Home Connections
Math Activities

Grade 3
Patterning and Algebra

Pattern Creator
Multiply By 0 and 1

Pattern Creator and Pattern Extender

1. Create one of the growing patterns from the example below using small items that you have at home (e.g. buttons, beans, and macaroni).
2. Have your child create the next two terms of the pattern.
3. Have your child describe what the 10th term of the pattern will look like.
4. Ask your child to create a different growing pattern.

Example:

Term 1   Term 2   Term 3   Term 4

Term 1   Term 2   Term 3   Term 4   Term 1   Term 2   Term 3   Term 4
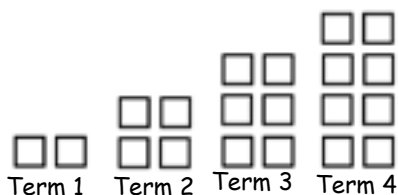
Knowing the relationship between the term number and the number of items for that term helps to define a pattern rule. For example 1, term 1 has 2 squares, term 2 has 4 squares, term 3 has 6 squares, so term 10 would have 2 times 10 squares or 20 squares.

Let's Talk About It

- Why is the pattern a growing pattern?
- How do you know how to find the number of items there will be in the 10th term?

Multiply By 0 And 1

Materials:
- Dice
- A spinner made with a paperclip, pencil, and the attached spinner circle.
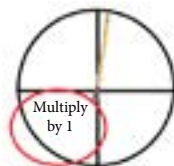
Rules:
1. Each player rolls a die. The sum of the dice is the target number.
2. Player A rolls the die and spins the spinner.

Example:

The player rolls a 1   and spinner lands on   So the answer would look like this.
                              multiply by 1

Multiply by 1

· X 1 = 1

3. Player A multiplies the number on the regular die by either 1 or 0, according to the instruction shown on the spinner. The player records the answer on his or her paper.
4. Player B takes a turn. Players continue to take turns back and forth until both players have had 10 turns.
5. Players add the numbers on their paper.

The player with a total closest to the target number wins the game.

Any number multiplied by zero is zero.
Any number multiplied by one is the number.

Let's Talk About It

- Was it better to multiply a number by 0 or 1, to have a game total closest to the target number? Why?