QUESTION 1

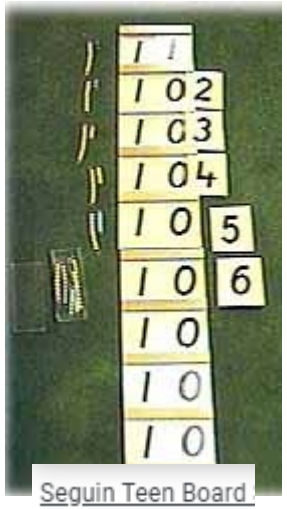
How can we represent and interpret quantities with numbers?

Math Work Plan #1

Sandpaper Numerals:

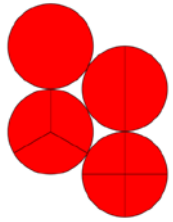
Number Rods -

Spindle Box -



Seguin Teen Board

Fraction Insets I

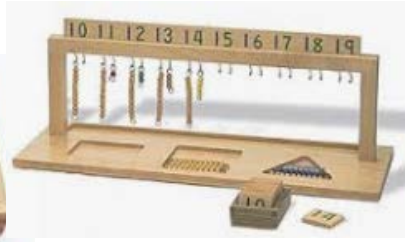


1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Colored Bead

Cards and Counters -

Teen Beads -



Golden Beads (

Hundred Chain

Grade 2

1a. Decompose numbers using standard form(place value) and non-standard form

1b. Skip count forward and backward by 2,5, and 10 starting at multiples of 2,5,and 10 respectively

1c. Skip count forward by 20 and 25, starting at 0

1d. Determine the monetary value of collections of coins or bills(cents or dollars) of the same denomination

1e. Skip count sets, including those with remainders

1f. Order numbers using benchmarks on a visual or spatial representation

1g. Represent quantities with numbers

1h. Relate a number to a specific quantity

1i. Estimate quantities using referents

1j. Count by halves and quarters to one whole concretely or pictorially

1k. Partition objects and sets not halves and quarters

1L. Describe part to-whole relationships with halves and quarters

1m. Vocabulary

Students make meaning of and represent quantities within 200

Students make meaning of halves and quarters in familiar contexts

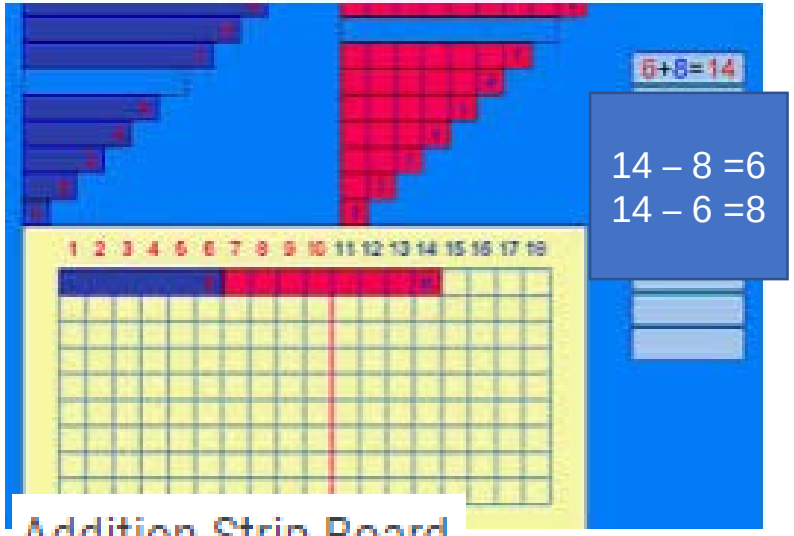
Grade 2

QUESTION 2

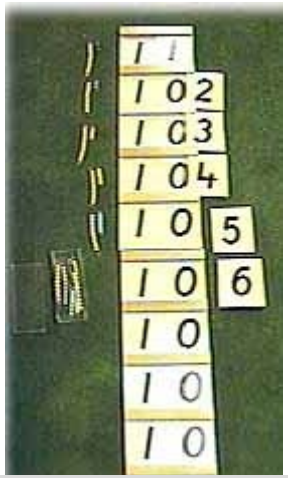
How can we compose and decompose numbers?

Math Work Plan #2

Addition Snake Game ·



Addition Strip Board



Seguin Teen Board

Hundred Board

2a. Apply strategies to single digit addition number facts to a sum of 18 and related subtraction number facts

2b. Represent addition and subtraction strategies concretely, pictorially or symbolically

2c. Add and subtract numbers within 100 including 0, without a calculator

2d. Recognize patterns in addition and subtraction

2e. Add and subtract in joining , separating, and comparing situations

2f. Create and solve problems that involve addition and subtraction

2g. Vocabulary

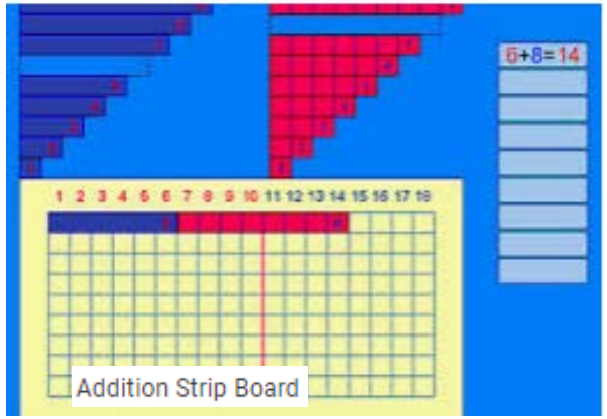
Students explore and apply additive thinking strategies

QUESTION 3

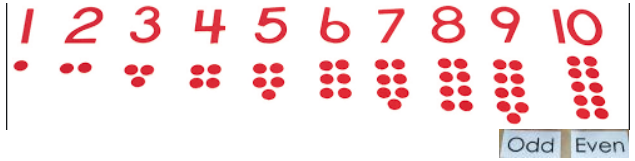
How can we share and group quantities?

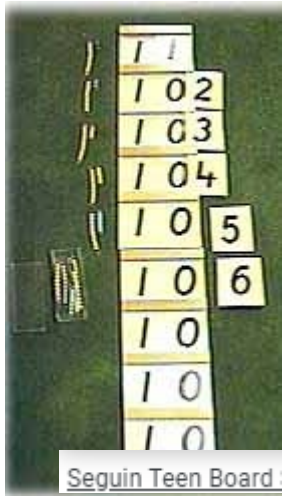
Math Work Plan #3

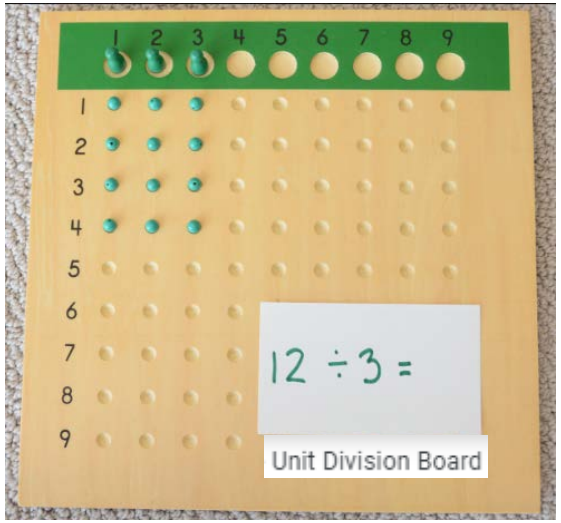
Golden Beads Addition |



Cards and Counters -







Grade 2

3a. Represent sharing a set into a given number of groups, with or without remainders

3b. Represent sharing a set into groups of a given size, with or without remainders

3c. Group by twos to identify odd and even numbers

3j. Vocabulary

Students make meaning of sharing and grouping situations using quantities within 60.

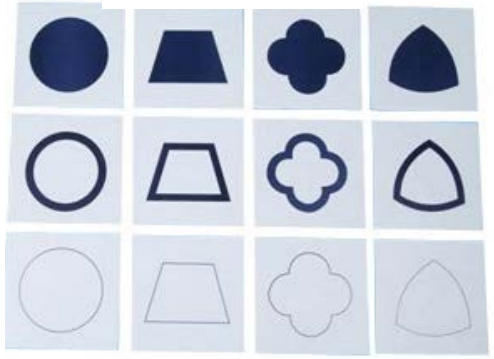
QUESTION 4

How can we identify shapes using geometric properties?

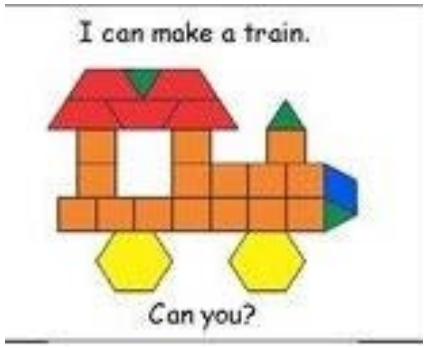
Math Work Plan #4

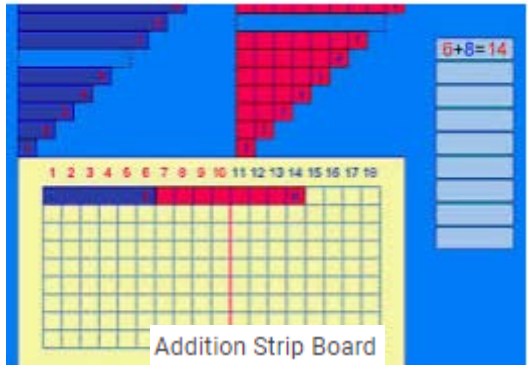
Golden Beads Addition |

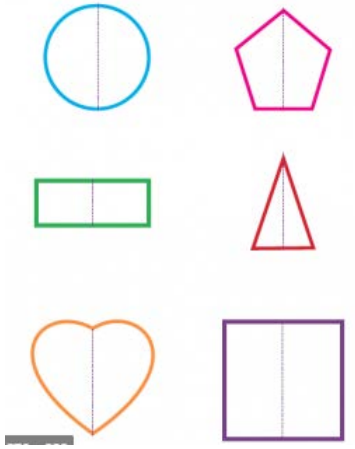
Geometric Form Cards



Bead Chains of 1000







Grade 2

4a. Determine whether attributes are geometric properties

4b.Sort 2-D shapes, including triangles, quadrilaterals, pentagons, hexagons, and octagons, and 3-D shapes, including cubes, cones, cylinders, spheres, and pyramids, by one or two attributes and describe the sorting rule

4c. Describe 2-D and 3-D shapes in varying orientations

4d. Identify 2-D shapes in composite 2-D shapes and designs

4e. Relate the faces of 3-D shapes to 2-D shapes

4f. Compose and decompose 3-D shapes

4g. Vocabulary

Students examine attributes and geometric properties when sorting and comparing shapes.

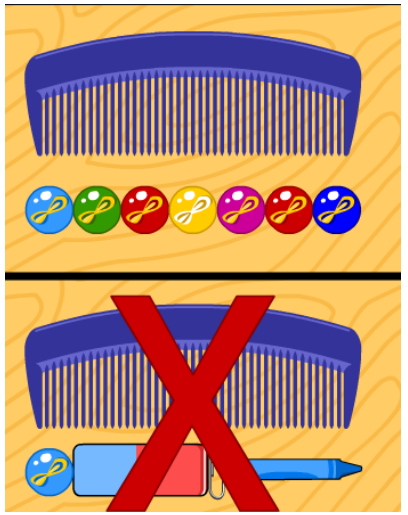
QUESTION 5

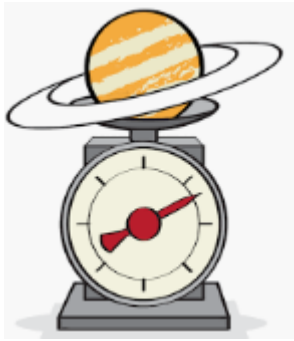
How can we measure objects?

Math Work Plan #5

Bead Chains of 1000

Golden Beads Addition |





Teen Beads -

The Short Bead Chain

0	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

Addition Finger Chart 3

Long Red Rods

tens board

The Short Bead Chain

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

Addition Chart 4.

Grade 2

5a. Create a tool to measure length with non-standard units

5b. Select non-standard units to estimate, measure, and compare length and mass

5c. Measure length using non-standard units, either a single unit used repeatedly or many copies of the same unit

5d. Compare and or order objects in more than one way using different measurable attributes

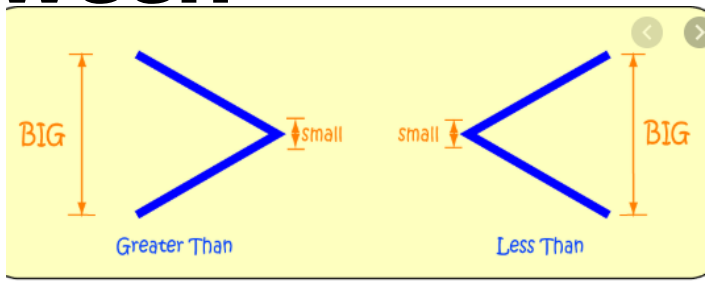
5e. Vocabulary

Students compare and describe measures of objects using non-standard units.

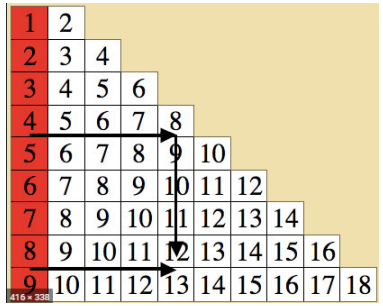
QUESTION 6

How can we represent equal and not equal relationships between quantities?

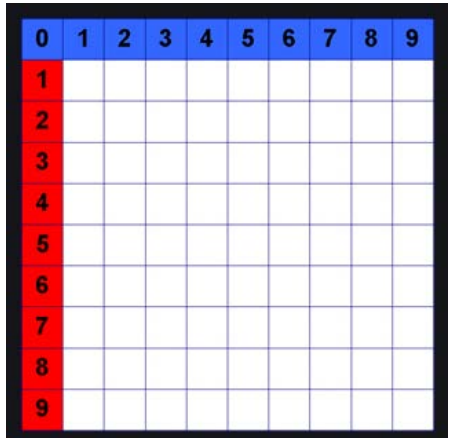
Math Work Plan #6



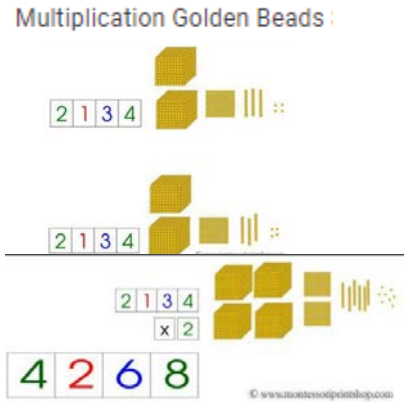
Addition Chart 4.

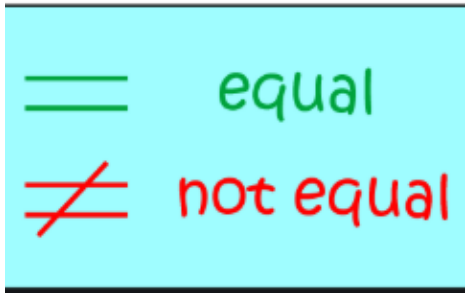


Hundred Board

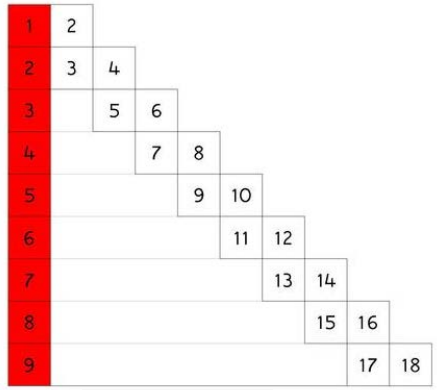


Blank Addition Chart

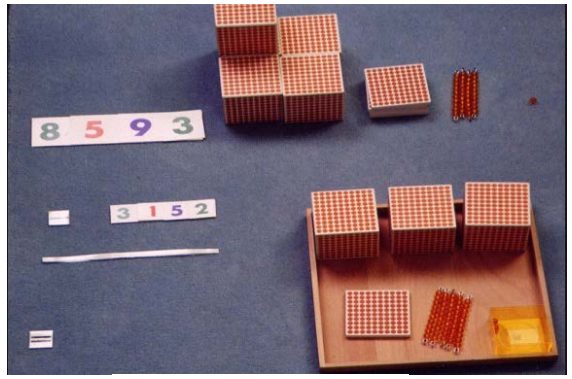




Bead Chains of 1000



Addition Chart 5.



Golden Bead Subtraction,

Grade 2

6a. Represent equality and inequality concretely or pictorially

6b. Record equalities and inequalities symbolically

6c. Change an inequality into an equality concretely or pictorially

6d. Vocabulary

Students represent quantities as equal or not equal.

QUESTION 7

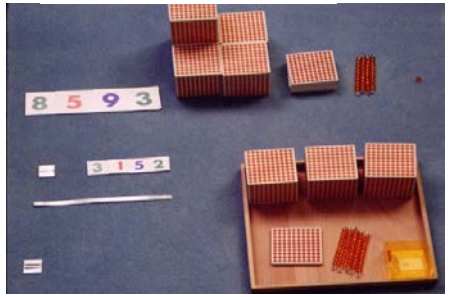
How can we express patterns in different ways?

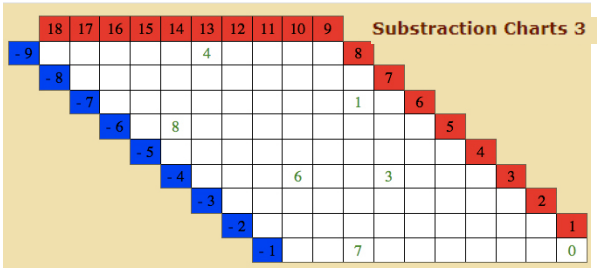
Math Work Plan #7

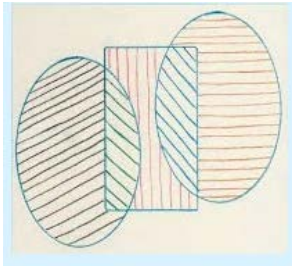
0	1	2	3	4	5	6	7	8	9
1	2	3	4	5	6	7	8	9	10
2	3	4	5	6	7	8	9	10	11
3	4	5	6	7	8	9	10	11	12
4	5	6	7	8	9	10	11	12	13
5	6	7	8	9	10	11	12	13	14
6	7	8	9	10	11	12	13	14	15
7	8	9	10	11	12	13	14	15	16
8	9	10	11	12	13	14	15	16	17
9	10	11	12	13	14	15	16	17	18

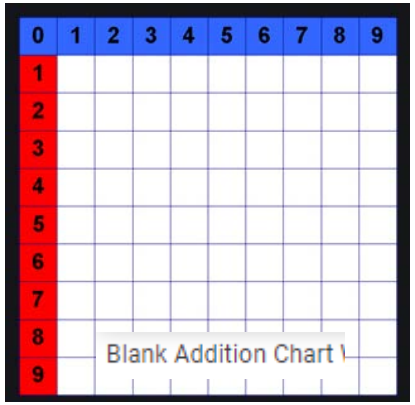
Addition Finger Chart 3

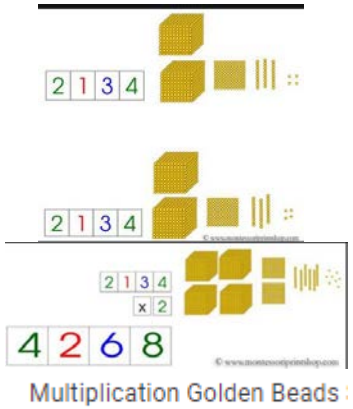
Golden Bead Subtraction,



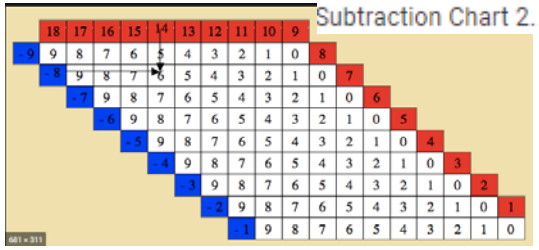








Multiplication Golden Beads



Grade 2

7a. Create an increasing pattern from a pattern rule

7b. Translate pattern from one representation to another

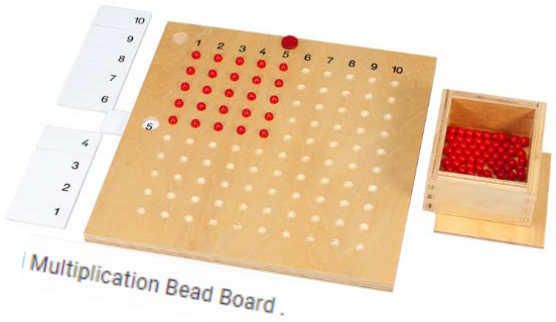
7c. Vocabulary

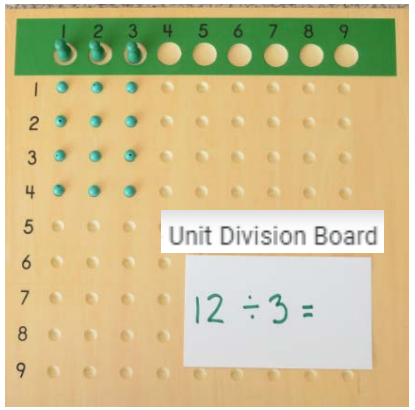
Students represent patterns in various ways.

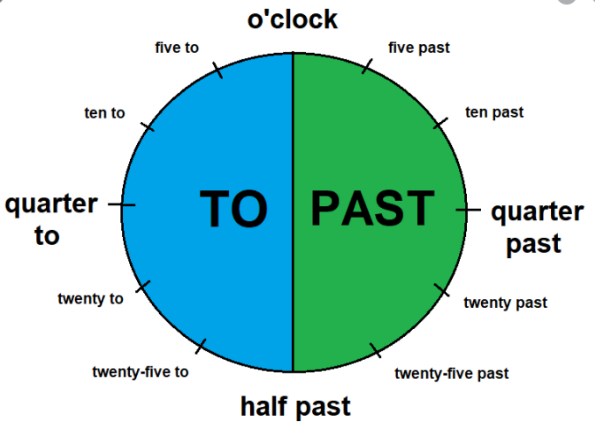
QUESTION 8

Math Work Plan #8

How we measure time and cycles in a variety of contexts?

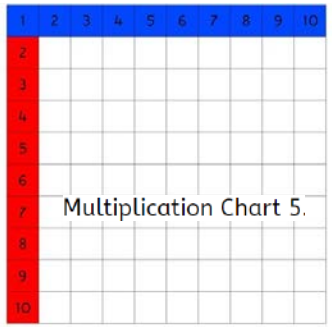






Multiplication Chart 4.

2	4							
3	6	9						
4	8	12	16					
5	10	15	20	25				
6	12	18	24	30	36			
7	14	21	28	35	42	49		
8	16	24	32	40	48	56	64	
9	18	27	36	45	54	63	72	81
10	20	30	40	50	60	70	80	90	100

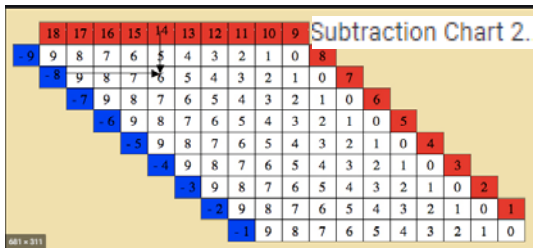


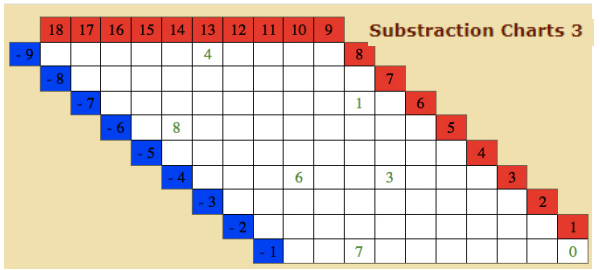
Multiplication Chart 3.

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

Units of Time

1 year = 365 days
1 year = 12 months
1 year = 52 weeks
1 week = 7 days
1 day = 24 hours
1 hour = 60 minutes
1 minute = 60 seconds





Grade 2

8a. Relate personal or cultural events to a date on a calendar

8b. Compare days to weeks and months to years

8c. Relate units of time on a clock, including minutes to quarter-hour, half-hour, and hour

8d. Connect sun and moon patterns to time references, including cycles of day and night

8e. Compare events of different durations using non-standard units

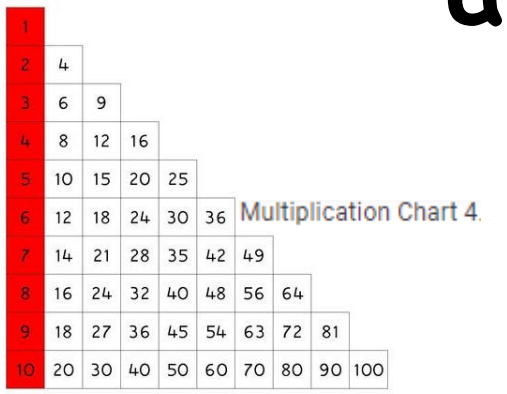
8f. Vocabulary

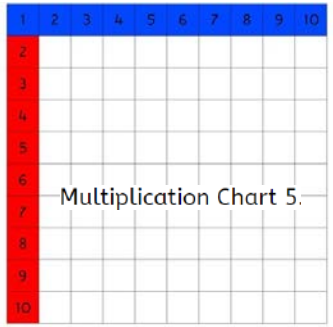
Students connect units of time to various representations.

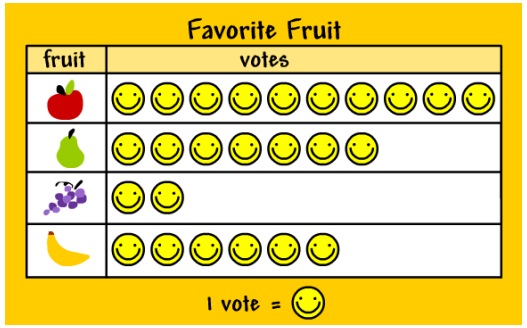
QUESTION 9

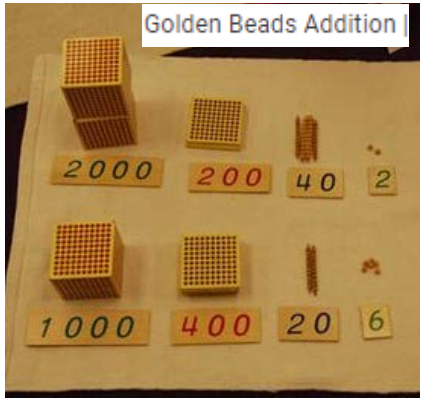
How can we represent and describe data?

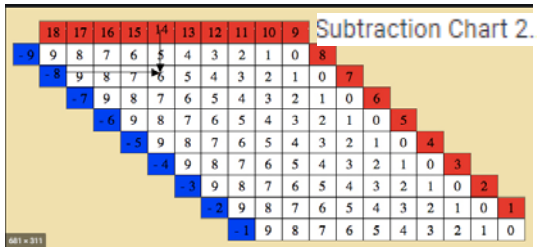
Math Work Plan #9

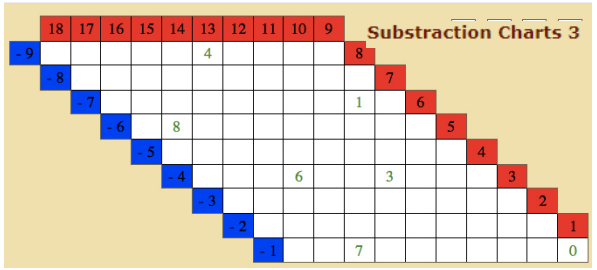


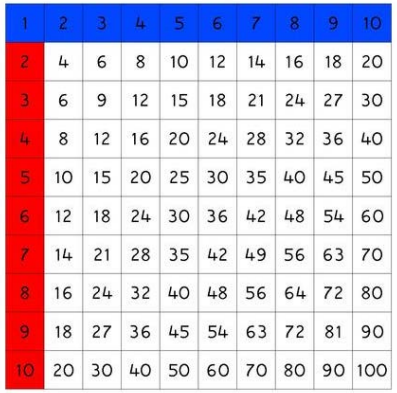












Grade 2

9a. Formulate simple questions to collect first-hand data

9b. Collect first-hand data

9c. Organize data using tables, tally marks, and counts

9d. Construct pictographs and bar graphs using one-to-one correspondence

9e. Extract information from a table or a graph

9f. Vocabulary

Students represent and describe data in response to student generated questions.

QUESTION 10

How can we make sure instructions lead to the desired outcomes?

Math
Work Plan

Grade 2

10a. Explain instructions in one's own words

10b. Predict the outcome of 3- to 4-step instructions

10c. Test a sequence of steps to verify the outcome

10d. Exchange ideas to achieve a desired outcome to requiring a 3- to 4-step process

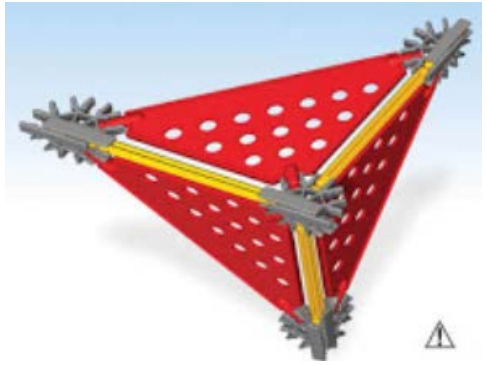
10d. Remove or fix (debug) any errors in a set of instructions

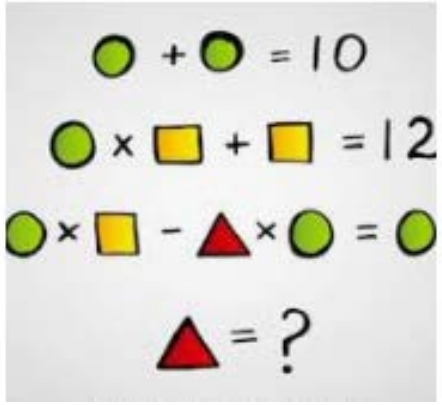
10f. Vocabulary

Students design and test a simple process that achieves a desired outcome.

QUESTION 11

How can I view myself as a mathematician?





Grade 2

11a. Engage in activities that support curiosity with mathematics

11b. Collaborate to develop understanding of mathematical concepts

11c. Persevere through obstacles that arise in learning and doing mathematics

11d. Share strategies related to mathematical play

11e. Vocabulary

Students engage with mathematics to build perseverance and confidence