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| **Student(s) Name(s)/ ARCOTS Code**: | | | |
| **Date :** | | | |
| **Developmental Domain** | **Progression of Numeracy**  **Strand: Number** | | |
| **Developmental Level & Nutshell Statement** | **Level G:**  **Use properties of equivalent fractions to add and subtract fractions. Compare fractions with different numerators and denominators. Multiply and divide fractions. Understand the concept of unit rate and use ratio reasoning to solve problems. Rates and percentages (find a percent as a rate over 100). Apply properties of operations to generate equivalent expressions. Estimate and calculate absolute and relative error of rounding.** | | |
| **Evidence for this level?** (What makes you say this? | ARCOTS testing student ZPD was Level G. 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** |
| Compare fractions with different numerators and denominators. | Students compare the size of common fractions.  Students place fractions in order of magnitude.  Students create equivalent fractions for fractions that have related denominators.  Students use equivalent fractions to compare fractions. | ***JUNIOR YEARS***  ***Expositive***  Teacher will:  • Ask students to review fractions with same numerators but different denominators.  • Demonstrate the use of a variety of concrete models to compare the size of fractions.  • Explain the method of changing the denominators of fractions without altering the value of the fraction (‘cross over’ method and/or factors/multiples method).  ***Associative/Expositive***  • Teacher will review factors and multiples, asking students questions such as ‘What two numbers can be multiplied to give 24? Is there more than 1 pair of numbers?’ Then teacher will ask students to write down all the numbers that divided evenly into 20, 40 etc. and relate this to being able to compare fractions with different denominators. • Teacher will set groups of students to play the ‘Fractions ordering’ game: Students take turns to throw the dice, lowest number on die is the numerator, the higher the denominator. The largest fraction scores 2 points the second largest 1 point. If equivalent fractions points are shared. First to 5 points wins. | ***JUNIOR YEARS***  • Students compare different fractions using a variety of concrete models.  • Students work with pre-cut ‘tiles’ (of the same size) to compare physical sizes of fractions (ex; 1/3, 1/6, 1/8).  • Students do exercises/ activities where they calculate factors and multiples of various numbers. • Students play the ‘fractions ordering’ game. | • Different set of objects that can be fractioned.  • Pre-cut ‘tiles’ (of the same size). • Die with numbers 1, 2, 3, 4, 6 and 12 on the faces (easy numbers to handle). |  |

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|  |  | ***MIDDLE and UPPER YEARS***  ***Expositive***  Teacher will:  • Demonstrate the use of a variety of concrete models to compare the size of fractions.  • Review factors and multiples, explaining students how to make denominators the same.  ***Associative/Interrogative***  • Teacher will ask students to work with ‘tiles’ cut into different parts to then make each fraction have the same denominator.  • Teacher will explain that new fractions can be cut out and compared in area to the original two to show that these new fractions are the same size as the original fractions. These new fractions can also be compared to see which is the larger (this can then lead onto a general strategy on how to identify the larger fraction when comparing fractions with different denominators)  ***Individualistic/Investigative***  Teacher will introduce the following focus questions as guidelines for investigation by students   * What are equivalent fractions? * Which fractions have related denominators? * How can fractions with related denominators be renamed so that they have common denominators? * How can fractions with different denominators be compared? | ***MIDDLE and UPPER YEARS***  • Students use a ‘tile’ cut into three equal parts and a ‘tile’ cut into 4 equal parts. Students take 2/3 and 1/4 and need to find a strategy to compare them.  • Students investigate on different strategies to compare fractions with different denominator, using learning activities that, for example, allow them to increase or decrease the number of slices of same-sized objects to then analyse equivalent parts of a whole. | • Pre-cut ‘tiles’  • Pencil, paper, colouring pencils, scissors.  • Teachers can access to Ultranet eBookbox ‘Common Fractions, Decimals and Percentages’ where different interactive activities are available to work through this learning intention: Equivalent fractionsFractionsF.D.P. balanceSpin to win gameBounded fraction pointer | **Review Date:**  **Reflection:** |
| **Rationale:** | Differentiated context, the activities proposed on the first line can be more suitable for junior years’ students. In turn, the activities on the second line can be more suitable for middle and upper years’ students.  The PLT Log references an eBook box (‘Common Fractions, Decimals and Percentages’ ) which is available on the Ultranet as Design Space 66512121. The activities in the eBook box should be allocated to students according to the teacher’s knowledge. | | | | |

Was the teaching intervention successful?

If yes, what, if anything would the PLT do differently? If no, why not?