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The “Sieve of Eratosthenes”

The Sieve of Eratosthenes is a technique to find all the prime numbers below a certain value. For example, below 40

These are the steps we follow:

We **highlight** number 2. Then we “cross off” (pale on the table) all the multiples of 2.

	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	

We take the next number that is not crossed, number 3, and we **highlight** number 3. Then we “cross off” (pale on the table) all the multiples of 3.

	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	

We take the next number that is not crossed, number 5, and we **highlight** number 5. Then we “cross off” (pale on the table) all the multiples of 5.

	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	

We continue until all the numbers in the table are crossed or **highlighted**. The **highlighted** numbers are the **prime numbers**.

We can do the Sieve of Eratosthenes for any maximum value that we want.

Activity 11

Do the Sieve of Eratosthenes for all the prime numbers below 100