# nrich

## **Nice or Nasty Games**

### Instructions

There are nasty versions of this game but we'll start with the nice ones...

Find a partner and a 1-6 dice, or preferably a 0-9 dice if you have one. Each of you draw a set of four boxes like this:



#### Game 1

Take turns to throw the dice and decide which of your four cells to fill.

Do this four times each until all your cells are full. Whoever has the largest four digit number wins.

There are two possible scoring systems:

- A point for a win. The first person to reach 10 wins the game
- Work out the difference between the two four-digit numbers after each round.
  The winner keeps this score. First to 10000 wins.

Now for some variations...

#### Game 2

Whoever makes the smallest four digit number wins.

Adapt the scoring to suit.

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#### Game 3

Set a target to aim for. Then throw the dice four times each and work out how far each of you is from the target number. Whoever is closest wins.

There are two possible scoring systems:

- A point for a win. The first person to reach 10 wins the game
- Work out the difference between the two four-digit numbers and the target number after each round. Keep a running total. First to 10000 loses.

Possible targets: 5000, 3500, 2222, ...

#### Game 4

This game introduces a decimal point. The decimal point will take up one of the cells so this time the dice only needs to be thrown three times by each player.

The winner is the closest to the target.

Possible targets: 35, 3.1, 24, 2.6, 10, ....

Two possible versions:

- each player decides in advance where they want to put the decimal point before taking turns to throw the dice
- each player throws the dice three times and then decides where to place the digits and the decimal point.

Again, two different scoring systems are possible.

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#### Game 5

The nasty version!!

Play any of the games above. This time you can choose to keep your number and put it in one of your cells, or give it to your partner and tell them which cell to put it in. You might lose a friend this way!! It's really important to take turns to start each round if this game is going to be fair.

This becomes even nastier when you play the games above with more than two people.

#### Game 6

This is a cooperative game rather than a competitive one - for three or more people.

Choose any of the games above. Decide in advance which of you will get the closest to the target, who will be second closest, third, fourth etc. Now work together to decide in whose and what cells the numbers should be placed.