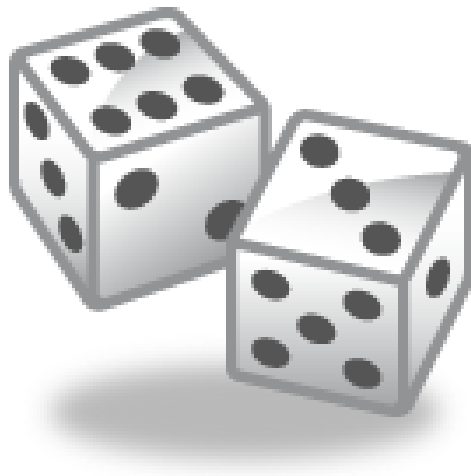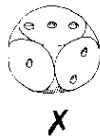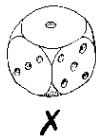# Dice Activities

Activities and games

Who's got the most? (YR–11, 12)

Two or three players each need a die.

All throw your dice at the same time.

✓   ✗   ✗

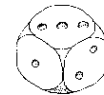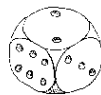The one with the highest number wins a point.

The first to 10 points is the winner.

Try the same game with the lowest number thrown gaining the point ... or the number closest to 3 ... or the highest even number.

Differences and doubles (Y1–30)

Two players take turns to throw two dice.

Score a point for two numbers with a difference of 1 and two points for every double thrown.

3 – 2 = 1   (one point)
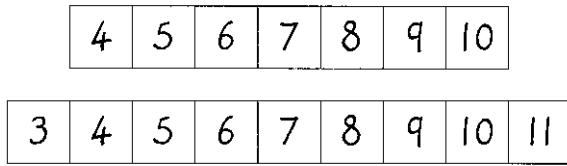
The first player to reach 10 is the winner.

Which other differences could you get when you throw the two dice?

What is the highest difference you could get?

Adding numbers (Y1–30)

Play this game with a friend.

You need two six-sided dice and one of these number tracks to share between you. The first one is easier!

4	5	6	7	8	9	10

| 3	4	5	6	7	8	9	10	11

Take turns to throw the dice and add the numbers thrown. Cross out the total on the track if it's showing.

The winner is the player who crosses out the last number showing.

Number frustration (YR–2)

Play this game with a friend or two. You all need to write the numbers 1 to 6 on a piece of paper.

Take turns to throw a six-sided die. The first player to throw a 1 can cross it off their list.
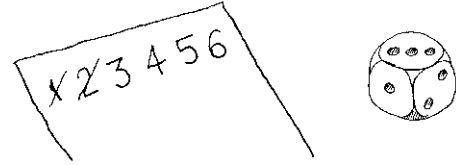
Keep throwing the die trying to throw the next number on the list to cross it out. The winner is the first player to cross off all their numbers, but they must be thrown in order.

You could try the game crossing off the largest number first, or use a die with more numbers.

Number sentences (Y2–27, 37, 39)

Three dice are needed for this game.

Each player needs to write down the numbers 1 to 10 on a piece of paper.

Take turns to throw the dice and use addition and/or subtraction and <u>all</u> the numbers thrown to make one of the numbers 1 to 10.

Cross the number made off your list, and write the number sentence next to it. The winner is the first player to cross off all their numbers.
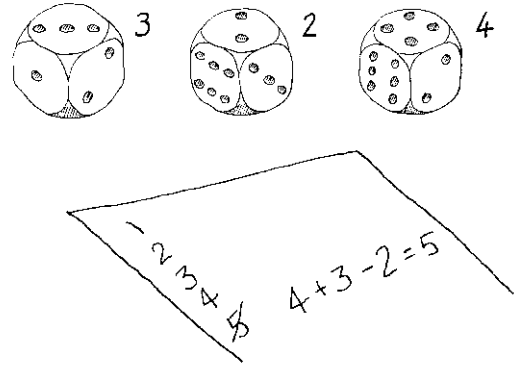
Addition grid (Y1–30)

You need a grid like this, a partner and coloured pencils.

7	5	6	8	11	5	6	8	7
3	10	2	5	4	10	7	10	8
6	9	3	9	7	8	5	12	9
7	4	8	6	4	11	9	7	6

Take turns to throw two six-sided dice and add the numbers thrown.

Cross out the total on the grid, using a different colour for each player.

The winner is the first to cross out four numbers in a line, in any direction.

Dotty counting (YR–6)

You need a 10-sided die with numbers 0 to 9, a partner and a small sheet of square, dotted paper each.

Take turns to throw the die, count the same number of dots on your paper and draw a loop around them.
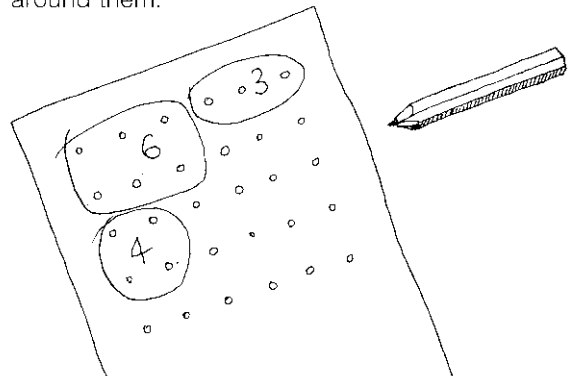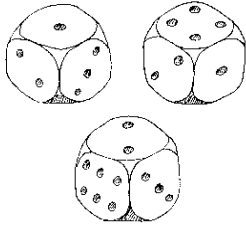

The winner is the first player to loop all the dots on their paper.

3-digit numbers (Y3–9, 15)

Play this game with a friend.

Both throw a die three times and make six different 3-digit numbers with the numbers thrown.

142
241
412
421 = 1 point
124
214

The player who can make the biggest (or smallest, or nearest to a target) 3-digit number wins a point.
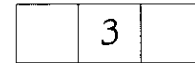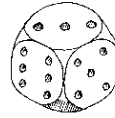
The winner is the first player to collect 5 points.

Place it well (Y3–9, 15)

You and a friend both need to draw these boxes on a piece of paper.

Throw a die and both players write the number thrown in any one of their boxes. Once it has been written, it cannot be changed.
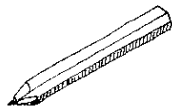
3

The die is thrown again and the number written in any one of the empty boxes. The third number thrown is written in the last box.

The winner is the player with the largest (or smallest, or nearest to a target) number.

Fair throws? (Y4–114)

Throw a six-sided die 30 times and keep a tally of the numbers thrown.

1   III
2   II
3   IIIII I
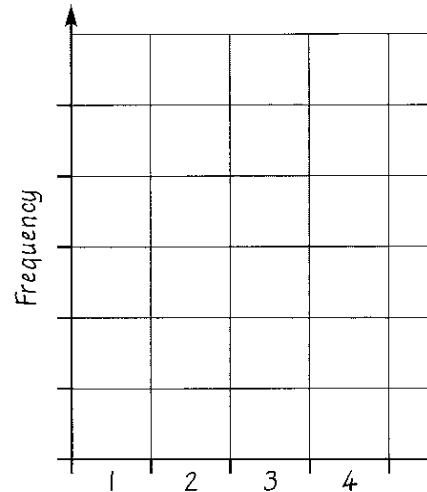4   III
5   IIIII II
6   IIIII

Draw a block graph to show how often each number was thrown.

Which number came up most often?

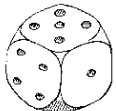Compare your results with those of a friend. Are there any differences?

This activity is good fun with a loaded die (a die that is not 'fair') – if you have one!

Frequency

1   2   3   4

Differences (Y3–31)

Take turns to throw a die and subtract the number thrown from 10 (or any other given number).

Your score is the difference between the number thrown and 10.

10 – 5 = 5

score   5

The first player to reach 50 is the winner.
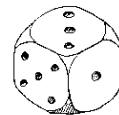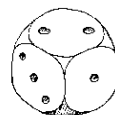
score   5   (5)

score   4   (5 + 4 = 9)

score   8   (9 + 8 = 17) ...

What's the difference? (Y3–33)

A game for two or three players.

Take turns to throw two six-sided dice together and make two 2-digit numbers.

Then find the difference between the 2-digit numbers you have made and 30.

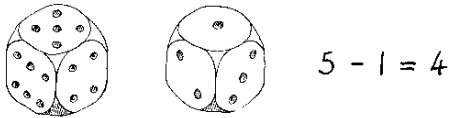32 – 30 = 2

or

30 – 23 = 7

You score the largest difference you can make. The first to score a total of 50 or more is the winner.

(When playing with a die with more than six faces, change 30 to a higher number.)

Differences graph (Y5–115, 117)

Throw two six-sided dice and find the difference between the numbers thrown.
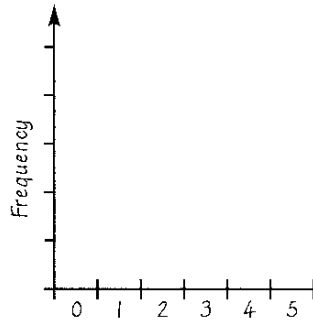

$5 - 1 = 4$

Do this 30 times and keep a tally of the differences.

Draw a graph to show how often each difference came up.

Which differences came up more often?
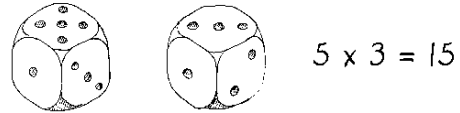
Can you explain why?

Approximate multiplication (Y5–59)

Play this game with a friend.

Both throw two dice and multiply the numbers you have thrown.

The player with the biggest product scores a point.

$5 \times 3 = 15$

The first player to collect 10 points is the winner.

(To make it more challenging, score the value of the product each time. Then the winner will need to be the first to reach 500. Or score the value of the differences of the products!)

Possibilities (Y6–113)

For this activity you need two six-sided dice of different colours, and pens of those two colours.

Write down all the different possible combinations that you could get if you threw the dice together.

3, 2   3, 4   5, 6

3, 3   4, 3   1, 6

What else?

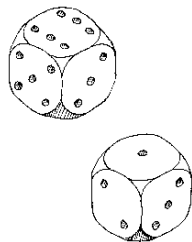What are the possible totals you would get if you added these different combinations?

Which total comes up most often? Throw the dice 30 times and see if this total comes up the most.

3, 2   total of 5

Likely or not? (Y6–113)

See how many times you need to throw a die to get...

- a number 6
- an even number
- a multiple of 3
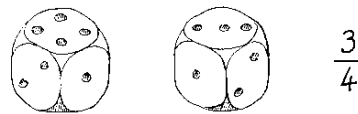- a number less than 3
- a number more than 2.

Why do some of these take longer than others?

Does it make any difference if you use a die with more faces?

Fractions number line (Y5–23)

Throw two six-sided dice and make a vulgar fraction with the numbers thrown.

$\dfrac{3}{4}$

Draw an empty number line from 0 to 1 and mark the place where your fraction should go.

$\dfrac{3}{4}$

0   1

Throw the dice again and make some more fractions to mark on your number line.