

# Home Connections

## Math Activities

### Grade 2

### Patterning and Algebra

Growing Patterns

Equations Game

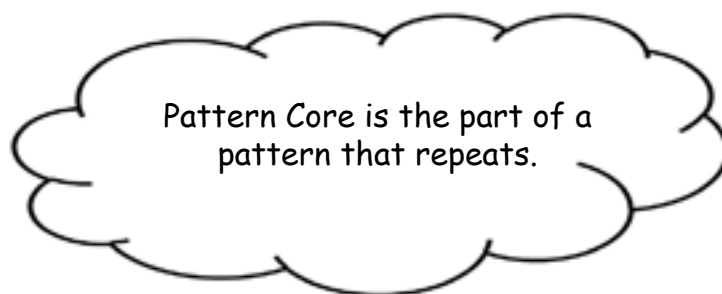
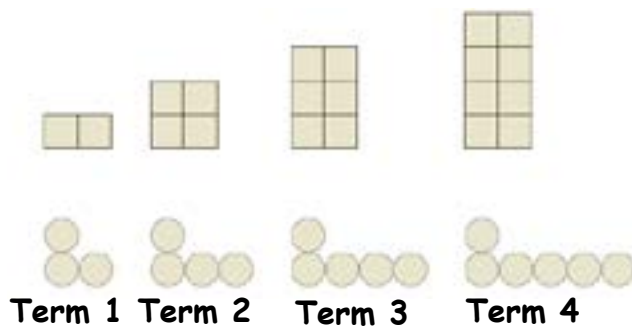
# Growing Patterns

## Materials:

- small objects (e.g. buttons, pebbles, coins)

## Rules:

1. Create a growing pattern and ask your child to explain how the pattern grows. For example, he or she might explain, "You add 2 more pennies each time" or "The pattern is adding 1 each time."
2. Try creating some other patterns.
3. Create the first four terms of a growing pattern and ask your child to extend the pattern by constructing the next three terms. Ask your child to explain how he or she was able to extend (grow) the pattern.




## Let's Talk About It

- What did you do to get points?
- Was it difficult to think of addition and subtraction at the same time? Why or why not?

# Equations Game

Number of Plaers: 2

## Materials:

- 2 dice 
- Paper and pencil
- 25 small objects (e.g. buttons, toothpicks)

## Rules:

1. You and your child take a turn rolling two dice. The numbers that show up are used to make an addition question. Write the question on your paper.

For example: If your rolls are 5 and 3, he or she writes '5+3='

2. After you have both written an addition sentence, take turns rolling the dice. After each roll, decide whether the total on the two dice is equal to the addition statement written on the page.

For example: If your child has recorded '5+3=' and then rolls 1 and 4, the sum of 1 and 4 is not equal to 5+3. However if your child rolls 4 and 4, the sum of 4 and 4 is equal to 5+3.

3. When the dice sum matches the question the player uses objects to prove that the equation is correct.

For example: A group of 5 buttons plus a group of 3 buttons is equal to a group of 4 buttons plus a group of 4 buttons.

$$5 + 3 = 4 + 4$$



The first player to prove that he or she has a correct equation wins the game.

## Let's Talk About It

- What discoveries did you make with this game?
- What was difficult about this game?
- How did you try to win the game?