**MATHEMATICS STAGE 3**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 21 | STRAND: Number and Algebra | **SUB-STRAND:** Fractions and Decimals | **WORKING MATHEMATICALLY:** MA3-1WM; MA3-2WM; MA3-3WM |
| OUTCOMES: MA3-7NA | Compares, orders and calculates with fractions, decimals and percentages |
| **CONTENT:**  | **Find a simple fraction of a quantity where the result is a whole number, with/out the use of digital technologies(ACMNA127)**\* calculate a simple fraction of a collection/quantity, with and without the use of digital technologies\* explain how unit fractions can be used in the calculation of simple fractions of collections/quantities\* solve word problems involving a fraction of a collection/quantity  |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * If I were given 2/3 of a packet of 24 lollies, how many would I be given?
* If I were given 3/4 of a packet of 12 lollies, how many would I be given?
* If I were given 2/6 of a packet of 12 lollies, how many would I be given?
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| WARM UP / DRILL | * Count by halves from 10 and 1/2
* Count by quarters from 8 and 3/4
* Around the World – Ask questions for finding the fraction of an amount using unit fractions (see week 19 planning)
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | Anna ate 3/5 of the 35 lollies, how many lollies were left?* **If John ate 1/6 of the lollies, Geoff ate 3/8 and Dom ate 5/12 of the lollies, how many lollies are left if there were 24 to start with?**
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| QUALITY TEACHING ELEMENTS | **INTELLECTUAL QUALITY** | **QUALITY LEARNING ENVIRONMENT** | **SIGNIFICANCE** |
| * Deep knowledge
* Deep understanding
* Problematic knowledge
* Higher-order thinking
* Metalanguage
* Substantive communication
 | * Explicit quality criteria
* Engagement
* High expectations
* Social support
* Students’ self-regulation
* Student direction
 | * Background knowledge
* Cultural knowledge
* Knowledge integration
* Inclusivity
* Connectedness
* Narrative
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| RESOURCES | <http://www.mathplayground.com/fractions_fractionof.html> <http://www.primaryresources.co.uk/maths/pdfs/fracofanum2.pdf> <http://www.teachingideas.co.uk/maths/files/fractionsofamounts5.pdf><http://www.youtube.com/watch?v=kjpTbbFzuE4>Baking Investigation |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Use the ‘Assessment for Learning’ questions and write the algorithms on the IWB that represent the problems. E.g. 2/3 x24, ¾ x 12. Ask groups of three to discuss and explain the mathematical link to division in regards to the denominator and multiplication in regards to the numerator. Discuss link and get groups of three to practise with other questions of whiteboard (inc. worded prob) Note: include unit fractions and other fractions* Demonstrate previous learning on how to find the fraction of a whole number and then go to: http://www.topmarks.co.uk/Flash.aspx?f=bingofractionsofamountsv3

Play the fractions of amount bingo as a whole class – play 2/7, 3/8, 2/9* Demonstrate how to do 3/5 of 110. Explain how 5 can be divided evenly into 110 so the question is easier to answer. Explain that each group will create their own video in pairs/threes to explain how to do complete the question. E.g. <http://www.youtube.com/watch?v=kjpTbbFzuE4> (Use a mobile phone, iPad or camera to film)
* Explicitly teach the following language: whole, equal parts, half, quarter, eighth, third, sixth,**twelfth**, tenth, hundredth,**thousandth**,**one-thousandth**, mixed numeral, whole number, number line, **proper fraction**,**improper fraction**,
 | LEARNING SEQUENCERemediationS2 or Early S3 | * + <http://www.mathplayground.com/fractions_fractionof.html> (Complete in pairs)
	+ <http://www.primaryresources.co.uk/maths/pdfs/fracofanum2.pdf> (Complete only top half)
	+ Video – create easier questions such as ¾ of 16 for the children to create their own tutorial like the example. One child films and the other explains how to do the question on a whiteboard. Children share video on the IWB.
	+ Investigation: Baking Investigation LOWER (See separate document)
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| LEARNING SEQUENCES3 | * <http://www.mathplayground.com/fractions_fractionof.html>
* <http://www.primaryresources.co.uk/maths/pdfs/fracofanum2.pdf> (Complete whole sheet)
* Video – create questions such as 5/6 of 132 for the children to create their own tutorial like the example. One child films and the other explains how to do the question on a whiteboard. Children share video on the IWB.
* Investigation: Baking Investigation CORE (See separate document)
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| LEARNING SEQUENCEExtension Early S4 | * + <http://www.mathplayground.com/fractions_fractionof.html>
	+ <http://www.primaryresources.co.uk/maths/pdfs/fracofanum2.pdf> and <http://www.teachingideas.co.uk/maths/files/fractionsofamounts5.pdf>
	+ Video – create questions such as 3/7 of 132 for the children to create their own tutorial like the example. Children will need to discuss about the process to follow when you can not divide the denominator evenly into the whole number. Work with group on one example before giving questions for each pair to make a video tutorial for. One child films and the other explains how to do the question on a whiteboard. Children share video on the IWB.
* Investigation: Baking Investigation HIGHER (See separate document)
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| **EVALUATION & REFLECTION** | **Student Engagement: Resources:****Achievement of Outcomes: Follow-up:** |

* All assessment tasks should be written in **red** and planning should be based around developing the skills to complete that task.
* Assessment rubrics or marking scale should be considered.