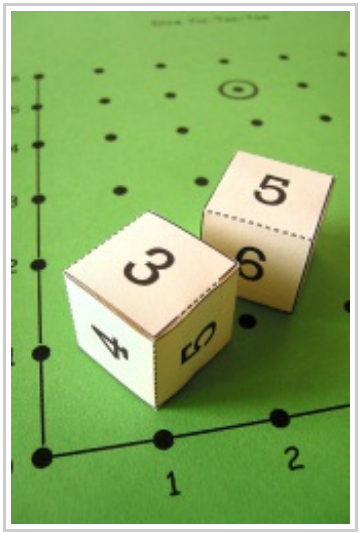
Dice Tic-Tac-Toe



Plotting on a plane coordinate system is an important prerequisite to graphing algebraic equations. Help your fourth grader better understand this concept by playing a game of Tic-Tac-Toe! Take turns rolling dice and creating coordinates. The first player to claim three coordinates in a row, wins! Use important vocabulary terms while playing, such as "*x*-axis," "*y*-axis," and "coordinates" in order to help reinforce these concepts.

Terms to Know:

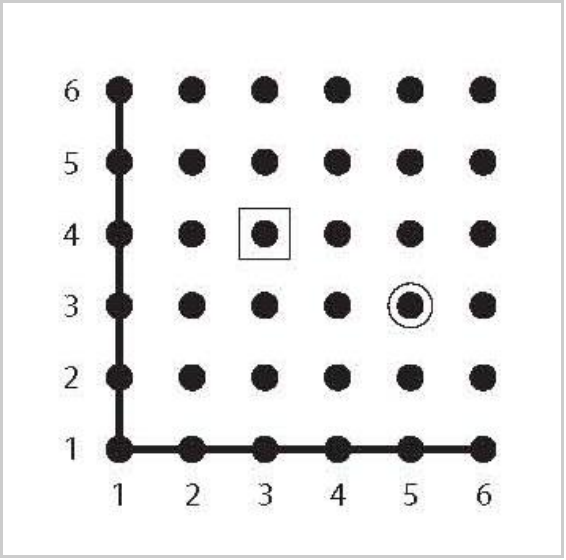
x-axis: the horizontal axis in a plane coordinate system

y-axis: the vertical axis in a plane coordinate system

What You Need:

- One playing board (Print this out.)
- Two standard dice (Make your own.)
- Pencils

What You Do:



1. Each player selects a simple shape (e.g. square, circle, triangle) they will use to mark their locations on the grid.
2. Players take turns rolling the dice, then translating the dice into ordered pairs. For example, if a player rolled a 3 and a 5, they could create the ordered pair (3 , 5) or (5 , 3).
3. Players plot their coordinates on the grid, using their selected shapes to claim each location. Only one player may claim each location.
4. A player wins when they have claimed three coordinates in any row, column, or diagonal.

Variation:

Use custom dice and/or a different grid.

Math Review:

Remember, when reading an ordered pair, the x-coordinate always comes first. In the example

(5 , 3), the *x*-coordinate is 5. Find this by moving along the *x*-axis to where "5" is marked. Then move up 3 spaces to find the *y*-coordinate. In the picture shown, (5 , 3) is marked with a circle.

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