

A card game for 2 players to support Place Value

Number Maker



The goal is to make the largest five-digit number possible.

- Each player draws five column grid on a piece of paper to represent each of the values up to the ten thousands place - Ones, Tens, Hundreds, Thousands and Ten Thousands-, although you could start with smaller numbers if you wish.
- Using only the number cards and aces (which in this game, count as ones), shuffle the deck and turn all the cards face down in a pile.
- Take turns to draw the top card from the pile.
- Each time a player takes a card it must be recorded in one of the digit positions.
- Continue drawing cards until all five place value columns have been filled. The winner of the game is the player who creates the largest number.

Strategy: Once your child has reached a point of comfort and confidence, discuss game strategy,

eg Which place value position is the most critical in creating the largest (or smallest) number?

Which are the best numbers to record: in the ten thousands place? in the ones place?

Variations

Try using extra place value columns—go to six or seven places. Include columns to accommodate numbers with decimal places too.

Change the objective of the game so the goal is to create the smallest number.

Include the joker cards to represent "0," or make them Wild Cards so, if drawn, players can determine their value.

A dice game to support Place Value (for any number of players).

Dice-y Arrangement



Roll 5 dice

Arrange them to make the smallest possible number with 2 decimal places.

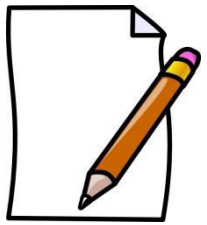
NB The number 113.46 is smaller than 113.64

Score 1 point if you have created the smallest number.

The last person to reach 5 is the winner.

A 'pen and pencil' Place-Value Game for 2 Players

Can be adapted to suit any age of child



Find the secret number

Using place value knowledge, ask questions that will facilitate the identity of the secret number.

The 2 players decide on the size of the secret number to be chosen and then draw a representation of the required number of columns on a piece of paper.
eg a 3-digit number such as 196 would require a representation such as this,

Hundreds	Tens	Ones
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whereas, a 5-digit number that has 2 decimal places such as 932.64 would require the following:

Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
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Player 1 writes a 'secret number' on a small slip of paper then invites Player 2 to ask 'yes or no questions' about the digits, and the position of each one in the number, in order to discover the mystery number.

Hint: It would be wise for Player 2 to create a second row to the chart in order for a line to be struck through any number that questioning eliminates as a possibility.

Hundreds	Tens	Ones
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9

So, if the secret number was 467 suitable questions could be:

Is the number an even number? (no, so the final digit must be odd and therefore 1, 3, 5, 7 or 9)

Is the number in the Tens column between 2 and 7? (yes, so the Tens number must be 3, 4, 5 or 6)

Is the number in the Hundreds column less than 6? (yes, so it must be 0, 1, 2, 3, 4 or 5)

Is the number in the Tens column an odd number? (no, so the Tens number must be 4 or 6)

Is the number in the Ones column greater than 5? (yes, so that leaves 7 or 9)

Is the number in the Hundreds column greater than 4? (no, so that leaves 0, 1, 2, 3 or 4)

Player 2 continues asking questions until the number is correctly identified.

With the knowledge above, the questioning could continue in a manner such as this:

Is the number in the Hundreds column an even number? (yes, so we can eliminate 1 and 3 from the possibilities; it must be 2 or 4 as the first digit of a number will not be zero)

Is the number in the Hundreds column less than 3? (no, so we know it must be 4)

Is the number in the Tens column between 5 and 7? (yes, so we know it must be 6)

Is the number in the Ones column more than 8? (no, so we know it must be 7)

By the process of elimination, the secret three-digit number must be 467.

Player 1 records how many questions Player 2 takes to solve the identity of the number. Players then change places and a new number is selected.

The winner of each round is whichever player takes fewer questions to discover the secret number. Any number of rounds could be played.

Games to support 'mental calculations' using multiplication and division

999



A game for 2-4 players

The goal is to make reach 999 before your opponents.

Remove Jokers and Jacks/Knives from the pack of cards.

- Each player takes 10 cards.
- Leave the rest of the cards face down on the table.
- Player 1 turns over the top card and places a card from his own hand over it.
- Multiply the number values of these 2 cards and make a record of the total. Eg top card is a Jack (worth 11 points) and the card from his hand is a Queen (worth 12 points) so $11 \times 12 = 132$.

The winner is the first player to reach 999.

Variations:

Introduce Kings (worth zero points) and / or Jokers (worth 25 points). The winner is now the first player to score exactly 999 points.

3-die multiply



A game for 2 or more players

Take it in turns to roll 3 dice.

Multiply the numbers on the top face of each dice together and record your score. eg $4 \times 2 \times 6 = 48$

The first player to pass 300 is the winner.

Variation:

Use a combination of multiplication and division (providing the answer is a whole number) eg $6 \times 2 \div 4 = 3$.

The winner is the first person to have a running total of exactly 30.

You could increase the complexity even further by introducing a rule that anyone exceeding 30 is disqualified.