GOLDEN KEY
RUSSIAN SCHOOL
Math Mosaic

In class, we filled out and played some fun games with the multiplication table. There are two filled-out tables in this homework. The first one is for answering all the questions. The second is for coloring in your pattern.

1. A neighbor is a number above, below, to the left, to the right of any number (not diagonal). What neighbors do the following numbers have?

   a. 15 _____ _____ _____ _____   b. 27 _____ _____ _____ _____

   c. 55 _____ _____ _____ _____   d. 81 _____ _____ _____ _____

2. Find and circle the number with the following neighbors. Write down the number that you circled for each set of neighbors. How many of each of these numbers did you find?_____

   a. 4, 6, 10, 12 _____   b. 14, 18, 24, 28_____   c. 36, 40, 50, 54 _____

   d. 20, 27, 33, 40 _____   e. 30, 30, 42, 42 _____

3. Used a colored pencil to shade in all numbers the sum of whose digit equals 3, 6, 9, 12, 15 or 18. Did you notice a pattern that made finding these numbers quick and easy? How many numbers did you circle?

4. Use a new multiplication chart to color in <u>ONE</u> of the following (look for a pattern):
   a) All even numbers
   b) All numbers that end a 5 or a 0
   c) The diagonals from 2 to 210
   d) Can you suggest your own rule for coloring in the chart?

5. Print out and hang up a copy of the multiplication chart in your bedroom or bathroom – somewhere, where you can look at it periodically and notice new patterns ☺

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
11	22	33	44	55	66	77	88	99	110	121	132	143	154	165
12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
13	26	39	52	65	78	91	104	117	130	143	156	169	182	195
14	28	42	56	70	84	98	112	126	140	154	168	182	196	210
15	30	45	60	75	90	105	120	135	150	165	180	195	210	225