

Math Phases

Introduction Phase:

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



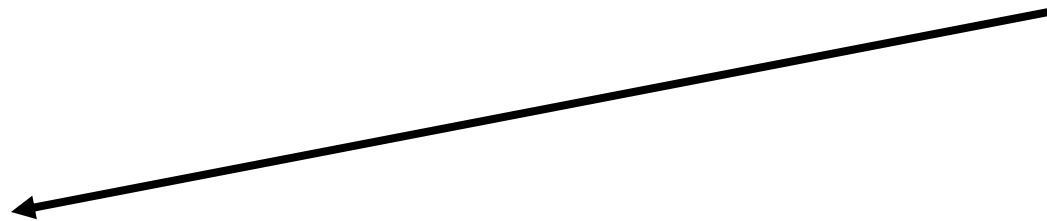
Concrete Phase I (manipulative ONLY):

- 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.