

## Math Connections

Math is playful! Math games are engaging and can lead to important conversations from how to take turns to how to think about strategy. Achi helps kids learn about spatial relationships as they place and move their counters. Since they are using a two-dimensional game board, they are thinking about ideas such as next to, up and down (vertical), across (horizontal), and diagonal. You can use gestures when you describe words like up, down, and diagonal to encourage understanding. Games like Achi prepare children for later work with coordinate grids and mapping.

Another math idea is “three in a row”. For young children, it helps them visualize “three in a row” as they think about their next move (and perhaps their opponent's!). Visualizing is a key mathematical idea and relates a quantity such as three chips to the number 3.

## Tips for Caregivers

- Explain that the game is short and that you will be playing several times.
- Emphasize that when you play together, sometimes they may win and sometimes their opponent may win but that the important idea is to have fun--- and learn different strategies!
- Take turns being the first player and talk about what might happen (“I wonder where you might put your next chip.”)

**math talk**



This take-home activity is supported by MathTalk and Cambridge STEAM Initiative, a joint partnership between the City of Cambridge's Department of Human Service Programs and Cambridge Public Schools.

If you have any questions about the STEAM Initiative, please contact Barb MacEachern at [bmaceachern@cambridgema.gov](mailto:bmaceachern@cambridgema.gov). For more information about MathTalk, go to <https://mathtalkpbc.com/> or please contact Keith Griffin <[keithg@mathtalkpbc.com](mailto:keithg@mathtalkpbc.com)>.

# STEAM

(Science Technology Engineering Arts Math)

## @Home

### Achi Math Game

## Your Math Challenge:

Can you get your three counters in a row? Play against a friend and see if you can reason and strategize by thinking ahead to win this game!

### Directions

This game is played like tic-tac-toe. Each player has 4 counters.

1. Taking turns, each player places one counter on a circle.
2. If three counters on one color are in a row, that player calls out "Achi!" and wins the round.
3. If both players have played all of their pieces and no one has won, then players take turns sliding a counter on a line to the empty circle.
4. When a player makes a line of three of his/her counters by sliding, that player calls out "Achi!" and wins the round.

