

## MATHEMATICAL APPLICATIONS OF BRIDGE

Duplicate Bridge is a game of mathematics! The game is a vehicle for introducing such concepts as probability, percentages, data analysis, reasoning and proof, assessing value and applying this assessment to problem solving.

a.. Numbers and Operations: Students incorporate multiple evaluation methods to assess the value of their hand as well as their partner's and how to weigh these values.

a.. Data Analysis and Probability: Students confront situations in each hand (game) which require them to assess the probability of certain outcomes and make decisions accordingly.

a.. Algebra: Players reason from the communication skills learned in the bidding (auction), the value of their hand (a), plus the value of their partner's hand (b), must equal a specific total (c). Therefore, certain decisions are then made to achieve their goals.

a.. Problem Solving: Each hand (game) amounts to a set of problems that must be evaluated and re-evaluated in the span of a few minutes.

a.. Reasoning and Proof: Based upon communications skills learned during the teaching process, students reason that they can achieve a stated goal (contract), which they set out to prove. Flaws in the proof result in scoring adjustments.

a.. Communications: Students are taught the 'language' of bridge which they use to communicate the value of their cards, formulate a goal (contract) and set out to prove.

Children, who have a natural propensity toward math, find the game of duplicate bridge both challenging and rewarding. Bridge is a creative activity which also provides great educational opportunities. During the first year, the children will be taught the basic fundamentals of the game. Just like adults, they can spend a lifetime trying to learn the many complexities of the game!