# Upottery Primary School
# Autumn [1st half] short-term plan for mathematics years 5 and 6

**Daily mental/oral during this half-term to be a selection from the following:**

**Year 5 and 6**
Read and write whole numbers up to 100,000
Round whole numbers to the nearest 10, 100 (and Y6 1,000)
Recall add/sub facts for each number up to 20
Recall x facts in x2, x3, x4, x5, x6, x10 tables

**Year 5**
Begin to recall x facts in x7, x8, x9 tables
Count on/back in equal steps (e.g. 25, 100) including beyond zero

**Year 5 and 6**
Use doubling and halving. Doubles of whole numbers to 100
Add/subtract 2 two-digit (and Y6 three-digit) numbers crossing the 10 and 100 boundaries
Derive addition pairs that total 100, multiples of 50 that total 1000 (and Y6, decimals that total 1, 10)
Multiply and divide whole numbers up to 10,000 by 100

**Year 6**
Recall x facts in x7, x8, x9 tables
Recall pairs of factors up to 100
Multiply mentally any two-digit number by single digit numbers
Order a set of positive and negative numbers, order fractions
Convert between km, m, cm, mm and vice versa
Know simple fractions as percentages and find simple percentages

| Topic | Year 5 Objectives | Pages | Year 6 Objectives | Pages |
|---|---|---|---|---|
| **Place value, ordering, rounding** | Read and write whole numbers in figures and in words and know what each digit represents | 3 | | |
| | Multiply and divide any positive whole number up to 10,000 by 10 or 100 and understand the effect. | 7 | Multiply and divide decimals by 10 or 100 and integers by 10,000 and explain the effect | 7 |
| | Use the vocabulary of comparing and ordering numbers. Give one or more numbers lying between two others. | 9 | | |
| **Using a calculator** | Develop calculator skills and use a calculator effectively. | 71 | Develop calculator skills and use a calculator effectively | 71 |
| **Activities and resources** | | | | |
| **Plenaries** | | | | |
| **Notes for next session of this topic** | | | | |

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|---|---|---|---|---|
| **Understanding x and division** | Understand the effect of and relationships between the four operations and the principles of the arithmetic laws as they apply to multiplication. | 53,55 | Understand the effect of and relationships between the four operations and the principles of the arithmetic laws. | 53,55 |
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|---|---|---|---|---|
| **Mental calculation strategies** | Use doubling or halving starting from known facts: double two-digit number, double first number, halve second to multiply, x25=x100 divide by 4, x16=x8 double, 1/6=half of 1/3 | 61 | Use doubling or halving starting from known facts: double two-digit number, double first number, halve second to multiply, x25=x100 divide by 4, x16=x8 double, 1/6=half of 1/3 | 61 |
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|---|---|---|---|---|
| Pencil and paper procedures | Approximate first. Use informal pencil and paper methods to support, record or explain x and division<br>Extend written methods to HTU x U or U.t x U | 67,69 | Approximate first. Use informal pencil and paper methods to support, record or explain x and division<br>Extend written methods to THTU x U and short multiplication involving decimals | 67,69 |
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| **Money and real life problems** | Use all four operations to solve problems in 'real life' | 83 | Use all four operations to solve problems in 'real life' | 83 |
| **Making decisions and checking results, including using a calculator** | Choose and use appropriate operation and calculation method<br><br>Check by estimating. Use inverse operation. | 75<br><br>73 | Choose and use appropriate operation and calculation method<br><br>Check by estimating. Use inverse operation. | 75<br><br>73 |
| **Activities and resources** | | | | |
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| Fractions, decimals and percentages | Use fraction notation including mixed numbers and vocabulary numerator and denominator.<br>Change an improper fraction to a mixed number.<br>Recognise two simple fractions are equivalent, including tenths and hundredths.<br>Use decimal notation for tenths and hundredths, know what each digit represents in number with up to 2 decimal places.<br>Begin to understand percentage as the number of parts in every hundred. | 23<br><br><br>29<br><br>33 | Change an improper fraction to a mixed number and vice versa.<br>Use decimal notation for tenths and hundredths in calculations and when recording measurements. Know what each digit represents. Give a decimal lying between two others e.g. 3.4 and 3.5<br>Understand percentage as the number of parts in every hundred. | 23<br><br>29<br><br>33 |
| Ratio and proportion | Solve simple problems involving ratio (1 for every) | 27 | Solve simple problems involving ratio and proportion | 27 |
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| **Handling data** | Discuss the chance or likelihood of events. | 113 | Use vocabulary associated with probability including events with equally likely outcomes. | 113 |
| | Find mode of a set of data | 117 | Find mode and range. Begin to find median and mean of a set of data. | 117 |
| **Using a calculator** | Use a calculator effectively | 71 | Use a calculator effectively | 71 |
| **Activities and resources** | | | | |
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| **Assess and review** | Consolidate objectives from this half term.<br><br>Formal assessment of key objectives for record sheet:<br>Know by heart all multiplication facts up to 100 | | Consolidate objectives from this half term<br><br>Formal assessment of key objectives for record sheet;<br>Know by heart all multiplication facts up to 100 | |
| **Activities and resources** | | | | |
| **Notes for next sessions of these topics based on assessment results.** | | | | |