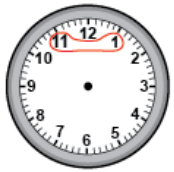
Patterning and Algebra

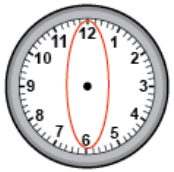
Activity 4 Assessment

Investigating Number Relationships

Pattern Relationships

Recognizes number pattern relationships	Identifies patterns and relationships in a chart, table, or diagram	Describes patterns to illustrate the relationships among whole numbers and decimal numbers





"I see number relationships on the clock: pairs of numbers on a horizontal line add to 12: 11 + 1 = 12, 10 + 2 = 12; and opposite numbers have a difference of 6: 12 - 6 = 6, 7 – 1 = 6."

Trading 1 ten for 10 ones

Tens	Ones	•	Tenths
5	4	•	3
4	14	•	3
3	24	•	3
2	34	•	3
1	44	•	3
0	54	•	3

"I noticed that 54.3 can be written as a sum, in different ways, to form a pattern by trading 1 ten for 10 ones."

0.8 + 4.0 = 4.8
0.7 + 4.1 = 4.8
0.6 + 4.2 = 4.8
0.5 + 4.3 = 4.8
0.4 + 4.4 = 4.8

"The pattern shows that as one addend increases by 0.1, the other addend decreases by 0.1, so the sum stays the same."

Observations/Documentation

Activity 4 Assessment
Investigating Number Relationships

Pattern Relationships (cont'd)

Describes pattern relationships found in a table or diagram using addition or subtraction

22	23	24	25	26
32	33	34	35	36
42	43	44	45	46
52	53	54	55	56
62	63	64	65	66

"When I added the numbers on the diagonals in squares formed by 4 numbers on the hundred chart, I noticed the sums are equal. It happened when I choose different numbers too."

Describes pattern relationships on tables, charts, or diagrams using multiplication

9, 18, 27, 36, 45, 54, 63, 72, 81, 90

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

"These are the products from 9 × 1 to 9 × 10. The ones digits decrease by 1 each time, and the tens digits increase by 1 each time. The sum of the digits in each product is 9."

Fluently identifies and describes different patterns in a variety of representations

1, 4, 9, 16, 25, 36, 49, 64, 81, 100

Term	Number
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100

"When looking at the products I identified several pattern relationships and rules:
multiply each number by itself or start at 1, add 3, add 5, add 7, … or start at 1, add 3, then add 2 more than you added the time before."

Observations/Documentation