

## Math Kit and Caboodle: Dice



### Two-Dice Sums (Beginner)

#### *Materials:*

-22 quiet counters (11 per player)

-A number line

-Two dice

-Scrap paper for recording your scores

#### *Instructions:*

Take turns. The first player places 11 quiet counters on the number line, covering up the numbers 2-12. Then, begin rolling your dice. Determine the sum of the numbers on the dice after each roll, and remove the quiet counter from that number. Record the number of rolls it takes you to remove all 11 counters. The player able to remove all 11 counters in the fewest number of rolls wins.

### Which Number Wins? (Intermediate)

#### *Materials:*

-Two dice

-An 3x12 block grid (hand-drawn)

#### *Instructions:*

On your 3x12 block grid, write the numbers 2-12 at the top. Begin rolling the dice (you and your student may take turns). Roll until you have made every number three times, making a tally mark in the corresponding box. For numbers you roll more than three times, continue making tally marks in that number's third box.

After you have rolled every number three times, look at your grid and determine which numbers were rolled the most often, and which you only rolled three times. Why is it more likely that you rolled several 7's, whereas you may have only rolled the number 2 three times?

### Pig (Advanced)

#### *Materials:*

-Two dice

*Instructions:*

The object of the game is for a player to roll a total of 100 or higher during one turn. Let your student go first. S/he gets to roll as many turns as s/he wants. The catch is three-fold:

1. The player must keep track of the total in his/her head. Only when the turn is over can the player write the total down. If the player loses track of the total in his/her head, it's back to 0.
2. If the player rolls a 1 on one of the di, his/her turn is over, but s/he keeps the total already accumulated
3. If the player rolls snake-eyes (a 1 on both dice), his/her turn is over *and* his/her total goes back to 0.

Who can navigate the treacherous path to 100 first?