

ORDER OF OPERATIONS

| | | | | | | |
|---|----|----|----|----|----|----|
| E | CA | AC | EA | AA | AM | AP |
|---|----|----|----|----|----|----|

I am learning to calculate using the conventional order of operations.

PRIOR KNOWLEDGE REQUIRED:

1) To be successful at this activity I must be quick and accurate at all my basic facts. Time how quickly you can answer these.

| Question | Answer | Question | Answer |
|-------------------|-------------------|-------------------|-------------------|
| a) $4 \times 6 =$ | f) $16 - 9 =$ | k) $3 + 4 =$ | p) $13 - 7 =$ |
| b) $3 \times 4 =$ | g) $25 \div 5 =$ | l) $6 \times 7 =$ | q) $8 \times 4 =$ |
| c) $54 \div 9 =$ | h) $13 - 5 =$ | m) $66 \div 11 =$ | r) $16 - 9 =$ |
| d) $8 + 4 =$ | i) $8 \times 9 =$ | n) $3 \times 6 =$ | s) $9 \times 0 =$ |
| e) $7 + 9 =$ | j) $64 \div 8 =$ | o) $12 + 7 =$ | t) $15 - 13 =$ |

NEW STRATEGY USING NUMBER PROPERTIES:

Tim buys 3 tennis balls for \$2 each and 2 cricket balls for \$5 each. He wants to work out how much he spent so writes down this equation.

$3 \times \$2 + 2 \times \$5 =$ If Tim worked through this equation from left to right he would get \$40 as an answer which is wrong. Tim must do the two multiplications first then add these answers together. The rule is **DO MULTIPLICATION AND DIVISION BEFORE ADDITION AND SUBTRACTION**. If there is more than one multiplication and division do them in order from left to right. The same applies for addition and subtraction.

2) Complete the table.

| Question | Answer | Question | Answer |
|-----------------------|--------|--------------------------------|--------|
| a) $2 + 3 \times 4 =$ | 14 | f) $3 \times 2 + 4 \times 4 =$ | |
| b) $5 + 4 \times 2 =$ | | g) $5 \times 3 + 9 \times 2 =$ | |
| c) $6 + 3 \times 3 =$ | | h) $12 \div 3 + 2 =$ | |
| d) $4 \times 3 + 9 =$ | | i) $3 + 25 \div 5 =$ | |
| e) $5 \times 8 + 2 =$ | | j) $30 \div 3 + 4 \times 2 =$ | |

On Monday Sally buys 4 chocolate bars for \$2. On Tuesday she buys 3 chocolate bars still at \$2. She writes out an equation to work out how much she has spent.

$4 + 3 \times \$2 =$. Because Sally knows she must do multiplication before addition she gets 10 as her answer. This is wrong because in this case to work out how much she spent she must add the amount of chocolate bars together before multiplying by the price. To do this she must add brackets so it now looks like:

$(4 + 3) \times \$2 =$. The rule is **DO WHAT EVER IS INSIDE THE BRACKETS BEFORE DOING WHAT IS OUTSIDE THE BRACKETS**.

3) Complete the table

| Question | Answer | Question | Answer |
|--------------------------|--------|-----------------------------|--------|
| a) $9 \times (6 + 2) =$ | | d) $(8 + 3) \times 4 =$ | |
| b) $(4 + 4) \div 2 =$ | | e) $4 \times (2 + 5) =$ | |
| c) $(7 + 3) \times 10 =$ | | f) $6 \times (21 \div 3) =$ | |

4) Write the equation for the problem below and answer.

Steve bought 2 sandwiches on Monday, 3 on Tuesday and 2 on Wednesday. The sandwiches cost \$4 each. How much did he pay?

