

▲ POINTS OF DEPARTURE: THE HUNDREDS BOARD

Some mathematicians have stated that one of the best gifts you can give to a student is a hundreds board. There are hundreds of different patterns that can be detected on the hundreds board.

Here are some of the questions that can be posed.

Notice that there are different configurations for the hundreds board. One can arrange the numbers on a 10 by 10 grid to show different arrangements. See the hundreds board/charts along the side.

Points of Departure

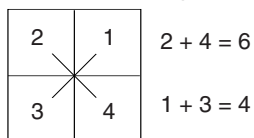
1. Complete each of the following hundreds charts.
2. Circle the even numbers on each chart. Discuss the patterns formed.
3. Circle all the numbers that sum to 5 [for example 23, 32,41,etc] red, to 6 [for example 24, 33, 42, etc.] blue, 7 [for example 25, 34, 43, etc]green.

What do you notice?

What if...?

4. Sum the diagonal numbers in each configuration.

Example, arrangement 2



What do you notice?

5. Circle all the triangular numbers [1, 3, 6, 10, 15 ...] in each configuration. Discuss the patterns formed.
6. Circle the numbers that are the factors of 4 red, 9 blue, 25 green, 49 yellow on one of the hundreds chart.

What do you notice?

4, 9, 25 and 49 are perfect squares. How many factors do they have?

6. Circle the prime numbers on arrangement 2.

What do you observe?

To see what some mathematicians discovered, see Ivars Peterson's article. [Prime Spirals, May 6,2002, Ivars Peterson's *MathTrek*, MAA Online www.maa.org/mathland/matrek]

8. Send us some of your favourite "Hundreds Board" questions.

Investigating Hundreds Boards

Arrangement 1

1	2	3	4	5	6	7	8	9	10
								12	11

Arrangement 2

Arrangement 3

1	3	6	10						
2	5	9							
4	8								
7	12								
11									

Arrangement 4

1	2	3	4	5	6	7	8	9	10
									11
									12
									13
									14