---

## Number Facts

**Number Facts** in  
Traditional **Table!**

Students need to  
**create Tables!**

Students check  
**Table** for errors!

X	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

---

---

---

---

---

---

---

---

## Number Facts

Number Facts in useful Columns!

2	x	0	=	0		3	x	0	=	0
2	x	1	=	2		3	x	1	=	3
2	x	2	=	4		3	x	2	=	6
2	x	3	=	6		3	x	3	=	9
2	x	4	=	8		3	x	4	=	12
2	x	5	=	10		3	x	5	=	15
2	x	6	=	12		3	x	6	=	18
2	x	7	=	14		3	x	7	=	21
2	x	8	=	16		3	x	8	=	24
2	x	9	=	18		3	x	9	=	27

Students need to create Columns!

Students check for Column errors!

---

---

---

---

---

---

---

---

---

---

## Subtraction Facts

Subtraction Facts are needed to **augment** other Facts.

**Addition and Multiplication** are fundamental Facts!

Subtraction Problems require **Analytical Thinking!**

Subtraction Facts **reinforce & support** Addition Facts!

$9 - 5 = \underline{\quad}$

$7 - 4 = \underline{\quad}$

$5 - 2 = \underline{\quad}$

$8 - 2 = \underline{\quad}$

$6 - 3 = \underline{\quad}$

$4 - 3 = \underline{\quad}$

---

---

---

---

---

---

---

---

---

---

## Division Facts

Division Facts are very useful for easy **Mental Math**.

**Addition and Multiplication** are fundamental Facts!

Division Problems require **Analytical Thinking!**

Division Facts **support & sustain** Multiplication Facts!

$12 / 3 = \underline{\quad}$

$15 / 5 = \underline{\quad}$

$18 / 3 = \underline{\quad}$

$24 / 4 = \underline{\quad}$

$35 / 7 = \underline{\quad}$

$42 / 6 = \underline{\quad}$

---

---

---

---

---

---

---

---

---

---

## Mental Math

Facts in a Garden Approach encourage Mental Math.

Facts arranged in ordered groups is very diagnostic!

Facts arranged in a disarray are actually challenging!

Facts viewed as Problems prepare students for future!

$9 - \underline{\quad} = 4 \quad 5 + \underline{\quad} = 8 \quad 16 / \underline{\quad} = 2 \quad 8 \times \underline{\quad} = 56$

$7 \times \underline{\quad} = 28 \quad 10 - \underline{\quad} = 3 \quad 12 / \underline{\quad} = 2 \quad 8 + \underline{\quad} = 13$

---

---

---

---

---

---

---

---

## Patterns & Sequences

(+)	1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9	10
2	3	4	5	6	7	8	9	10	11
3	4	5	6	7	8	9	10	11	12
4	5	6	7	8	9	10	11	12	13
5	6	7	8	9	10	11	12	13	14
6	7	8	9	10	11	12	13	14	15
7	8	9	10	11	12	13	14	15	16
8	9	10	11	12	13	14	15	16	17
9	10	11	12	13	14	15	16	17	18

---

---

---

---

---

---

---

---

## Sequences & Patterns

(X)	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

---

---

---

---

---

---

---

---



## Algebra Subtraction

**Algebra Facts** are almost opposite of **Number Facts**.

**Number Facts** give parts **and** want answers!

**Algebra Facts** give answers **and** want parts!

Using Algebra Subtraction **supports All Addition Facts!**

$2 - \underline{\quad} = 5$

$3 - \underline{\quad} = 8$

$4 - \underline{\quad} = 8$

$\underline{\quad} - 5 = 9$

$\underline{\quad} - 7 = 12$

$\underline{\quad} - 9 = 15$

---

---

---

---

---

---

---

---

## Algebra Multiplication

**Algebra Facts** differ very much from **Number Facts**.

**Number Facts** give parts **and** want an answer!

**Algebra Facts** give the answer **and** want a part!

Algebra Facts **encourage & promote** Creative Thinking!

$2 \times \underline{\quad} = 6$

$4 \times \underline{\quad} = 12$

$6 \times \underline{\quad} = 48$

$\underline{\quad} \times 6 = 18$

$\underline{\quad} \times 2 = 18$

$\underline{\quad} \times 9 = 36$

---

---

---

---

---

---

---

---

## Algebra Division

**Algebra Facts** are almost opposite of **Number Facts**.

**Number Facts** give parts **and** want an answer!

**Algebra Facts** give the answer **and** want a part!

Algebra Division **supports All Multiplication Problems!**

$12 / \underline{\quad} = 2$

$24 / \underline{\quad} = 6$

$36 / \underline{\quad} = 4$

$\underline{\quad} / 6 = 3$

$\underline{\quad} / 2 = 9$

$\underline{\quad} / 9 = 6$

---

---

---

---

---

---

---

---

## Algebra Facts

Algebra Facts as a Garden Approach is Mental Math.

Facts arranged in ordered groups is very diagnostic!

Facts arranged in a disarray are very challenging!

Facts presented as a Garden are exciting & enjoyable!

$$9 - \underline{\quad} = 4 \quad 5 + \underline{\quad} = 8 \quad \underline{\quad} / 8 = 2 \quad \underline{\quad} \times 9 = 36$$

$$\underline{\quad} \times 7 = 28 \quad 10 - \underline{\quad} = 3 \quad 12 / \underline{\quad} = 2 \quad 8 + \underline{\quad} = 13$$

---

---

---

---

---

---

---

---

## Number & Algebra Facts

The Garden Approach promotes using Mental Math.

Facts for Numbers in ordered & disarray are provided!

Facts for Algebra in ordered & disarray are provided!

Activity Sheets for Ordered & Disarray Problems with answers encourage & empower Student Mental Math.

Calculators & Computers are always encouraged too!

Traditional Tables & Columns will be provided!

---

---

---

---

---

---

---

---

## Number & Algebra Facts

The Garden Approach promotes using Technology.

Handheld Calculators solving problems is essential!

Using a Basic Calculator in PC window is encouraged!

Activity Sheets for Number and Algebra Problems with answers stimulate & motivate Student involvement.

Internet & WWW activities are also always encouraged!

Traditional Calculator Activities will be provided!

---

---

---

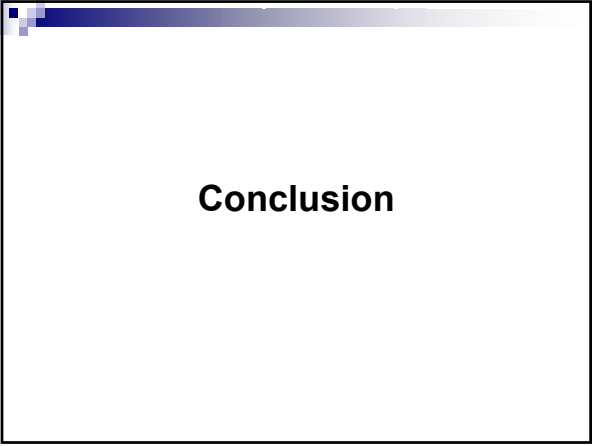
---

---

---

---

---



---

---

---

---

---

---

---

---