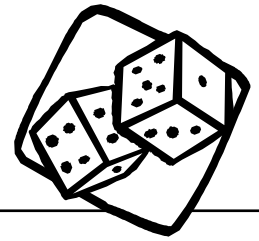# Pass or Roll!

Every roll can get you more points but if you roll the wrong number you have to put everything back!

What you need
80 to 100 counters (like beans or paper clips)
Dice
Bowl

What to do
1. Place all of the counters into a bowl in the center of the table and give each player a die.
2. Roll a die to see who gets to go first (highest number goes first and play continues to the left).
3. The first player rolls their die and reads the number on top.
4. If the player rolls a 6, the player must put all counters they have won THAT TURN back into the bowl and their turn is over.
5. If the number is a 1, 2, 3, 4, or 5, the player takes that many counters from the bowl. Then, the player must decide to either roll again, or to pass the turn on to the next player.
6. If the player chooses to roll again, they repeat steps 3-5.
7. The winner is the first person with 25 counters.

What to ask
• How many counters do you have so far?
• How many more to get your 40?
• How do you decide whether to pass or roll?
• If you should roll a six, when is the best time to roll it?

Did you know?
This is a game of chance, or probability. Many people start to feel as though something is bound to happen if it doesn't happen for a while. But every time the die is rolled, it has a 1 in 6 chance of rolling a six (as with each of the other numbers as well).

The Children's Museum of Houston

ExxonMobil
Math Path
EM M²
Magnificent Math Moments
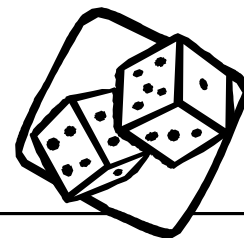
What's next?

- Change the number of pieces you have to collect to win.
- Change the game so that another number is the "put all back" number. Does this change the game?
- Make the game backwards where everyone starts with 25 counters and rolls to get rid of them. If they roll a 1-5, they place the counters in the center. But, if someone rolls a 6, they must take ALL of the counters from the center. First person to get rid of all of their counters wins!

To learn more

Ten Black Dots

by Donald Crews

The book goes through the numbers one to ten and shows pictures that can be made out of different numbers of dots.

Do You Wanna Bet? Your Chance to Find Out About Probability

by Jean Cushman

Brain and Danny explore probability through ordinary events like card games and weather. Each chapter offers an explanation of the probability concepts involved.

How it helps with school

Texas PreKindergarten Curriculum Guidelines
Number and Operations

Texas Essential Knowledge and Skills (TEKS) Standards
Number, Operation, and Quantitative Reasoning: K.1A-C, K.4; 1.1A-B, 1.3B; 2.1, 2.3A
Probability and Statistics: 1.10B; 2.11C
Underlying Processes and Mathematical Tools: K.13A, K.14A; 1.11A, 1.12A; 2.12A, 2.13A

National Council of Teachers of Mathematics (NCTM) Standards
Number and Operations, Data Analysis and Probability, Connections, Representation