

 **Mind Games: Coin Toss and Rock, Paper, Scissors (RPS)**

Can you guess whether a coin toss is heads or tails? Can you win a game of Rock, Paper, Scissors (RPS)? Are these two abilities somehow related?

1. Collect class data to fill in the following two-way table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | RPS Win | RPS Lose | RPS Tie |  Total |
| Coin Toss Win |   |   |   |  |
| Coin Toss Lose |   |   |   |  |
| Total |  |  |  |  |

1. Suppose that we randomly choose a student from class. Find the following probabilities. Leave answers as fractions (not reduced).

*P*(Coin Toss Win) = *P*(Coin Toss Lose) =

*P*(RPS Win) = *P*(RPS Lose) = *P*(RPS Tie) =

*P*(Coin Toss Win AND RPS Win) = *P*(Coin Toss Lose AND RPS Win) =

*P*(Coin Toss Win AND RPS Lose) = *P*(Coin Toss Lose AND RPS Lose) =

*P*(Coin Toss Win AND RPS Tie) = *P*(Coin Toss Lose AND RPS Tie) =

1. Suppose that we randomly choose a student from class. Find the following probabilities.

*P*(RPS Win) =

*P*(RPS Tie) =

*P*(RPS Win **OR** RPS Tie) =

1. Suppose that we randomly choose a student from class. Find the following probabilities.

*P*(Coin Toss Win) =

*P*(RPS Win) =

*P*(Coin Toss Win **OR** RPS Win) =