**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 |
| **Task** | 1, 3 | 1 | 7 | 2 | 1, 3, 5, 6, 7 | 2, 4, 7, 8, 5, 6 | 2, 5, 6 | | 2, 4, 8, 6 | 8 | 6, 9 |
| Notes |  |  |  |  |  |  |  | |  |  |  |
| Next Steps: |  |  |  |  |  |  |  | |  |  |  |

Some baseline tasks that touch on a number of points in continuum

1. two different dot cards, ask student to give sum
2. parts of 10 (I have 3, how many more to make 10), with manipulative
3. give equations under 10 or 20, ask for thinking (first without manipulatives, then with)
4. number line with equation (up to 10), missing term
5. open ended word problem (under 10, under 20) i.e. You added 2 numbers in your head. The sum is little greater than 25. What might the numbers have been?
6. benchmark question (e.g., 7+8, how can you use 5 or 10 to help you)
7. estimation of magnitude (e.g., give 2 equations, which one is more; this is what 10 cubes looks like, scoop up 20)
8. unitizing i.e. how many groups of 2 are in 10?
9. Place value: give 3 numbers, what is the biggest number you can make?
   1. Extension: what are all the numbers you can make? Order them