Probability

Activity 2 - Rock, Paper, Scissors

The game of Rock, Paper, Scissors is wildly popular throughout the world. The game goes by many different names worldwide; there is even a Rock, Paper, Scissors World Championship! Despite its popularity and common usage, did you know that the game is a lesson in mathematical probability?

Game Instructions:

• The game is for two players. Players face each other and count “1, 2, 3...go!”

• On “go”, the two players create one of the three symbols with their hands at the same time:

  A Fist Means Rock

  Flat Hand Means Paper

  Two fingers sticking out means scissors.

• A player whose symbol beats the other player’s symbol wins that round and gets one point.

• If both players show the same symbol, the round is a draw and no points are awarded.

★ Paper Beats Rock
★ Rock Beats Scissors
★ Scissors Beat Paper

Can you believe THIS is math?
Probability

Activity 2 - Rock, Paper, Scissors - continued

- Play the game with a friend or someone from your family 20 times.
- Record your results in the table below to keep track of how often each symbol wins:

<table>
<thead>
<tr>
<th></th>
<th>Number of Times Rock Wins</th>
<th>Number of Times Paper Wins</th>
<th>Number of Times Scissors Win</th>
<th>Total Number of Wins</th>
</tr>
</thead>
<tbody>
<tr>
<td>Player 1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Player 2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- Which symbol is more likely to win according to your data? What’s the probability?
- Which player is more likely to win with what symbol according to your data?
- Which symbol lost in a game most often according to your data?
- According to mathematics rather than your data, what is the probability of each symbol winning any given game?
- How many times did you have a tie, i.e. when no one won?

Can you believe THIS is math?