IDEA 1

100 SQUARE 1

A 100 square provides a rich environment for students to explore the number system and properties of numbers. While it is important for students to learn the value of flexibility, of seeing numbers emerge in different contexts and different formats, one useful format is to start with one at the bottom left hand corner and 100 at the top right-hand corner as in the diagram below. This is because the arrangement below is more consistent with graphs and vectors in the sense that moving to the right and up is a positive shift and moving to the left and down is a negative shift.

91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

The first idea is to show the 100 square on a screen for approximately 10 seconds, turn the image off, then ask students to work out how many times the digit 1 appears in total. The intention here is for students to construct a mental picture of the 100 square and engage

with the task above without having a copy in front of them.

For the following questions students may benefit by having a copy of the 100 square.

- What does the first row of numbers add up to?
- What do all the numbers in the second row total to?
- What do all the numbers in the first three rows total to?
- What do all the numbers in the first column total to?
- What do all the numbers in the fourth column total to?
- What do all the numbers in the diagonal from 1 to 100 total to?
- What do all the numbers in the diagonal from 10 to 91 total to?
- What do all the numbers in the whole 100 square total to?