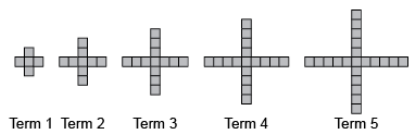


Activity 1 Assessment

Investigating Patterns and Relationships in Tables and Graphs

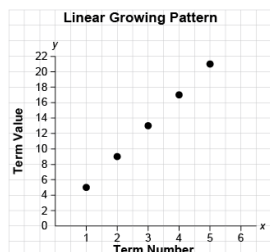
Generalizing and Representing Patterns

Identifies how a pattern repeats, increases, or decreases and describes the pattern rule.



“This is an increasing pattern. The pattern rule is: Start with 5 red tiles and add 4 tiles each time.”

Represents patterns using tables, charts, or graphs and describes the pattern rule.



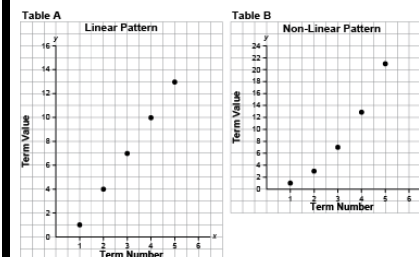
“The graph represents a growing pattern. The pattern rule is: Multiply the term number by 4 and add 1.”

Represents patterns symbolically, using algebraic expressions and equations.

Term Number	1	2	3	4	5
Term Value	5	9	13	17	21

“An algebraic expression for the pattern rule: $4n + 1$, where n is the term number. An equation for the pattern: $v = 4n + 1$, where v is the term value.”

Identifies and describes different representations of patterns as linear or non-linear.



“The first graph represents a linear pattern because the points lie on a straight line. The second graph represents a non-linear pattern because the points do not lie on a straight line.”

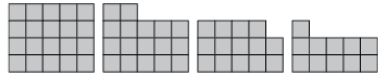
Observations/Documentation

Activity 1 Assessment

Investigating Patterns and Relationships in Tables and Graphs

Generalizing and Representing Patterns (cont'd)

Extends patterns using repeated addition and subtraction, multiplication, and division.



Term 1 Term 2 Term 3 Term 4

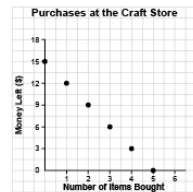
Term Number	1	2	3	4	5	6	7
Term Value	20	17	14	11	8	5	2

“This is a linear decreasing pattern because the same number (3) is subtracted each time. To extend the pattern, I subtract 3 from the previous term: $11 - 3 = 8$, $8 - 3 = 5$, $5 - 3 = 2$. The term values can be represented with the expression $23 - 3n$, where n is the term number.”

Creates and translates linear patterns using various representations.

Kiera has \$15 to spend on items that cost \$3 each.

Number of Items Bought	Money Left (\$)
1	12
2	9
3	6
4	3
5	0



“The table shows that for each additional item bought, the money left decreases by \$3. The graph shows the same linear pattern, where the money left decreases by \$3 as you move from point to point.”

Uses patterns to represent and solve problems.

How far had the bus travelled after 3 h 30 min?

Time (h)	Distance Travelled (km)
1	70
2	140
3	210
4	280

“The bus travels 70 km in 1 h (60 min). So, in 30 min, the bus travels $70 \text{ km} \div 2 = 35 \text{ km}$. In 3 h, the bus travels 210 km. So, in 3 h 30 min, the bus travels $210 \text{ km} + 35 \text{ km} = 245 \text{ km}$.”

Fluently identifies, creates, and extends patterns to solve real-life problems.

How much would a 6-km ride cost?

Distance Driven (km)	Money Earned (\$)
1	3.50
2	4.00
3	4.50
4	5.00

“I added $2 \times \$0.50 = \1.00 to the cost of a 4-km ride which is \$5.00. So, a 6-km ride costs: $\$5.00 + \$1.00 = \$6.00$. Or, I could multiply the number of kilometres by \$0.50, then add \$3: $6 \times \$0.50 + \$3 = \$3 + \3 , or \$6.”

Observations/Documentation