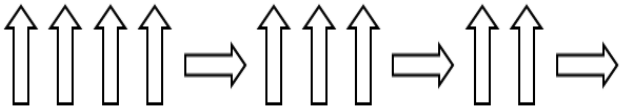
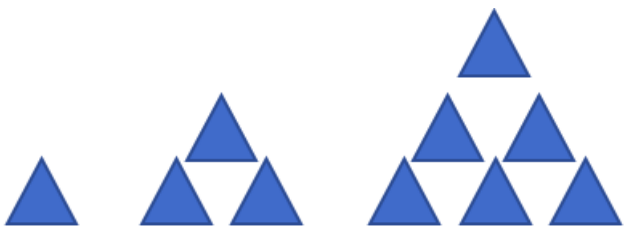
Grade 3+: Patterning, Student Response

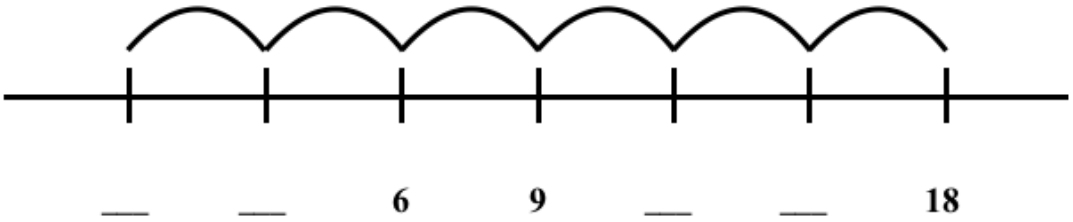
Name: _____ **Date:** _____

Assessment Question	Reflections
1. Draw the symbol that comes next in this pattern. 	
2. If the pattern continues, what are the next three numbers? 475, 450, 425, ____, ____, ____	
3. What is the value of the symbol ☐ in the equation? 15 + 2 = ☐ + 10	
4. Start at 137. Count on by 2s six times. What number do you arrive at? Show your thinking.	
5. If the pattern continues, how many triangles will be in the 5th figure?  1st 2nd 3rd 4th 5th	

6. Sally skip counts by 100. She begins her pattern at the number 275. Fill in the blanks.

275 , _____ , _____ , _____ , _____

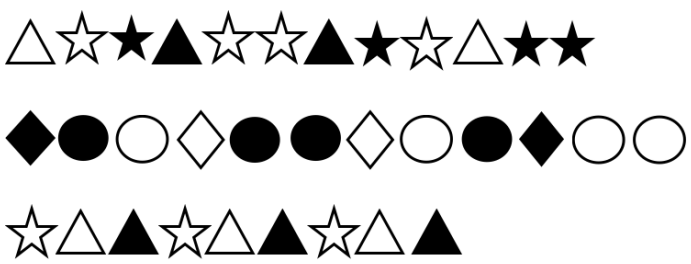
7. Fill in the blanks on the number line.



8. If the pattern continues, what numbers come before and after?

___ , 37, 32, 27, 22, ___

9. Which two patterns do you think are the most alike? Explain your thinking.



10. What are some ways you can skip count from 12 to 24?

11. On the number chart, circle the number 103.
Circle all the numbers you get when you keep subtracting 3.
What patterns do you notice?

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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Performance Task

1. Use two different pattern block shapes. Make an increasing shape pattern. Draw and describe your pattern here.

   Use the same shapes to make a decreasing pattern. Draw and describe your pattern here.

2. The first 10 terms in a repeating colour pattern include three reds and more than one blue. What could the pattern be?

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Collaborative Task

Part one: Create an AAAB pattern that changes in shape.
Part two: Create an AB pattern that changes in colour.
Part three: Now combine pattern rules from part 1 and 2 to create a new pattern.
Part four: Create a pattern with more than 2 different attributes.

Describe your pattern.

AAAB shape pattern	AB colour pattern
Combine first two pattern rules	Create a pattern with more than 2 different attributes

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Collaborative Task

Materials: sets of 15 items for each pair of students. (Items such as beans, counters, cubes, acorns.)

This activity involves recognition of even and odd numbers and making and testing predictions.

In turn, each player takes 1, 2, or 3 items until no items are left. The winner is the person who has an odd number of items. After playing the game several times, students begin to look for ways to win. Students discuss their ideas and test them with other pairs of students.

Follow up investigations:

- Pick any two odd numbers. Add them. What did you notice? Try some more.
- Pick any two even numbers. Add them. What did you notice? Try some more.
- What happens with one odd number and one even number?
- Discuss with other groups what you noticed.
- What rules can you make?
- Do the rules still work when you subtract rather than add the numbers?