Each student is expected to master the fluency of their grade level as well maintain the fluency required in previous years. Practice helps students see the patterns in numbers. Once students see the patterns, math becomes easier.

## Kindergarten-

$\infty$ ID number of dots on a 5 frame: 0-5
$\infty$ ID numbers to 10
$\infty$ Demonstrate fluency with addition and subtraction within 5.

- Math Facts:
- $1+1=2 ; 2-1=1$
- $1+2=3 ; 2+1=3 ; 3-2=1 ; 3-1=2$
- $1+3=4 ; 3+1=4 ; 4-3=1 ; 4-1=3$
- $1+4=5 ; 4+1=5 ; 5-1=4 ; 5-4=1$
- $2+2=4 ; 4-2=2$
- $2+3=5 ; 3+2=5 ; 5-2=3 ; 5-3=2$
- Children may use objects, fingers or drawings to help them visualize the important math facts.


## Grade 1-

ID number of dots on a ten frame.
$\infty$ ID numbers 0-20
$\infty$ Rote counting to 120
Know relationship between addition and subtraction:

- Fact Family: $4+6=10 ; 6+4=10 ; 10-6=4 ; 10-4=6$
- by 2's to 20
- by 5 's to 50
- by 10 's to 100


## Grade 2-

Demonstrate fluency with addition and subtraction within 20.

- Related Fact Families within 20 (see grade 1 for example).

Mentally add and subtract 10 or 100 to a given number 100-900.
Add/subtract within 100
ID all U.S. coins and know their values

## Grade 3 -

$\infty$ Demonstrate fluency with addition and subtraction within 20.

- Fact Families within 20
$\infty$ Add/subtract within 1000
$\infty$ By the end of the year demonstrate fluency with multiplication and related division facts through $10 \times 10$.


## Grade 4 -

$\infty$ Demonstrate fluency with addition and subtraction facts within 20.
$\infty$ Add/subtract within 1,000,000.
$\infty$ Demonstrate fluency with multiplication and division facts through $12 \times 12$.
$\infty$ Know relationship between multiplication and division - for example:

- Fact Family
- $4 \times 6=24$
- $6 \times 4=24$
- $246=4$
- $244=6$


## Grade 5 -

$\infty$ Demonstrate fluency with division facts 1 thru 12

- (for example knowledge of division facts so that student can identify that 16 can be divided by $1,2,4,8$, and 16)


## Grades 6-8 -

$\infty$ Expected to maintain the fluency required in previous years

