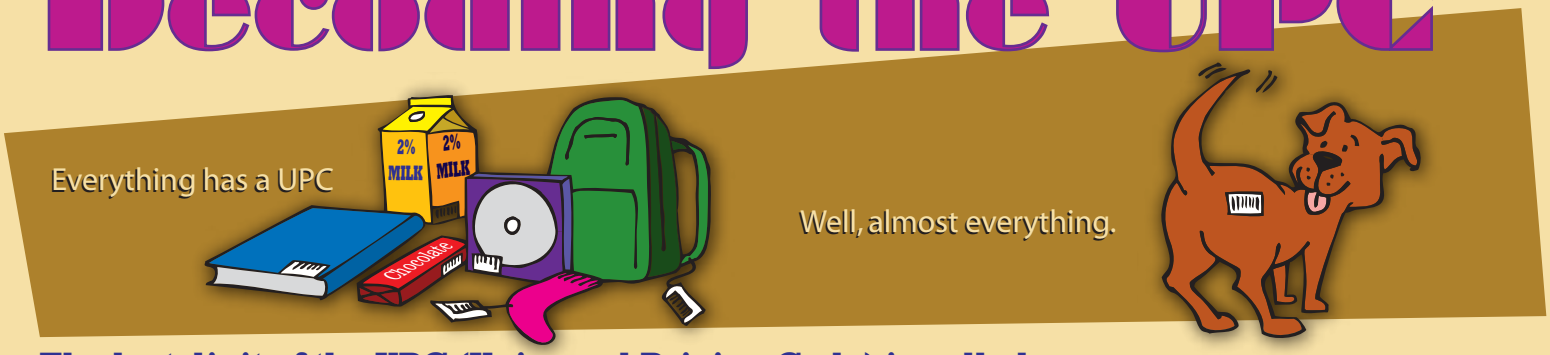
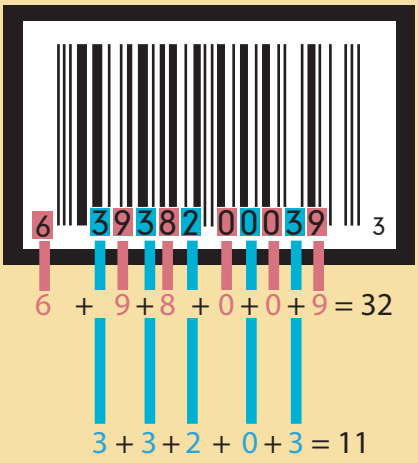
Decoding the UPC



The last digit of the UPC (Universal Pricing Code) is called a check digit. On this UPC it is the small number 3. This digit lets the scanner determine if it scanned the number correctly or not. Here is how the check digit is calculated for the other 11 digits, using the code 63938200039.



1. Add the value of all of the digits in odd positions (positions 1, 3, 5, 7, 9 and 11).
   6 + 9 + 8 + 0 + 0 + 9 = 32
2. Multiply the sum above by 3.
   32 x 3 = 96
3. Add the value of all of the digits in even positions (positions 2, 4, 6, 8 and 10).
   3 + 3 + 2 + 0 + 3 = 11
4. Add this sum to the answer in step 2.
   96 + 11 = 107
5. Look at the answer to step 4. The check digit must be a digit that when added to that number (total from step 4) makes it a multiple of 10.
   The check digit is 3 because 107 + 3 = 110

A. Using the UPC below, follow the five steps outlined above to see if 4 is the correct check digit. (***Remember a digit is a number between 0 and 9***)

1.
2.
3.
4.
5.

B. Here is a challenge for you. Can you determine the correct check digit for the UPC label below by using the steps already given? (***Remember a digit is a number between 0 and 9***.)

1.
2.
3.
4.
5.

5-7 Benchmark Use and analyze the steps in non –standard algorithms for computing, decimals, fractions and integers.

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