

Dealing with Liar's Dice

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What is Liar's Dice?



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Example Game:

Alice: 1, 2, 3, 4, 5

Alice: 3 Threes

Alice: Challenge!

Bob: 2, 2, 2, 4, 4

Bob: 4 Fours

Carol loses (only 3 Fives)



Carol: 4, 4, 5, 5, 6

Carol: 4 Fives

Sounds Great!



Possible Alternatives

Banknotes!



Playing Cards



But is it that Simple?

	Cards	Dice
Portability	✓	X
Attributes	2 (Number/Rank and Suit)	1 (Number only)
Probability	X	✓

Entropy

Suit order: Clubs ♣ < Diamonds ♦ < Hearts ♥ < Spades ♠

(Alphabetical, similar to Bridge)

Example Game:

Alice: 2 ♠, 3 ♠, 4 ♠, 5 ♠
6 ♠, 7 ♠

Bob: 8 ♣, 8 ♦, 8 ♥, 8 ♠

Carol: 5 ♦, 5 ♥,

Alice: 3 Spades

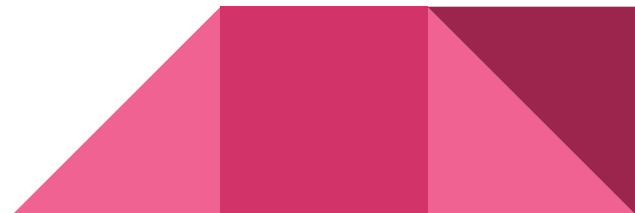
Bob: 4 Hearts

Carol: 4 Spades

Alice: 5 Spades

Bob: Challenge

Bob loses (7 Spades total)



Entropy Rules (and a Couple of Variants)

Ones are sometimes wild in Liar's Dice

Entropy equivalent: Aces worth 1 of every suit in addition to 1 of their own suit

A♠ is worth 1 Club, 1 Diamond, 1 Heart but 2 Spades

Other variants:

Can play with just one suit and count the numbers

Or introduce arithmetical functions and complex numbers!



Leaving Thoughts and Puzzles

If two players only have one card each, what is the best first bid by the first player?

How about with more cards? And more players - a full algorithmic strategy?

We have tried to have some kind of stakes, like chips in poker, where you can bet on how confident you are, but never found a way that works neatly. Can you?

And give the game a try!

