Multiplication

Unit 2

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Unit 2 Notes**

Numbers called factors are multiplied or added repeatedly to get an answer called a product.

**Factors**- numbers multiplied together to find a product

**Product**- the answer to a multiplication problem

5 X 8 = 40

factor X factor = product

**Array-** an arrangement of items in columns and rows

X X X X X X O O O O 2 X 4 or

X X X X X X O O O O 2 groups of 4

X X X X X X

3 X 6 or

3 groups of 6

**Area**- the amount of surface covered by a figure measured in square units (sq. units)

**Properties of Multiplication**

**Commutative Property** –Changing the order of the factors does not change the product.

6 X 4=24 4 X 6=24

**Associative Property**- grouping the factors in different ways does not change the product.

(3 X 5) X 2 = 30 3 X (5 X 2) = 30

**Distributive Property**- you can multiply each addend by the same number, then add.

3 X 18 = (3 X 10) and (3 X 8) *remember 18 is 10 + 8*

 **4 X 15** *15 can be expanded to 10 + 5*

(4 X 10) + (4 X 5)

 partial product + partial product

\*\*\***Parentheses** - ( ) mean “solve me first”.

**Partial product**- a number that is one part of the final product (answer).

**Rounding**

Sometimes we round numbers to make them easier to work with if we do not need our answer to be an exact amount.

**Rounding** is one way to estimate, but not the only way.

If the digit before the place value being rounded to is the digit 0-4 we leave the rounded place value the same. All place values to the right become zeros. All place values to the left stay the same.

If the digit before the place value being rounded to is the digit 5-9 we increase the rounded place value by one. All place values to the right become zeros. All place values to the left stay the same.

 \*\*\*If you are asked to **estimate a**

 **product** (multiplication answer), round to the largest place value.

Underline,

 look behind,

4 or less let it rest,

5 or more up the score.

Area model for multiplication- a multiplication model that shows each place-value product within a rectangle drawing 9 X 28 = 252

 20 8

9 180 72

180 + 72 = 252

 25 X 32 = 800

 30 2

20 600 40

5 150 10

 600 + 150 + 40 + 10 = 800

Skip counting tunes:

3- Mary Had A Little Lamb

4- Row, Row, Row Your Boat

6- Old Mc Donald

7- Happy Birthday

8- Frosty the Snowman

9- You Are My Sunshine