

# The Case of the Periodic People

## **Purpose**

To discover patterns from various kinds of information in order to arrange items or elements into a meaningful sequence, similar to the process by which early versions of the Periodic Table of Elements were constructed.

## **Periodic People**

You have been chosen for this top secret mission. Your mission, should you choose to accept it, is to work with the “sketches” of the suspicious characters on the secret agent list. They are part of a family of secret agents, but the most deadly of all has never been sketched. Your job is to arrange the sketches in a pattern so that you can draw the missing secret agent.

## Hint!

Here is a helpful hint to assist your solving this: Let's say that you are given the numbers from 0 to 99 written on little squares of paper. You can arrange these numbers in order so that each number is greater than the previous number by placing them all one by one in order from lowest to highest. Once they are in one long row of 100 squares, you can now, **WITHOUT CHANGING THE ORDER**, organize the sequence of 100 numbers into columns and rows so that there are similarities in columns as well as rows. You must still keep the numerical sequence so that each number is greater than the previous number. Like this:

0	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

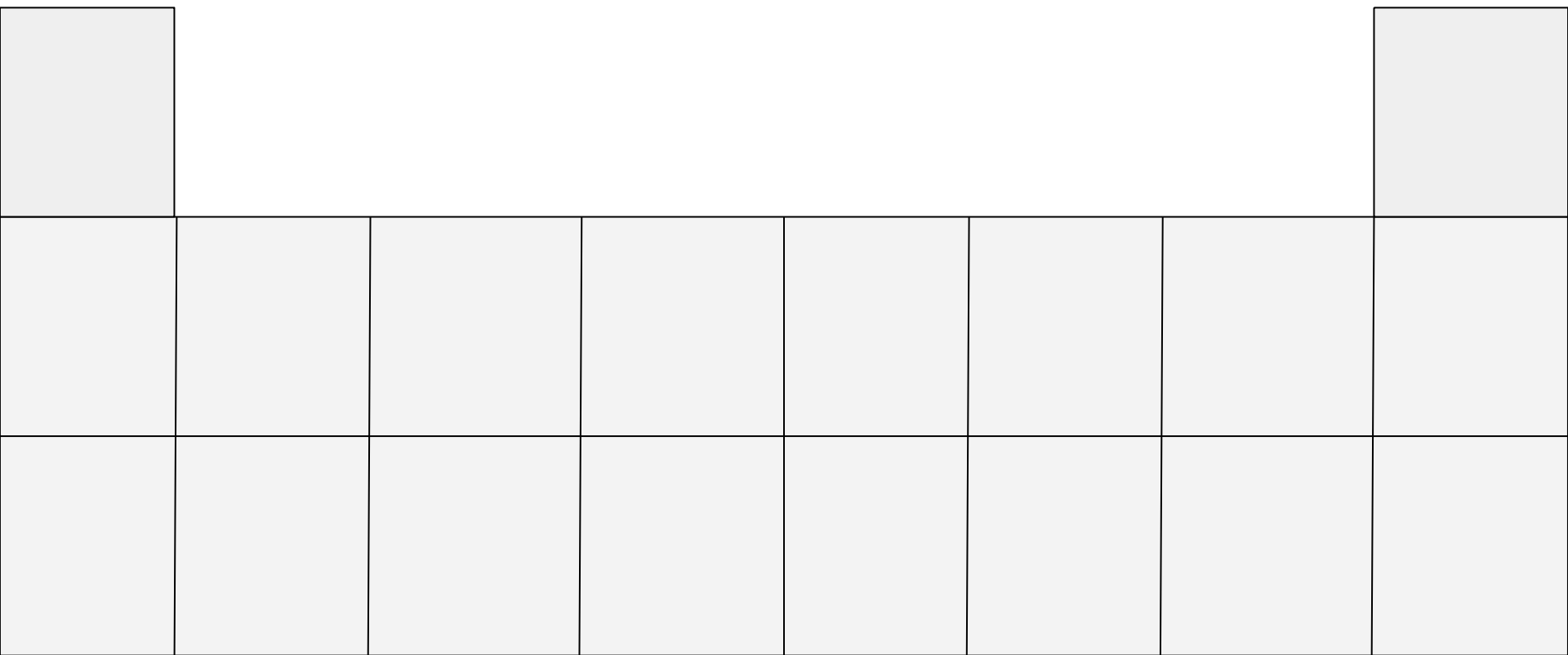
Notice that each number is one greater than the last. Also, now there is organization in columns as well because all the numbers in a column end in the same digit and begin with digits in consecutive order. And, finally, all the numbers in a row begin with the same digit. It might be useful to point out here that “columns” are vertical lists of numbers, and “rows” are horizontal strings of numbers.

**Use this same idea with the sketches of the suspicious characters.**

**First arrange them in one single line so that each little man is different from every other by a particular characteristic. Arrange the people from the side of the slide below:**

Once you have that arrangement, you will 'chop' the sequence (as done with the numbers) so that you have commonalities in columns as well as rows. Remember to keep the original arrangement as you do this! Unlike the numbers, not all the columns and rows need to have the same number of squares. *HINT: use the pattern of the actual Periodic Table on the next slide.*

Once you have the correct arrangement, you should have one blank space where the missing secret agent fits. Using the characteristics of his column and row, you should be able to draw him.



## Results and Reflection:

← Draw the missing secret agent in the box to the left using shapes, lines, and the scribble tool (under the line tool). Then, answer the questions below:

1. List ALL of the relationships you see as you look down a column of your secret agent table.
1. List ALL of the relationships you see as you look across a row of your secret agent table.
1. What do you think the word periodicity means?
1. How do you think this activity relates to the organization of the periodic table of elements?