**TLC - Operational Sense Assessment and Continuum**

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|  | **One-to-one correspondence** | **Subitizing** | **Magnitude**  | **Cardinality**  | **Part/whole relationship** | **Hierarchical Inclusion** | **Commutative/ Associative** | **Equivalence****(Compensation)** | **Unitizing** | **Place Value** |
| **Overview** | Say one number for each item counted | Perceive amounts without counting-10-frame dot cards | which group has more (without counting) | last number said shows how many | separation of parts in addition, parts in subtraction, inverse relationship between addition and subtraction | smaller numbers are part of bigger numbers*Smaller numbers are a part of bigger numbers, -if you take 1 from a group of 6 you have 5* | (commutative) the order of the numbers does not matter i.e. 1+5 = 5+1(associative) when adding 3 or more numbers, can be regrouped without changing the sum | -the act of taking from one number and giving to another to maintain equivalence-See parts of the whole and can compensate (5+1 =6 then, 2+4=6, add 1 to 4 and take 1 from 5) | Twenty is made up of 2 sets of 10 -2 represents 2 groups | understanding that the placement of a number determines the value |
| Notes |  |  |  |  |  |  |  |  |  |  |
| Next Steps: |  |  |  |  |  |  |  |  |  |  |

 **TLC - Operational Sense Assessment and Continuum: Y.A. ELL, Step 1**

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| Notes | -counted 1 number for each object when counting numbers up to and including 10 |  | -was able to look at the objects in the balance scale and tell me which side had more without counting | -splitting numbers into parts (3, 6, 8, 9, 10). She was able to tell me the number in each group after counting | -with modelling, she could equate 10-5 = 2+3 but this would be too hard independently | -she had the scales imbalanced with 3 on one side and 2 on the other. She was able to make it equal when asked by adding 1 more to the 2. She also broke bigger numbers into smaller part |  | -sometimes confused equality with addition (e.g., she made 8 by putting 4 cubes on each side of the scale. She wrote 4+4=8.  |  |  |
| Next Steps: |  |  |  |  | Develop understanding of fact families with numbers under 10. (e.g., if I know 4+3=7, then I also know 7-4=3) | \*\*review symbols of operations | Understand that in addition, you can reorder the numbers to make counting easierI.e. if I know 6+2=8, then I know 2+6=8 |  |  |  |

 **TLC - Operational Sense Assessment and Continuum:** JM

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| Notes | -counts one-to-one with cubes | -counts from 1 for numbers as small as 4 or 6 | -knows that the lower side of the balance scale holds a greater number | -has 10 in each side of balance; adds one to each side and says “now they both have 11” | -in notebook, shows 15 as addition and subtraction with numerals and pictures; two-part, three-part equations (8 different arrangements) | -demonstrates with cubes and pencil/paperIe., adds cubes to 6 to make 11; when asked how many were adds to make 11, she separates the original 6 and counts the remaining 5) | - | - |  |  |
| Next Steps: |  |  |  |  |  |  | -challenge her to rearrange equations e.g., give three numbers and three symbols, have her make all equations she can |  |  |  |

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