**MATHS INSTRUCTIONS WEEK 1 and 2**

**TOPIC: MULTIPLICATION (calculation skills)**

 **MULTIPLICATION (problem-solving and reasoning)**

**\*\*\*\*Please check which group you are in as the level of work will be more comfortable for you and will challenge you at the right pace:**

**L.O: By the end of this week I (you) will be able to independently use these skills to solve problems in ‘real’ context, and use reasoning skills to explain development of ideas.**

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**ORANGE Group**

**RED Group**

**BLUE Group**

**Move on to ORANGE Move on to decimals x 0.6 ASAP Do Orange Group onwards…**

**when confident then try the first 3 RED Group q’s Move on to x 0.06 decimals**

**All groups attempt the challenges listed prior to Red Group work\***

**Day 1, 2**

**MAIN ACTIVITY:**

1. **Partition simple multiplication sentences: 16 x 5 …. 16 x 0.05 :**

**Complete the questions below:**

**16 x 5 = …….**

**10 x 5 = 50 +**

 **6 x 5 = 30**

**so 50**

 **+30**

 **80**

**-------------------------------------**

**13 x 4 = …….**

**10 x 4 = 40 +**

 **3 x 4 = 12**

**so 40**

 **+ 12**

 **52**

1. **Practise above method with:**

 **13 x 4 16 x 5 18 x 6 14 x 11 17 x 4**

 **16 x 6 19 x 8 13 x 7 17 x 7 15 x 8**

 **24 x 5 26 x 8 24 x 9 28 x 4 26 x 6**

 **130 x 5 142 x 6 187 x 8 166 x 9 238 x 7**

**Check answers TWICE and then with a calculator. If you are getting some wrong you may need to practise your x by TEN skills and/or your certain times tables skills.**

**RED Group**

**16 x 0.5 = …….**

 **10 x 0.5 = 5.0 +**

 **6 x 0.5 = 3.0**

**so 5.0**

 **+ 3.0**

 **8.0**

**16 x 0.05 = …..**

**10 x 0.05 = 0.5 +**

 **6 x 0.05 = 0.3**

**so 0.5**

 **+ 0.3**

 **0.8**

**If you are confident with integers questions at the start – then move in to the decimals below:**

**ORANGE Group**

 **18 x 0.4 17 x 0.5 16 x 0.7**

 **16 x 0.6 14 x 0.9 15 x 0.8**

 **24 x 0.5 23 x 0.6 27 x 0.6**

 **32 x 0.7 33 x 0.8 45 x 0.9**

 **137 x 0.6 169 x 0.9 205 x 11**

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 **15 x 0.04 17 x 0.05 18 x 0.07**

**RED Group**

 **14 x 0.06 16 x 0.09 15 x 0.08**

 **24 x 0.05 23 x 0.06 27 x 0.06**

 **37 x 0.09 46 x 0.08 56 x 0.12**

 **47 x 0.12 105 x 0.07 248 x 0.12**

 **1356 x 0.6 1540 x 0.5 8706 x 0.07**

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**Day 3**

**MAIN ACTIVITY:**

1. **Complete ESTIMATING SKILLS to check your answers – USE THE INTEGER QUESTIONS ABOVE i.e: 13 x 9 189 x 8**

**ORANGE Group**

**RED Group**

**BLUE Group**

**\*13 x 9 = try \*13 x 9 = try Try method below..**

**12 x 10 = 120 10 x 9 = 90 + 3 x9**

 **90m + 30 = 120**

 **Move on to the RED**

 **Group method asap.**

**RED Group**

**13 x 9 = in 3 seconds estimate that 13 x 10 (as the 9 can be rounded to 10..you can also carefully adjust to taking roughly 10 away from the answer as you round UP to ‘10’!) = Roughly 120 check your final answer is it near to this amount? If it is 160…then you will need to re-calculate.**

**Check estimation for 13 x 0.9 Round 0.9 to 1.0 (1 whole) so 13 x 1.0 = 13.0 (also take …amount off the answer to adjust\*) If you got an answer around 12.0 this would be good.**

**EXTENSION: how close to your estimate did you get? Can you become so good at this that you are only up to 5 ones away from the actual answer (or 0.5 away\*)**

**Estimating is a real skill and will help to check your workings are going well. A skill you can use forever\*\***

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**Day 4 & 5**

**MAIN ACTIVITY: Visualise multiples of decimals**

**RED Group**

**ORANGE Group**

**BLUE Group**

1. **Visualise decimals when you multiply them:**

**Watch the video to see how you SHOW and CALCULATE 0.17 x 4 OR 4 x 0.17**

<https://www.youtube.com/watch?v=RFWMbIHBqL0>



**The video will introduce 0.17 x 4 within a real–life problem. Please just note how many hundredths squares the person is colouring in.**

**Remember: 0.17 is: 0 Tens and 1 tenth and 7 hundredths**

**OR RED GROUP: 0 Tens and 10 hundredths + 7 hundredths**

**Replay the video and work through the questions and answers with the teacher using the STEP 2 HUNDRED Grid sheets.**

**Continue to complete the following questions on the hundred square grid sheets.**

**0.13 x 4 0.13 x 8 0.15 x 4 0.15 x 6**

**0.17 x 6 0.16 x 3 0.18 x 6 0.19 x 5**

**0.23 x 3 0.25 x 4 0.26 x 7 0.34 x 12**

**\*\*\*\* USE AS MANY HUNDREDTHS GRIDS AS YOU NEED – Remember each of them represent ONE WHOLE\*\*\*\*\*\*\***

**EXTENSION:**

**0.57 x 5 0.64 x 5 0.66 x 9 0.77 x 8**

**0.63 x 4 0.75 x 7 0.88 x 11 0.09 x 6**

**RED Group**

**1.38 x 4 1.75 x 8 1.99 x 6 0.07 x 7**

**2.64 x 6 2.84 x 7 3.07 x 5 0.05 x 9**

**6.03 x 9 8.00 x 8 0.50 x 3 0.06 x 11**

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**Day 5: Visualising decimal multiplication – using BAR MODELS:**

**Continue yesterday’s work using the hundredths grids. Then, move on to the activity below:**

**BAR MODELS:**

**Q1. What will the answer be if it was 5 x 0.2? = (1 whole) = 1.0**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **0.2** | **0.2** | **0.2** | **0.2** | **0.2** |

**1.0 = one whole**

**5 x 0.2 = 1.0**

**What will the answer be if 9 x 0.2?**

**Q2. 9 x 0.2 = 1.8 (one whole and 0.8)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **0.2** | **0.2** | **0.2** | **0.2** | **0.2** |

**1.0 = one whole**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **0.2** | **0.2** | **0.2** | **0.2** | **0.2** |

**8/10 or 0.8 of one whole**

**COMPLETE:**

**Q3. 8 x 0.2 = 1. ……. (one whole and ……………….)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **0.2** | **0.2** | **0.2** | **0.2** | **0.2** |

**1.0 = one whole**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **0.2** | **0.2** | **0.2** | **0.2** | **0.2** |

**Q4. 12 x 0.2 = 1. ……. (one whole and ……………….)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **0.2** | **0.2** | **0.2** | **0.2** | **0.2** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

**Q5. 16 x 0.2 = ………….. ( ………………………………..)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **0.2** | **0.2** | **0.2** | **0.2** | **0.2** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

**…what’s wrong here?**

**Q6. 23 x 0.2 = ………….. ( ………………………………..)**

**EXTENSION: Can you use prior knowledge to help 10 x 0.2 = 1.0**

**Can you write the answer quickly now?**

**Q6. 35 x 0.2 = ………….. ( ………………………………..)**

**Q7. 11 x 0.2 = ………….. ( ………………………………..)**

**Q6. 46 x 0.2 = ………….. ( ………………………………..)**

**EXTENSION:**

**Q7. What will the answer be if it was 5 x 0.02? =**

**5 x 0.02 = 0.1**

**Can you draw this knowing that the 2 is value 2 hundredths**

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**RED Group**

**RED group move on to decimal multiplication- visualised:**

**i.e: instead of 2 x 0.4 (2 x 4 tenths on a hundred grid) = 0.8**

**(8 tenths on a hundred grid)………..**

**…….we move on to 0.2 x 0.4 (1 D.P x 1 D.P decimals)**

**WATCH VIDEO:** <https://www.youtube.com/watch?v=HGRQL_Z6o7c>

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**Use STEP 2 HUNDRED Square sheet to complete video questions.**

**Continue to use the grids to answer 1 decimal place x 1 decimal place questions:**

**0.2 x 0.3**

**0.2 x 0.6**

**0.2 x 0.5**

**0.2 x 0.8 continued….**

**0.3 x 0.3**

**0.3 x 0.5**

**0.3 x 0.7**

**0.3 x 0.6**

**0.7 x 0.7**

**0.7 x 0.9**

**0.8 x 0.5**

**0.8 x 0.8**

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**WELL DONE EVERYONE\*\*\*\*\***

**NOTE: PLEASE E-MAIL YOUR BEST WORK FOR POINTS.**

**\*I will, at some point, be looking into awarding prizes for those children that have gained 10 points for super work.**