

Six dice (mental mathematics)

This is an activity for pairs or children working on their own.

Roll one dice: put the number in your head.

Pick up the dice and add another to it.

Now roll two dice: add the number from the previous roll to the two dice.

Pick up the two dice and add another to it.

Now roll three dice: add the total from the previous rolls to the three dice.

Pick up the three dice and add another to it.

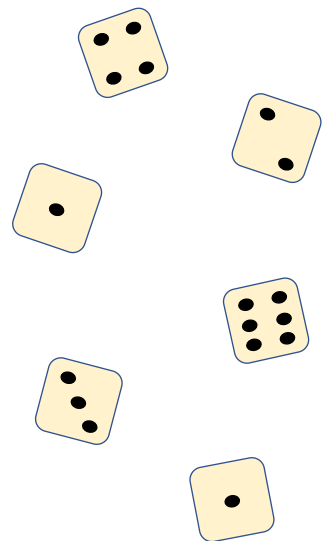
Now roll four dice. Add the total from the previous rolls to the four dice.

Pick up the four dice and add another to it.

Now roll five dice. Add the total from the previous rolls to the five dice.

Pick up the five dice and add another dice to the group.

Now roll all six dice. Add the total from the previous rolls to the six dice.



Roll 1

I've rolled a six spot dice.

This is the number shown on the top of the dice.



This is my starting number.

Roll 2

I already have a score of 3 from my previous roll.

I've rolled two dice. I've rolled 4 and a 6.



I know that 4 and 6 make 10, so it is more efficient to add these two numbers together first then add the 3.



$$4 + 6 = 10$$

$$10 + 3 = 13$$

My new total is 13.

Roll 3

I already have a total of 13 from my previous rolls of the dice.

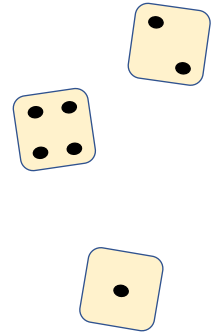
I've rolled 3 dice and have rolled 4, 2 and a 1.

I'm going to add the most significant number first to 13.

$$13 + 4 = 17$$

I know that $2 + 1 = 3$

I'll now add the remaining 3 to 17 to make 20



Roll 4

I already have a total of 20 from my previous rolls of the dice.

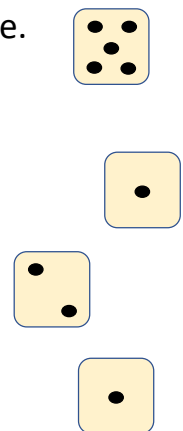
I've rolled 4 dice and have rolled 5, 2, 1 and a 1.

I'm going double 1 to make 2 and add this to the other 2.

I then add 4 to 5 to make 9. 20 is a multiple of ten so it is easy to add another single digit number to it.

I know that $20 + 9 = 29$

My new total is 29



Roll 5

I already have a total of 29 from my previous rolls of the dice.

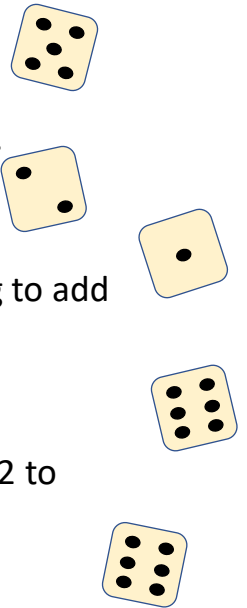
I've rolled 5 dice and have rolled 6, 6, 5, 2 and a 1.

Using my knowledge of number pairs that make 10, I'm going to add 1 to 29 to make 30.

I'll double the 6 to make 12 and add this to 30 to make 42.

I can now add 2 and 5 together to make 7 and add these to 42 to make 49.

My new total is 49



Roll 6

I already have a total of 49 from my previous rolls of the dice.

I've rolled 6 dice and have rolled 5, 5, 4, 2, 1 and a 1.

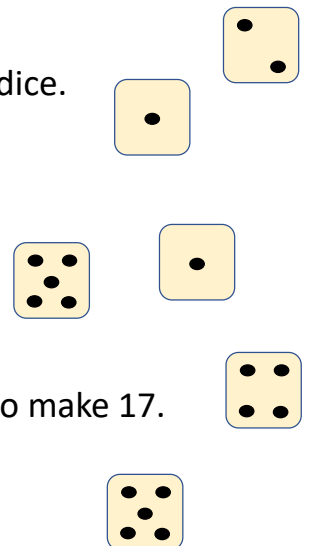
I'm going to use one of the 1s to make 50.

I've two 5s so I'm going to double 5 to make 10.

I'll add 4, 2 and 1 together to make 7 and add this to 10 to make 17.

Finally, I'll add 50 and 17 together to make 67.

My final total is 67. Now you try can you beat my score?



Six dice mental strategies

Encourage the children to move the dice as they add the totals together.

Encourage the children to group the dice

- doubles (5 + 5)
- near doubles (5 + 6)
- multiples and
- pairs that make 10.

Six dice

Adapt this activity by using...

- different dice 4, 6, 8, 10, 12 and 20 sided dice
- money related dice
- Roman numeral dice
- ten frame dice
- tens and ones place value dice (3 of each kind)
- hundreds, tens and one place value dice (2 of each kind)
- decimal dice (1 decimal place)
- decimal dice (2 decimal places)
- a mixture of 1 and 2 decimal place dice
- decimal dice (3 decimal places)
- a mixture of 1, 2 and 3 decimal place dice.