

# Math Phases

## **Introduction Phase:**

- 1<sup>st</sup> time with manipulative
- Give rules of what they can and can NOT do
- Give demonstration
- Provide “play” time



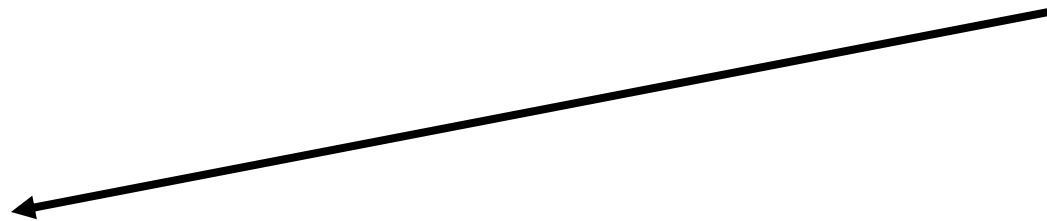
## **Concrete Phase I (manipulative ONLY):**

- Problems given and are worked with manipulative WITHOUT recording anything!
- Stay until learner can manipulate the material competently and explain in own words
- Don't leave too quickly!!!



## **Concrete Phase II (manipulative AND Drawing):**

- Problems given and are worked with manipulative and a drawing of problem occurs at the same time.
- Make connection of working manipulative to drawing on paper



## **Concrete/Symbolic (manipulative/drawing/symbolic):**

- Same type of problems given in previous phase but WHILE the problem is worked with materials, drawings – symbolic recording should be made.
- The symbolic does NOT occur AFTER materials have been manipulated, but during.
- Connection is being made for students between concrete form of working problem to symbolic form.



## **Drawing/Symbolic Phase (Drawing and Symbolic Only):**

- Same type of problems given in previous phase but WHILE the problem is worked with materials, drawings – symbolic recording should be made.
- The symbolic does NOT occur AFTER materials have been manipulated, but during.
- Connection is being made for students between concrete form of working problem to symbolic form.



## **Symbolic Phase (Symbolic Only):**

- Goal of ALL students.
- Students should be able to understand and explain what they are doing.
- If students not performing well in this phase, they may need more experience in the other stages.