

Domino digits

Children find which numbers on a 1-100 grid they can make using dominoes – each domino can only be used once.

Skills practised:

- Making and saying 2-digit numbers
- Finding 2-digit numbers on a 1-100 grid

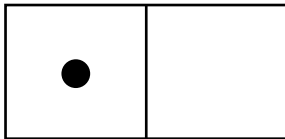
Conjecture: *All dominoes can be used to make 2-digit numbers. (This conjecture is wrong, but the children might enjoy proving it to be so!)*

What to do:

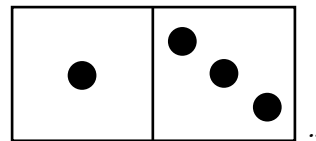
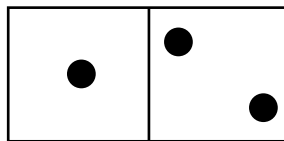
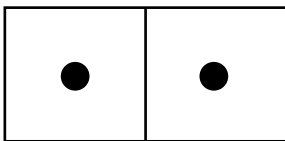
Children work in pairs.

Each pair need a 1-100 grid and a complete set of dominoes.

1. Ask children to look at the top row of the 1-100 grid. *How many numbers with two digits are there?* Just one – 10! Show children how to make this number with a domino.



2. Point out that all the numbers in the other rows on the 1-100 grid are 2-digit numbers apart from the very last number on the last row, 100.
3. Ask children to use dominoes to make as many 2-digit numbers in the second row as they can.



4. How many numbers can they make?
5. Ask children to use dominoes to make as many numbers on the next row, beginning with 21 as they can BUT they can't reuse any dominoes they have used before. How many numbers can they make?
6. Repeat for the next row beginning with 31. How many numbers can they make?

Can children predict how many numbers they will be able to make in the row beginning with 41? 51? 61? Can they see a pattern?

Which numbers can't be made? Why?

Which domino wasn't used?

CHALLENGE: If children use two sets of dominoes, how many numbers on the 1-100 grid can they make?

Aims:

- To spot and use patterns
- To begin to make and test predictions

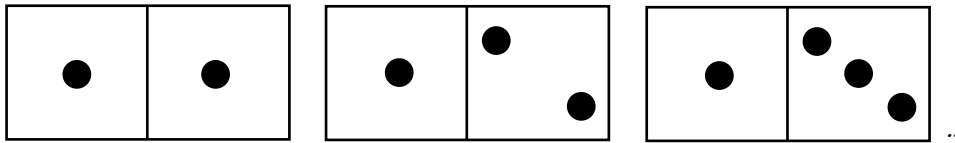
Minimum number of calculations expected

N/A

Domino digits

You will need a set of dominoes.
Play with a partner.

1. Look at the top row of the 1-100 grid.
How many numbers with two digits are there?
Make this number with a domino.
2. Use the dominoes to make as many 2-digit numbers in the second row as you can.



3. How many numbers can you make?
4. Use the dominoes to make as many numbers on the next row, beginning with 21 as you can BUT you can't reuse any dominoes you have used before.
How many numbers can you make?
5. Repeat for the next row beginning with 31.
How many numbers can you make?

Can you predict how many numbers you will be able to make in the row beginning with 41? 51? 61? Can you see a pattern?
Which numbers can't be made? Why?
Which domino wasn't used?

Challenge

Using two sets of dominoes, how many numbers on the 1-100 grid can you make?

Domino digits

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100