

Grade 4+: Patterning

Names: _____ Date: _____

Collaborative Task:

1. Choose a day in August from the middle of the array of numbers and circle it.
2. Next, draw an oval around that number, together with the number before and the number after it.
3. Then, draw a rectangle around the circled number together with the number above and the number below it.
4. Add the three numbers in the oval and then the three numbers in the rectangle and compare the two sums.
5. Now compare these two totals with the middle number that was chosen first.

What do you notice?

How are the sums related to the middle number?

Why does this work?

August 2019						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

111	112	113	114	115	116	117	118	119	120
101	102	103	104	105	106	107	108	109	110
91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

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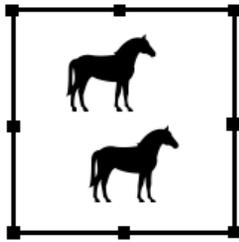
Date: _____

Assessment Question	Reflections
<p>1. What numbers go in the boxes below to make the following equations true?</p> $\square + 4 = 15$ $15 - \square = 11$	
<p>2. If the pattern continues, what are the next three numbers?</p> <p>1 372, 1 472, 1 572, _____, _____, _____</p>	
<p>3. You read 26 pages of your book on Sunday night, 30 pages on Monday night, 34 pages on Tuesday night, and 38 pages on Wednesday night. If this pattern continues, how many pages will you read on Saturday night? Show your thinking in the space provided using pictures, numbers or words.</p> 	
<p>4. There are 20 hockey sticks lined up at a bench. Every fourth stick has a white-taped blade. How many hockey sticks have white-taped blades? Show your thinking below in pictures, an equation, or words.</p> 	

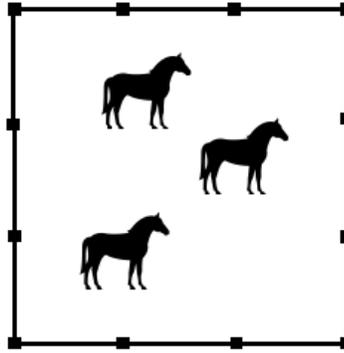
5. A farmer uses lengths of fencing to corral his horses.



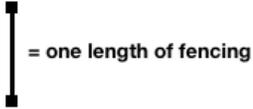
This pen holds one horse



This pen holds two horses



This pen holds three horses



How many lengths of fencing will the farmer need for 8 horses? Represent your thinking using the T table provided.

Number of horses	Lengths of fencing
1	4
2	8
3	
4	
5	
6	
7	
8	

6. Adam and Teri each bring stickers to school on Monday. Adam begins with 36 stickers. Teri begins with 30 stickers. Each school day Adam gives away 5 stickers and Teri gives away 3.

How many stickers will Adam and Teri each have left on Friday? If they keep giving out stickers into the next week, who will run out of stickers first? Show your thinking.

7. Tara was making patterns one day with rubber stamps. The picture below shows the first three terms.

Look for a pattern and complete the table. Describe how you used the pattern to determine how many cats and bunny stamps would be in each.



Term 1



Term 2



Term 3

Term	1	2	3	4	5	10	100
Bunny	2	3					
Cat	1	2					

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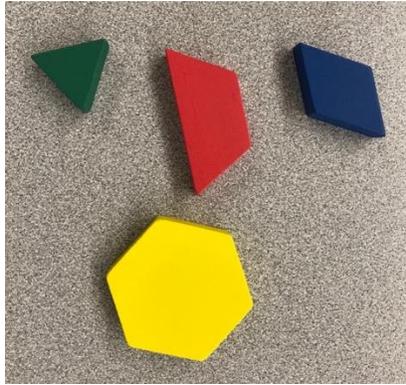
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Performance Task:

Your teacher wants your help creating a new arrangement of tables for the learning space in your classroom.

Pick 2 different shapes of tables from the choices below. Imagine arranging the tables to seat a total of 28 students.



A minimum of two tables in your arrangement must be joined.
Only one student can sit at each side of a table.

Record the shapes of tables you chose, the number of tables required and the number of students at each table in your arrangement. Organize your information into a chart or drawing.

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Performance Task

Name: _____

Can you identify, extend and create a pattern?

Where else do you find patterns?

How do you know a pattern is a pattern?

How would you label a pattern?

How do tables and charts help us understand number patterns?

Describe a pattern found in nature.

Where do you see patterns in the world around you??

Are there rules for patterns?

Represent as much as you know about patterns...



Describe a decreasing pattern...

Describe an increasing pattern...