

Topics: Arithmetic,
Addition, Probability

Materials List

- ✓ A pair of dice
- ✓ Scratch paper
- ✓ Pen or pencil

This activity can be used
to teach:

Common Core Math
Standards:

- Addition and Subtraction (Operations and Algebraic Thinking, Grade 1, 1-6; Grade 2, 1 & 2; Number and Operations in Base Ten, Grade 1, 4; Grade 2, 5, 7; Grade 3, 2, Grade 4, 4)
- Probability (Grade 6, Statistics and Probability, 1-3)
- Problem Solving and Reasoning (Mathematical Practices Grades K-8)

PIG

A Simple Game to Teach Addition



This ancient game is easy to learn and fun to play. Players race to earn 100 points, but if they get too “piggy”, they will get no points for the round.

Playing the Game (Any number of players, but 2-4 players is best)

1. Players each roll a die to see who goes first.
2. The first player rolls the dice. If a “1” is rolled, the turn is over and the dice are passed to the next player. If no “1”s are rolled, the player adds the dice for a total. That player now has a choice to roll again and add to their points. If they roll a “1”, all points are lost for that round. If a player chooses to stop, their total is written on their score sheet and can never be lost. The player continues to roll until they either roll a “1” or decide to stop and keep their score.
3. Once a player either chooses to stop and keep their score or rolls a “1”, the dice are passed to the next player.

Winning the Game

4. Once a player reaches 100, all remaining players get one more turn.
5. After this final round, the player with the highest score is the winner.

Example Plays	Turn # 1	Turn #2	Turn #3
Player Rolls	6 and 5	3 and 1	3 and 4
Result	Player continues to roll	Turn is over because “1” is rolled	Player continues to roll
Player Rolls	2 and 3		2 and 6
Result	Player continues to roll		Player continues to roll
Player Rolls	3 and 5		3 and 1
Result	Player stops, earns total 24 points		Turn is over because “1” is rolled

The Math Behind the Activity

This activity reinforces basic arithmetic skills. While adding single digit numbers is a very basic skill, many students do not get the opportunity to add numbers in their heads with any frequency. Like any other skill, frequent repetition is required to maintain competency. Probability also comes into play. This activity can serve as a springboard to more detailed probability lessons.

Taking it Further

- Younger students can play with only 1 die, while older students can play with 3 or more dice.
- The game can be played with dice of any shape (polyhedrals like 4-sided, 8-sided, 10-sided)
- Bonus points can be given for rolling pairs.

Web Resources (Visit www.raft.net/raft-idea?isid=322 for more resources!)

- Teacher designed math courses – <https://njctl.org/courses/math>