Place value games

Largest and smallest

Maths focus: To understand what each digit represents in three-digit numbers.

A game for six players.

What you need:
• Place value cards (CD-ROM).

Instructions

1 Shuffle a set of hundreds, tens and ones place value cards.
2 Place the three piles face down on the table.
3 Call out the names of six players: two of them take a card from the top of each pile. The six players quickly confer to make the largest and smallest numbers, showing the class the three-digit numbers.
4 The class checks that they have made the largest and smallest numbers with those place value cards. Repeat with another six learners.

Three counts

Maths focus: Counting on in ones, tens or hundreds from any number.

A game for the whole class.

Instructions

1 Split the class into three groups: the ones, the tens and the hundreds.
2 Call out a start number and point to one of the groups.
3 This group must count on from the start number according to their group. So if you start at 124 and point to the tens group, they should say, "134, 144, 154, 164, 174".
4 Point to the hundreds group so that they take over the count ("274, 374, 484..."). Vary by telling groups to count backwards.

Pair counting

Maths focus: Counting on in ones, tens or hundreds from any number.

A game for two players.

What you need:
• Small ball or bean bag.

Instructions

1 Put the players in pairs facing each other and give each pair a ball or bean bag.
2 Call out a start number, the step size (1, 10 or 100) and either 'forward' or 'back'.
3 Players say the next number as they throw the ball to and from each other.
4 Call out a stop number or change the count.

Three rings

Maths focus: To understand what each digit represents in three-digit numbers.

A game for two to four players.

What you need:
• Three hoops and seven bean bags.

Instructions
1 Place three hoops on the floor, one represents hundreds, one represents tens and one represents ones.
2 Give player's seven bean bags or stones to throw into the hoops.
3 How many different three-digit numbers can they make?

On the Line

Maths focus: Read numbers to 999, understanding what each digit represents by partitioning into hundreds, tens and units; place a three-digit number on a number line marked off in multiples of 10.

A game for two players.

What you need:
• The On the line board (p3).
• One or two dice (alternatively, a 1 to 9 spinner or a set of Hundreds and tens place value cards (CD-ROM)).
• Two different coloured pencils.
• Scissors.
• Adhesive tape.
Using scissors and adhesive tape, construct the On the line game board.

Instructions
1 Players take it in turn to roll the two dice (or roll the same dice twice) to create a three-digit multiple of 10.
2 The first number rolled is the hundreds, the second is the tens. So 4, then 6 would make 460. (Alternatively, players could spin the spinner twice or select one hundreds and one tens place value card from a jumbled set face down on the table.)
3 Players then mark their number on the number line in their chosen colour.
4 The winner is the first player to mark three numbers in a row on the number line, without a number from the other player in between.

For a more strategic game, a player can choose which of the two numbers they generate is the hundreds and which number is the tens.

For a more challenging game, use a number line marked in hundreds only. They could also generate three digits rather than two.

On the line

0   100   200   300   400   500

500   600   700   800   900   1000
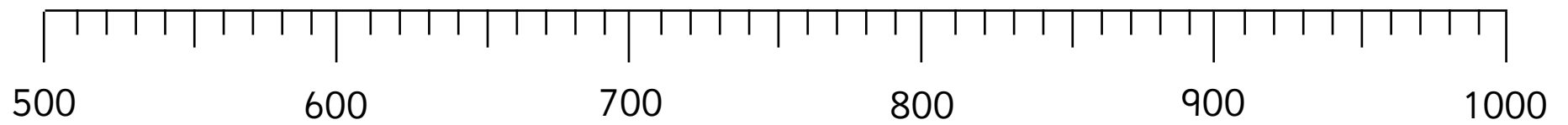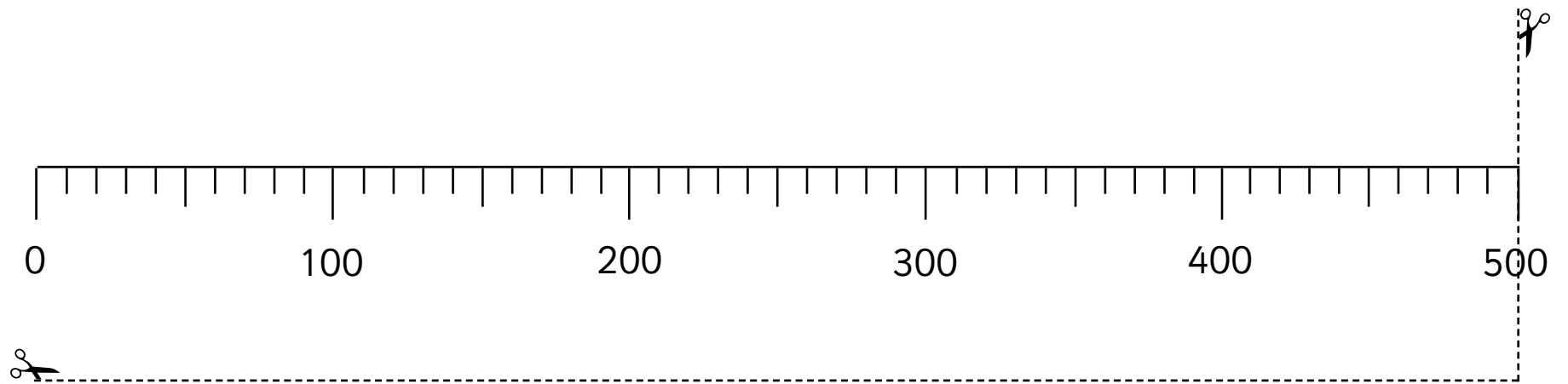
Addition game

Maths focus: Adding several small numbers and adding two-digit numbers, reordering as they choose, to assist the calculation.

A game for two players.

What you need:
- Game board 1 (p5) or Game board 2 (p6).
- A 1–10 spinner (CD-ROM).

Instructions

1 Each player takes it in turn to spin the spinner.

2 Players write the number generated in their grid twice (they can write the number in any square, but the squares must not be next to each other – in the same row or column or diagonal).

3 Once the grid is filled, each player adds each row and column, entering the totals in the right hand column and bottom row.

4 Players then add the totals in the final row and column to reach a final total. The player with the highest total is the winner.

Two versions of the game are provided, Game 1 has fewer squares to fill and consequently fewer additions to make.

Game 1 could have the first row and column blanked out so there are only three numbers to add.

Double and half pelmanism

Maths focus: By finding pairs of numbers which are the double and half of each other, learners recognise the relationship between doubling and halving.

A game for two players.

What you need:
- Double and half pelmanism cards (pp7–8).
- Thin card.
- Scissors.

Instructions

1 Shuffle the cards and lay them out face down in a 6 by 5 grid.

2 Players take it in turn to turn over any two cards.

3 If the cards show two numbers which are the double and half of each other (for example 2 and 4 or 25 and 50), the player keeps the cards. Cards which do not match are returned face down in the same position.

4 The winner is the player with the most cards when all pairs have been matched and collected.

Addition game 1

Player 1

Player 2

Addition game 2

Player 1

Player 2

2	5	9	13	16
3	6	10	14	17
4	7	11	15	18

25	22	19
32	30	26
38	35	34
50	45	40
90	80	70

Target dice

Maths focus: Adding and subtracting three or more small numbers to reach a target number.

A game for two players.

What you need:
- A set of 0–9 digit cards (CD-ROM).
- Three dice.
- Counters.

Instructions

1 Shuffle the cards and put them in a pile face down.
2 Players take it in turn to turn over the top card. This is the target number.
3 Players take it turns to roll the dice. At each roll of the dice, both players are looking for the target number. They can add or subtract the numbers on the dice but must use all three numbers.
4 The first player to call out the target number wins a counter. A player can make a challenge if they cannot see how the total was made. If their challenge is correct, they take a counter from the other player.
5 After a few turns, turn over the top card to get a new target number.
6 The winner is the first player to collect 10 counters.

For a more challenging game: use four or five dice. Alternatively, use different dice (for example 7 to 12) and a larger number of target cards.

The multiples game

Maths focus: Recognising multiples of 2, 3, 4 and 5 to 50.

A game for two or three players.

What you need:
- The multiples game board (p10).
- A 1–6 dice (CD-ROM).
- Counters in three different colours.
- 100 square (CD-ROM).

Instructions

1 Players take it in turns to roll the dice. If the dice shows 1 or 6, they miss a turn; if the dice shows 2, 3, 4 or 5 they must say a multiple of that number and place one of their counters on that number.
2 Players can challenge each other if they do not think the number named is a multiple of the number on the dice. If the challenger is correct, the player cannot put a counter on the number they claimed during that turn.
3 Players aim to make sticks (across) or towers (up or down) of four counters in a row (or column) on the board.

The winner is the player with the highest number of sticks and towers when all the multiples of 2, 3, 4 and 5 have been claimed.

For a more challenging game, use a 100 square as the board. The winner could be the first player to get five sticks (across) or towers (up or down) of four counters in a row (or column) on the board.

Alternatively, the players could agree a target number of sticks and towers or change the length of the sticks and towers.

The multiples game

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50