

## Fourth Grade

### Partial Product Multiplication

#### MACCSS Standards to be addressed

4.NBT.4.5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

#### Rationale:

The Partial Product method of multiplication is based on the distributive (or grouping) property of multiplication. In this method, each factor is thought of as the sum of the ones place, tens place, hundreds place, etc.

- Students pay attention to the value of the number while working through the problem. An eight in the tens place is seen as "80" not "8".
- There is no carrying in the multiplication phase which decreases the chances for calculation error.
- All multiplication is carried out first, and then the "parts" (partial products) are added. There is no need for switching between operations, as you do with in the traditional method.