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| **Student(s) Name(s)/ ARCOTS Code**:  **JUNIOR YEARS** | | | |
| **Date :** | | | |
| **Developmental Domain** | **Progression of Numeracy**  **Strand: Number** | | |
| **Developmental Level & Nutshell Statement** | **Level F:**  **Represent fractions on number line. Recognise and generate equivalent fractions (denominator 2, 3, 4, 6, 8). Add and subtract fractions with same denominator. Use decimal notation for fraction (convert between decimals and fractions). Use four operations and their properties to solve word problems; involving calculations with distance, money and time.** | | |
| **Evidence for this level?** (What makes you say this? | ARCOTS testing student ZPD was Level F. Analysis of work samples against the progression confirmed this. | | |
| ***What is the student ready to learn?*** | ***What are the expected outcomes and evidence?*** | ***What interventions has the teacher planned?*** | ***What worked? What next?*** |

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| **Learning Intention/s**  (Specific **skill** or concept or part thereof to be learned) | **Evidence** (What the students will be able to do, say, make or write): | **Teaching Strategy** (What the *teacher* says, does, makes or writes) | **Learning Activity**  (Describes what the students are actually going to do) | **Resources** (People, place or things used in the activity to realise the learning strategy) | **Review & Reflection** |
| Students will be able to add and subtract fractions with the same denominator. | Students identify how many pieces of a whole are left after a subtraction.  Students describe how many total pieces of a whole are reached after adding. | ***JUNIOR and MIDDLE YEARS***  ***Expositive***  • Teacher will:   * Revise naming of fractions. * Use questions to get name of fractions for specific cut tiles. * Model (personally, or by a video, a worksheet, a laboratory work description, etc) the addition and subtraction of fractions with concrete objects and diagrams. The explanation should emphasize estimation and judging the reasonableness of answers.   ***Associative***  • Teacher will give students a ‘tile’ pre-cut into equal parts. Then, teacher will ask students to pick up some pieces and then some other pieces. What are the pieces called? (yes they are tiles but they are also pieces and because they are equal pieces, e.g. in the case of six equal pieces, each piece is called a sixth).  • Teacher shows it in mathematical symbols on the board. (Can repeat exercise for subtraction and also for another fractions with tiles divided into 8 equal pieces, 10 pieces etc).  • Teacher will then assist students to move from the concrete aids such as ‘fraction strips’ to additions and subtractions of fractions using ‘mathematical’ methods. | ***JUNIOR and MIDDLE YEARS***  In groups, students will:  • Use a ‘tile’ pre-cut into 6 equal parts. They will be asked to pick up 2 of the pieces and then 3 other pieces. Students need to figure out how many pieces in total (5).  What are your 5 pieces called, get to the correct name of five sixths. | • Pre-cut tiles or cardboard squares.  • Selected Fraction Strips. | **Review Date:**  **Reflection:** |
| ***UPPER YEARS***  ***Associative/Investigative***  • Teacher will:   * Oversee construction of fraction walls. * Propose some problems for students to solve. * Encourage students to create and solve their own problems. * Place an emphasis on recording so that students can see the link between the conceptual idea and the mathematical recording of the problem. | ***UPPER YEARS***  • Students create their own fraction wall. Using the fraction wall students identify equivalent fractions.  • Students cut fraction wall into horizontal strips and use them to add fractions, find equivalent answers and record the problem and answer.  • Students use horizontal strips to subtract in the contexts of ‘take away’ and ‘difference between’. Student record problems and answers. | • Pencil, paper, colouring pencils, scissors.  •Pre-cut tiles |  |
| **Rationale:** | Differentiated context, the activities proposed on the first line can be more suitable for junior and middle years’ students. In turn, the activities on the second line can be more suitable for upper years’ students. | | | | |