



# Did You Know?

Prime numbers have fascinated mathematicians for over 2,000 years. Eratosthenes (air-uh-taws-thuh-nee-z) was an ancient Greek mathematician who wrote steps to find prime numbers. This process is called the **Sieve of Eratosthenes**. For a long time, prime numbers had little use. They were just interesting for people to explore. Today, prime numbers serve many practical purposes. For example, without them we would not have secure banking or communication on the internet. Eratosthenes was also the first person to make an accurate calculation of the size of the earth.

Look at this chart.

Circle the number 2. Draw a \ through all the multiples of 2.  
What do you notice?

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Circle the number 3. Draw a / through all the multiples of 3.  
What do you notice?

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Find the multiples of 6. What do you notice?

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Circle the number 5. Cross out all the multiples of 5.  
Circle the number 7. Cross out all the multiples of 7.  
Choose three numbers that have not been crossed out.  
What are their factors?

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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	101	102
103	104	105	106	107	108
109	110	111	112	113	114
115	116	117	118	119	120

# Things to Ponder

The remaining numbers that have not been crossed off are *prime numbers*.

**A prime number** is any whole number greater than zero that has exactly two unique factors – itself and one.



Do prime numbers go on forever?\*

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Is there a pattern to them?\*

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Why is it that the higher up you go, the farther apart the prime numbers are?\*

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\* Heiligman, D. (2013). *The Boy Who Loved Math: The Improbable Life of Paul Erdos*. New York, NY: Roaring Brook Press

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