Mental Maths Games

The following is a range of great fun mathematical 'war games' and can be played with 2 to 4 people. You will need paper and a pen to keep score.

General Rules: There are 48 cards, four differently coloured sets numbered 1–12. They all need to be shuffled and then dealt out evenly between the players. Each round should be thought of as a 'skirmish'. A player winning a skirmish collects all cards involved in the 'sum', as 'prisoners'. In the event of a tie, the played cards should be placed in the centre of the table and another round is played. Then all the cards from the current round and the previous tied round become prisoners and are claimed by the next winning player. When only one player is left with cards in their hand, that player is the winner.

ADDITION WAR: All players turn over 2 cards from their pack simultaneously, showing the faces to all players, and add the values on the 2 cards together. The player with the highest sum wins. For Example: Player 1 could turn over an 8 and a 2, Player 2 could turn over a 5 and a 6, and Player 3 could turn over an 11 and a 3. So player 3 wins with a score of 14. Player 3 would take all the cards that were played in the round and all players would turn over 2 new cards. Play would continue until only one player (the winner) was left with any cards.

This game can also be played by turning over 3 cards each time (3-card Addition War) or by turning over 4 cards each time (4-card Addition War).

MULTIPLICATION WAR: All players turn over 2 cards from their pack simultaneously, showing the faces to all players, and multiply the values on the 2 cards together. The player with the highest sum wins.

For Example: Player 1 could turn over a 6 and a 3, Player 2 could turn over a 7 and a 2, and Player 3 could turn over a 12 and a 1. So Player 1 wins with a score of 18. Player 1 would take all the cards that were played in the round and all players would turn over 2 new cards. Play would continue until only one player (the winner) was left with any cards.

This game can also be played by turning over 3 cards each time (3-card Multiplication War) and it can also be played by turning over 4 cards (4-card Multiplication War).

SUBTRACTION WAR: All players turn over 2 cards from their pack simultaneously, showing the faces to all players, and subtract the smaller value from the larger value. The player with the smallest result wins.

For Example:

Player 1 could turn over a 9 and a 5, Player 2 could turn over a 6 and a 12, and Player 3 could turn over a 7 and an 8. So Player 3 wins with a score of 1. Player 3 would take all the cards that were played in the round and all players would turn over 2 new cards.

FRACTION WAR: All players turn over 2 cards from their pack simultaneously, showing the faces to all players, and make a fraction, using the smaller card as the numerator. So a 3 and an 8 becomes 3/8. The player with the greatest fraction wins.

For Example: Player 1 could turn over a 4 and a 10, Player 2 could turn over a 6 and a 10, and Player 3 could turn over a 4 and a 6. So Player 3 wins as the fraction 4/6 is the greatest.

IMPROPER FRACTION WAR: All players turn over 2 cards from their pack simultaneously, showing the faces to all players, and makes a fraction, using the larger card as the numerator. So a 3 and an 8 becomes 8/3 (or $2^{2/3}$). The player with the greatest fraction (or mixed number) wins.

For Example: Player 1 could turn over a 9 and a 2, Player 2 could turn over an 8 and a 5, and Player 3 could turn over an 8 and a 7. So Player 1 wins as the fraction $\frac{9}{2}$ (or $4\frac{1}{2}$) is the greatest.

INTEGER ADDITION WAR: Cards with Gangsta Granny on them are negative numbers. All players turn over 2 cards from their pack simultaneously, showing the faces to all players, and add the cards together. The player with the highest sum wins.

For Example: Player 1 could turn over a 6 and a -7, Player 2 could turn over a -10 and a -6, and Player 3 could turn over a 4 and a -8. So Player 1 wins as -1 is higher than -16 and -4.

INTEGER MULTIPLICATION WAR: Cards with Gangsta Granny on them are negative numbers. All players turn over 2 cards from their pack simultaneously, showing the faces to all players, and multiply the cards together. The player with the highest number wins. For Example: Player 1 could turn over a -6 and a -10, Player 2 could turn over a 6 and a -3, and Player 3 could turn over a -11 and a 7. So Player 1 wins as 60 is higher than -18 and -77.

WILD WAR: Cards with Gangsta Granny on them are negative numbers. All players turn over 3 cards from their pack simultaneously, showing the faces to all players, and can do whatever maths they wish to achieve the greatest value.

For Example: Player 1 could turn over a -3, a -6 and an 11, Player 2 could turn over a 1, a 10 and a -9, and Player 3 could turn over a 2, an 11 and a 6. So Player 1 wins as $198 (-3 \times -6 = 18 \times 11)$ is higher than 100 ((1 - -9)) * 10) and is higher than $132 (11 \times 6 \times 2)$.

ZERO WILD WAR: This game is played as WILD WAR but the aim is to get the closest result to zero.

For Example: Player 1 could turn over a -9, a 1 and a 10, Player 2 could turn over a -3, an 11 and a -6, and Player 3 could turn over an 11, a 2 and a 6. So Player 1 wins as -9-1 = -10 +10 = 0.

Children who want an extra challenge can try all the above games but with multi-digit numbers. Players turn over 3 cards, for example, and use 2 cards to form a 2-digit number. The third card has the other number. So, a player could turn over a 4, a 5 and a 9 so they could choose to play with a 45 and a 9 or a 59 and a 4 or a 94 and a 5.

Lastly there is one final game children can play to practise their number bonds to 10, whilst honing their memory skills...

THE BONDS GAME: All the cards in the pack are laid face down and spread out on the table. The first player turns over 2 cards. If the player can use multiplication, addition or subtraction to make a total of 10 then that player keeps those 2 cards. They can then take another go. If they cannot make a total of 10, they turn the cards back over. The next player then turns over 2 cards of their choice and tries to make a total of 10. Each player repeats the process until no more 10s can be made with the remaining cards. The player with the most cards wins

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