MathFLIX CHALLENGE

Prime & Composite Numbers: Sieve of Eratosthenes

A prime number has only two factors: itself and 1. You can find prime numbers by using the Sieve of Eratosthenes. The first number with only 2 factors is 2. Circle it. Now count by 2, crossing off every number you see. (These numbers, in addition to themselves and 1, also have 2 as a factor. These are called *composite* numbers because they have *more* than 2 factors). When you have put all these numbers "through the sieve," begin at the top and circle the next unmarked number. This will be a prime number. Now, counting by this number, cross off every number you see. Repeat this process until all 100 numbers are either circled or crossed off. You should find 25 primes.

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

Organize the numbers from the Sieve of Eratosthenes in the correct columns

1 Factor	2 Factors (Prime)	2+ Factors (Composite)

On the reverse side of this paper, create a "sieve" that is only six columns (see below). Proceed as above, finding all the prime and composite numbers. Are they the same? In which columns can you find prime numbers? Why?

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18