Name of game: Double or halve?

Learning aim of game: doubling, halving, adding, subtraction

How many players: 2 (or more)

You will need: 2 dice, a pen and a piece of paper

* How to play:
* Decide on a target number.  This is the total that both players are trying to make.
* Player 1 throws the dice.  S/he can choose whether to double the number shown or halve the number shown.
* Player 2 throws the dice.  In the same way, s/he can choose whether to double the number shown or halve the number shown.  Player 2 adds his/her number onto Player 1's number to make a running total.
* Play continues like this with each player rolling the dice, halving or doubling the number and adding the result onto the running total.
* The winner is the player who reaches the agreed target exactly.

Thoughts:

 Must each player always take a turn?
Does it matter if you go first or second?
Are there any particularly good numbers to choose as your target?