

Chapter 11 : Match Sticks Games

Curricular Goal :

CG-2: Understands the concept of variable, constant, coefficient, expression and (one -variable) equation and uses these concepts to solve meaningful daily -life problems with procedural fluency.

Competencies :

C – 2.2 Extends the representation of a number in the form of a variable or an algebraic expression using a variable.

Learning Outcomes :

At the end of the lesson the students are able to use variables to generalise a given situation.

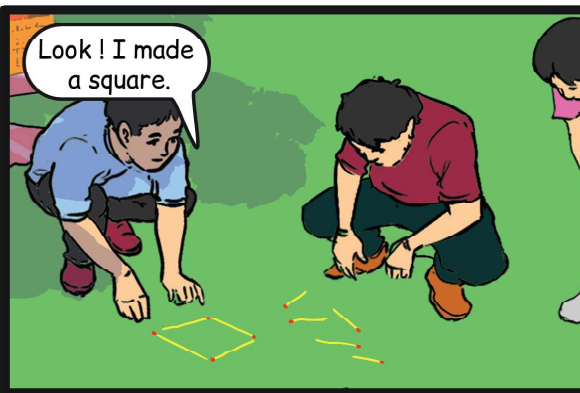
CHAPTER 11

MATCH STICKS GAMES

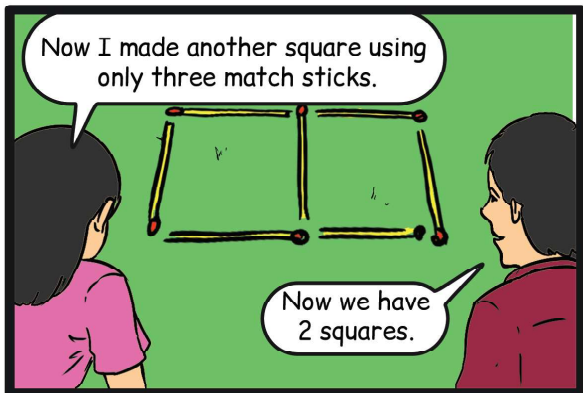
It was Sunday. Three friends Ngamba, Rosy and Anthony went for a picnic with their parents to a nice place.



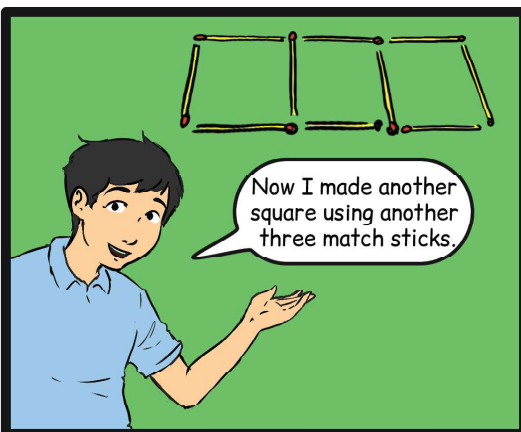
Look ! I made a square.



Now I made another square using only three match sticks.

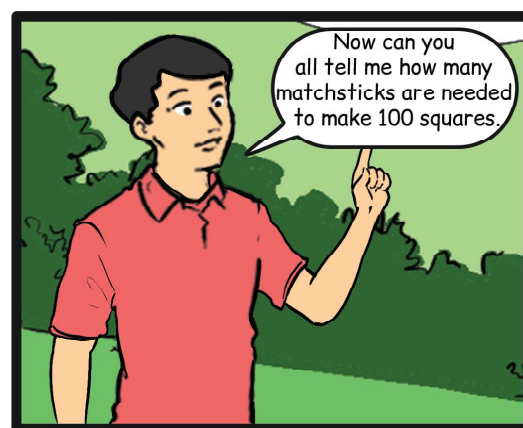
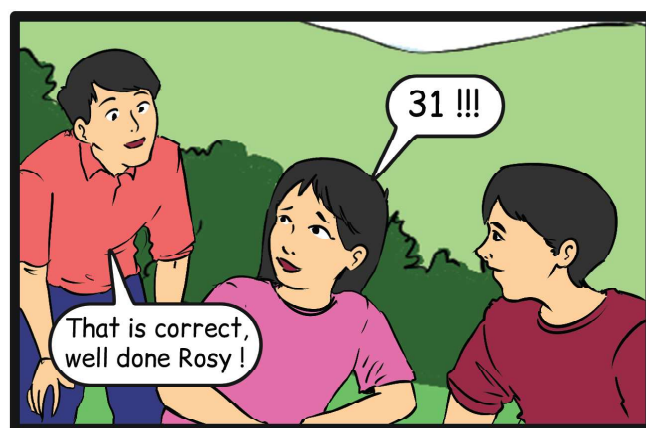
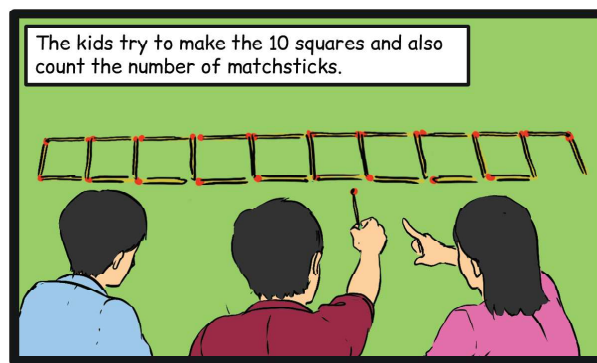
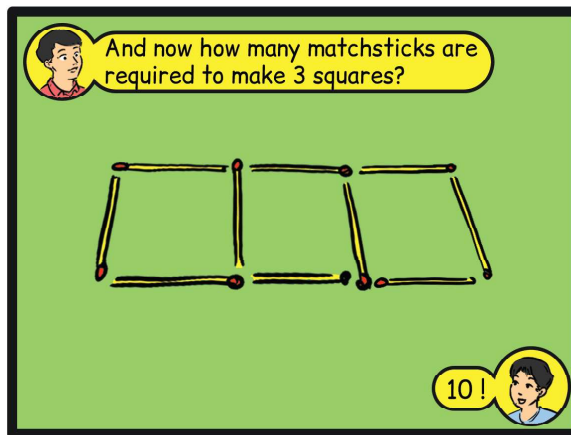
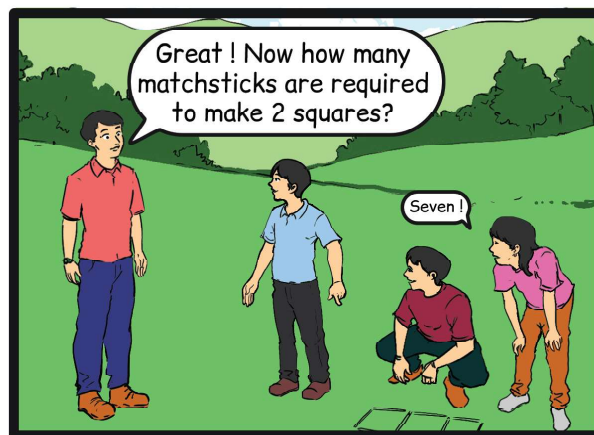
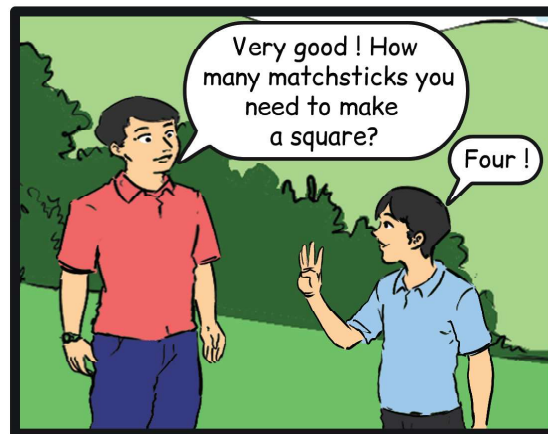
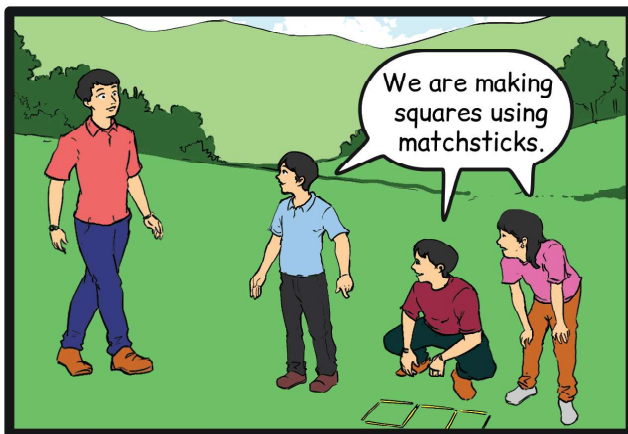


Now I made another square using another three match sticks.

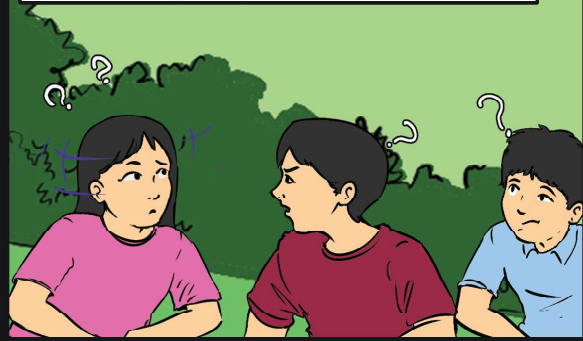


What are you kids playing?





The three kids looked at each other in confusion and nodded negatively.

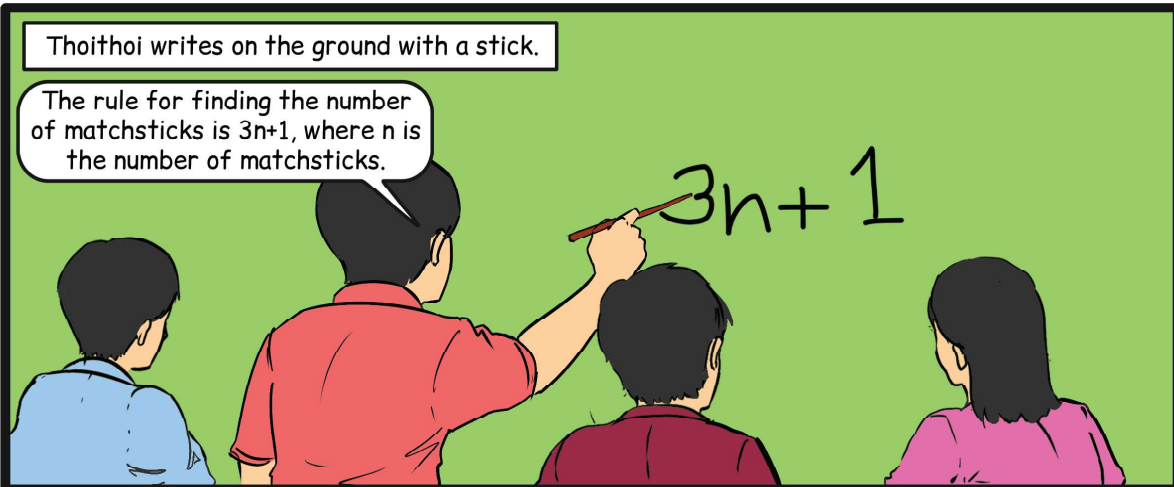


It is very simple. I will show you

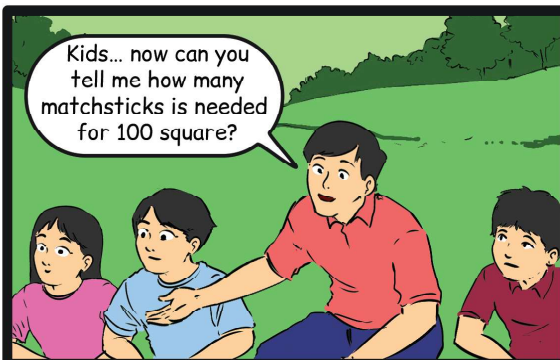


Thoithoi writes on the ground with a stick.

The rule for finding the number of matchsticks is $3n+1$, where n is the number of matchsticks.

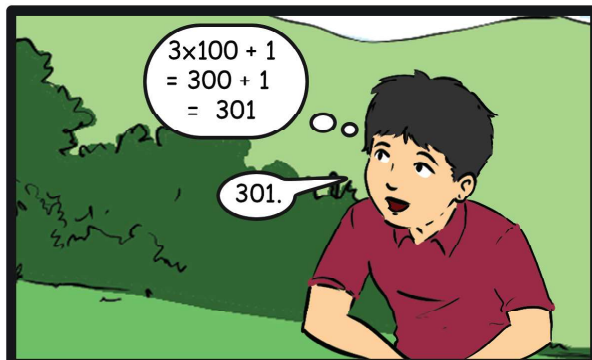


Kids... now can you tell me how many matchsticks is needed for 100 square?

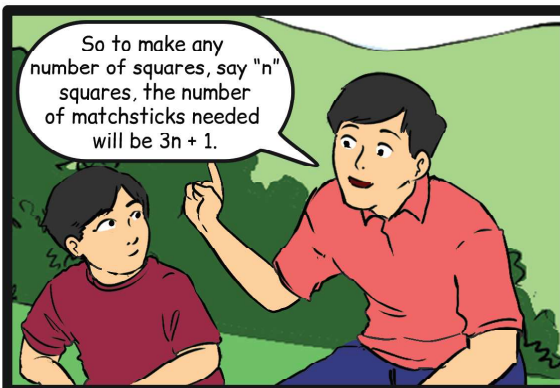


$3 \times 100 + 1$
 $= 300 + 1$
 $= 301$

301.

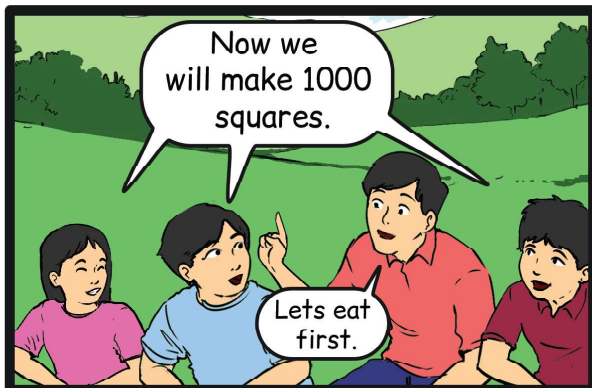


So to make any number of squares, say " n " squares, the number of matchsticks needed will be $3n + 1$.



Now we will make 1000 squares.

Lets eat first.



ACTIVITY

1. Try making a five sided figure(pentagon) using match sticks and make a pattern using multiple pentagons. Now try to establish a formula to find the number of match sticks needed to make any number of pentagons.

