The Sieve of Eratosthenes

Use a hundreds board to complete the following:

1) Cross out the number 1, because it is not a prime number.

2) Circle the number 2 with yellow, because it is the smallest prime number. Cross out every multiple of 2 with yellow. How do you know which numbers to cross out? Write an algebraic expression for the numbers you crossed out with yellow.

3) Circle the number 3 with blue. This is the next prime number. Now, cross out every multiple of 3 with blue. What do you notice about the number 6? What do you think it means when a number is crossed out with two colors – in this case yellow and blue?

4) Circle the next open number, 5 with red. Cross out all multiples of 5 with red. Write an algebraic expression for the numbers you crossed out in red.

5) Circle the next open number with orange. Cross out all multiples of 7 with orange.

6) Continue doing this until all the numbers through 100 have either been circled or crossed out.

7) Which numbers are circled? What do you notice about these numbers?

8) Write a short paragraph about your findings and conclusions.