

MATHEMATICAL THINKING

PROBLEM-SOLVING STRATEGY

Connecting the term number to the number of groups.

CONNECT TERM NO. WITH VISUAL

FUNCTIONAL THINKING PROGRESSION THROUGH MATHEMATICAL REPRESENTATIONS

Extend the pattern across the table.

Term no.	Term value
0	$4 \times 0 + 2$
1	$4 \times 1 + 2$
2	$4 \times 2 + 2$
3	$4 \times 3 + 2$
4	$4 \times 4 + 2$
5	$4 \times 5 + 2$
6	$4 \times 6 + 2$
7	$4 \times 7 + 2$
8	$4 \times 8 + 2$
9	$4 \times 9 + 2$
10	$4 \times 10 + 2$

Table of Values

"I saw a relationship between the term number and the pattern and it helped me make a prediction."

Extend the pattern to a far term by using pattern rule.

Table of Values

"I plotted the points by using the pattern rule and drawing larger values (or term numbers)."

Create an explicit pattern rule

Algebraic Equation

"I realized that there are four number groups of dots in each term plus the extra two on the end. I made an equation with these numbers."

Flexibility with Representations

Table of Values

"To find a really far term, I can either use the pattern rule or a graph."

Using what the visual would look like.

Solving Equations

"I know that the term will always have the two on the end. So I made three of them and added up the rest of the pattern by 4 to 4. And used the term number."

Substituting into and solving an equation

Solving Equations

"When I substituted the pattern into the pattern rule, I can solve the equation by subtracting 2 and then dividing by 4 to get the term number."