71	72	73	74	75	76	77	100
61	62	63	64	65	66	67	70
51	52	53	54	55	56	57	60
41	42	43	44	45	46	47	50
31	32	33	34	35	36	37	40
21	22	23	24	25	26	27	30
11	12	13	14	15	16	17	20
1	2	3	4	5	6	7	10

OCTAL PRIME FACTORIZATION CHART, created by Sondra Eklund, sonderbooks.com

INSTRUCTIONS:

This is another prime factorization chart, with sections for each factor of each number, but this time the numbers are arranged in rows of 8, which makes the patterns change.

The numbers have been listed in base 8, which is called Octal.

In Octal, you only use 8 digits, from 0 to 7. After 7, you use the next place over, so after 7 comes 10.

You have a ones digit, then an eights digit, then a sixty-fours digit. You can see how to count in octal in the chart.

Color this chart with the same colors as you did the 10x10 prime factorization chart, and you'll have a handy way to translate between the two.

Skip 1, since it is neither prime nor composite.

Then choose a color for 2. Color one section of every second number with this color.

Choose a color for 3. Color one section of every third number with this color.

4 = 2 x 2, so you'll need a second section colored in with the color for 2. Color every fourth number with a second section for 2.

Choose a new color for 5. Color every fifth number with this. By now you'll see that different colors line up in the Octal chart. (Why do you think that is?)

6 will already be filled in.

Choose a new color for 7 and color every seventh number. (The next one will be 16. Count 7 more, and the next number will be 25….) What do you notice about these?

Continue filling in the chart this way. You'll get a feel for how the patterns change for Octal.