Card and Dice Games

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**Target Dice**

Player chooses a target number, e.g. 35. They roll the dice and use the 4 operations to reach the target number. If they go above they have to - / to reach it.

Differentiation- change number size.

**Target dice off!**

Choose a target number. Take it in turns to roll the dice. Use 4 operations to reach target number. Winner is the one who gets there first.

Differentiation- change number size. Player can also stick if they get close to number.

**Dice Calculations**

Roll dice to create a 3 by 2 digit number. Place them to make an addition sum. Winner is the player who makes biggest total with their sum.

Differentiation- change number size or operation.

**Highest Addition Wins:**
Players turn up two cards for each turn. The highest sum wins.

**Advanced Highest Addition Wins:**
Turn up three (or four) cards for each turn and then add them together.

**Highest Subtraction Wins:**

Players turn up two cards and subtract the smaller number from the larger. This time, the greatest difference wins the battle. (This makes it so there are no negatives.) You can play highest or lowest, or whatever: make up your own rules just make sure everybody understands how to "win" and have fun.

**Highest Multiplication Wins:**
Turn up two cards and multiply them together. This is the most common game after just regular war and addition facts war.

Going To Boston

A well known and easy to learn dice game which gives children plenty of adding practice.



**Age:** 5+

**Skills:** Adding

**Equipment:**

3 dice Pencil and paper

**How to play**

Roll the dice and keep the highest. Roll the remaining dice and again set aside the highest. Roll the last die, and add up your total. Write down your score.

**Variations:**

Substitute specialty dice with higher numbers.

Older children could try multiplying the dice together to get their score.

Mountain

Mountain is a well-known dice game which is called by many names. Its simplicity makes it ideal for younger players, but with its variations it is popular with all ages.



**Age:**
4+

**Skills:**
Number recognition
Manipulating numbers
Strategy (variations)

**Equipment:**
2-3 dice
Paper and pencil
Printable (optional)

**How to play**

The object of the game is to be the first to climb your mountain, in number order, and then descend the other side.

Give each player a print-out (or simply write the appropriate numbers yourself on a scrap of paper), a pencil and 2 dice. Allow the youngest player to start.

He rolls the dice and hopes for a 1, which will allow him to cross the number 1 off his mountain. He must ascend in numerical order, so cannot cross off the 2 until he has crossed off the 1. If he rolls a 1 and a 2, however, he can cross both numbers off in one turn. Play continues until someone has made it all the way up their mountain and down the other side in the correct order.

# Beat That!

This is an easy game to learn, but one which is very popular with kids (and not too bad at keeping the odd grown up amused, too!). Great for learning the concept of place value.



**Age: 5+**

**Skills:**
Number
Place value
Strategic thinking

**Equipment:**
2 dice (up to 7 dice for older players)
Paper and pencil for scoring

**How to play**

Roll the dice and put them in order to make the highest number possible. If you roll a 4 and an 6, for example, your best answer would be 64. Using 3 dice, a roll of 3, 5 and 2 should give you 532, and so on. Write down your answer, pass the dice, and challenge the next player to Beat That!

Play in rounds and assign a winner to each round.

For a change, try making the smallest number possible! This is a great game for reinforcing the concept of place value. If you are playing with younger children, explain your reasoning out loud and encourage them to do the same.

# Stuck In The Mud

This is one of our favourite family dice games. Children love the surprises that the game produces, with some turns ending abruptly and some going on for ever and ever...



**Age:**
5+

**Skills:**
Addition (mental)
Addition (scoring)

**Equipment:**
5 dice
Paper and pencil

**How to play**

The aim of the game is to achieve the highest score. You can only score on a roll which does not include the numbers 2 and 5. Any dice which show a 2 or a 5 become stuck in the mud.

Choose a player to start. Roll all 5 dice. If you have rolled any 2s or 5s, you do not score any points for this throw. If you have not rolled any 2s or 5s, add up the total of the dice and remember it.

Set aside any 2s and 5s, and throw the remaining dice. Again, if you have rolled any 2s or 5s you fail to score this turn. Throws without 2s and 5s are added to your previous total.

Continue in this way until all your dice are

stuck. Write down your score and pass the dice to the next player.

Agree a number of rounds (five works well) and total up the score. You can use the score charts we have provided. You will be surprised at how much the score can vary and just how tricky the dice can be!

# Three Or More

This game is simple, fun and popular. It also introduces a number of the concepts of more advanced dice games.



**Age:** 5+

**Skills:**
Addition (scoring)

**Equipment:**
5 dice
Paper and pencil to score

**How to play**

The object of the game is to get 3 or more of a kind. The more that you get, the more you score. The player with the highest score after a fixed number of rounds (5 works well) is the winner.

Roll the dice. You must have 2 of a kind to continue playing. If you don't, write 0 for your score for this round and pass the dice to the next player.

If you rolled 3, 4 or 5 of a kind on that first roll, score as below:

3 of a kind = 3 points
4 of a kind = 6 points
5 of a kind = 12 points

If you rolled only 2 of a kind, you have one more turn to improve your score. Put those 2 dice aside and roll the others again. If you succeed, score as above. If you don't, you get no score this turn!

# Three Dice

##### Stage: 2 Challenge Level:1

Take a look at some ordinary dice.
What do you notice about the way the numbers are arranged?

Now look at these three dice in a row:



The numbers on the tops of the dice read 6, 1 and 5.

What do the numbers on the top add up to?

Can you use what you found out about the way the numbers are arranged to say what numbers are on the bottom of the dice? Were you correct?

What is the sum of the numbers on the bottoms of the dice?

Let's try that again.
This time the numbers on the top read 1, 4 and 3.



Can you work out the total?
Can you work out the numbers on the bottom and their total?

Try out some arrangements yourself. Each time record the sum of the numbers on the top and the sum of the numbers on the bottom.

Do you notice a relationship between the 'top sum' and the 'bottom sum'?
Can you explain it?

I experimented with arrangements where the top sum is a multiple of three, and find that in each case the bottom sum is also a multiple of three. Is it always true?

I try to arrange the dice so that the top and bottom sums are both multiples of four, but can't seem to be able to do it. Can you? Can you explain what you find out?

On the other hand, if I arrange **four** dice in a row it is easy to make the top and bottom sums both multiples of four. Can you arrange four dice so that the top and bottom sums are both multiples of three? Can you explain what you find out?

# Roll These Dice

##### Stage: 2 Challenge Level:2 Challenge Level:2



Two dice are RED and one is GREEN.

Roll the dice and add up the numbers on the two RED dice and then subtract the number on the GREEN.

So if one RED is 4 and the other RED is 5 and the GREEN is 3 we should add together 4 and 5 to make 9 and then subtract the 3 so that gives us a final answer of 6.

You'll need to roll these dice many times and see what numbers you make each time by doing the addition and subtraction.

In this game it would be good to find out:-

* what are the final answers by doing the addition and subtraction each time?
* what are all the different possible numbers?
* is there a good way of making sure you find them all?
* how will you record what you've found out?

Now have a go!

Look at your results and write down some questions that you could ask about them. For example, do any of them have the same answers? If so, why?

Then you could ask yourself, "I wonder what would happen if, instead, I ...?''

# Stop or Dare

##### Stage: 2, 3 and 4 Challenge Level:1



A game for two or three players. You will just need a pack of cards.

Shuffle the pack and place it face down. Set a target score for the game, for example 100.

The first player turns over the top card and continues turning over cards, adding together the value of each card, until they decide to stop. Jacks score 11 and Queens score 12.

When the player stops, the total is recorded as their score.

However, **if an Ace or a King is turned over, no points are scored at all**, and the turn is finished.

The second player then starts turning over cards in the same way.

Players take turns until someone reaches the target score. This player is the winner.

If the cards are all turned over before the target is reached, just reshuffle the pack and continue.

Play the game a few times.

**Can you develop any strategies to increase your chance of winning?**

**Pelmanism**

 Use cards 1 - 10.

 Spread cards face down and take it in turns to turn over pairs that make a target number

eg. 10, 11. Winner is the player with the most pairs.

**Make twenty**

 Remove picture cards. Shuffle the rest and put face down.

 Turn one card at a time and place it face up in line. When you see a set of ‘consecutive’ cards which totals 20, gather set and close gaps. A set can have as many cards as you want in it but the total must be 20. Try to end with as few cards in the line as you can.