

Elementary Mathematics Instructional Model

Purpose:

- To establish equitable instructional practices that connects the resources, standards, and assessments to accelerate student learning.
- APS Instructional Models provide content instruction that is differentiated by language proficiency levels in order to teach students the academic language necessary to engage in grade level standards.

Equitable math instruction is grounded in...				
Elements of Instruction	Conceptual Understanding	Procedural Fluency (following conceptual understanding)	Discourse	Standards for Mathematical Practice
Best Practices	<ul style="list-style-type: none"> • 3-Part Problem Based lessons (Launch, Explore, Summary) <ul style="list-style-type: none"> ○ Problem should be of high cognitive demand ○ Include time for group exploration • Independent practice/stations • Number Talks • Group work • Small group instruction • Productive disequilibrium <ul style="list-style-type: none"> ○ Questioning should promote deeper thinking & maintain cognitive demand 			
Core Resources	Investigations: Launch, Explore, Summary Investigations Student Activity Books: Lesson Pages <i>Developing Number Concepts</i> , Kathy Richardson, stations <i>Understanding Numbers</i> , Kathy Richardson, intermediate stations.	Investigations Student Activity Books: Homework & daily practice pages Investigations Classroom Routines (K-2) and Ten Minute Math (3-5) <i>Developing Number Concepts</i> , Kathy Richardson, stations <i>Understanding Numbers</i> , Kathy Richardson, intermediate stations	Investigations: Explore & Summary Investigations Student Activity Books: Lesson pages	Standards for Mathematical Practice are embedded in all aspects of math instructional practices and are not specifically aligned to particular resources.
Supplemental Resources	<ul style="list-style-type: none"> • Units from <i>Contexts for Learning</i>, Fosnot • EngageNY, https://www.engageny.org/ • Units from <i>Navigations series</i>, NCTM • Mobius Online, https://www.mobiusmath.com/login/author (3rd 4th 5th) • Constructing Meaning language support resources 	<ul style="list-style-type: none"> • Mobius Online, https://www.mobiusmath.com/login/author (3rd 4th 5th) • Everyday Counts Partner Games • Constructing Meaning language supports 	<ul style="list-style-type: none"> • Units from <i>Contexts for Learning</i>, Fosnot • EngageNY, https://www.engageny.org/ • Units from <i>Navigation Series</i>, NCTM • Constructing Meaning language support resources 	<ul style="list-style-type: none"> • Constructing Meaning language supports
Assessments	End of unit assessments Developing Number Concepts Assessments, Kathy Richardson District developed tools: <ul style="list-style-type: none"> • Place Value Assessment • Rational Number Assessment • Common Formative Assessments 	Developing Number Concepts Assessments, Kathy Richardson District developed tools: <ul style="list-style-type: none"> • Place Value Assessment • Rational Number Assessment • Common Formative Assessments 		Assessment checks throughout Investigation units Common Formative Assessments
Implementation Phases: The best practices implemented by teachers at each phase are foundational and build on each other to produce rigorous and relevant instruction at each phase.				
Phase I	Phase II		Phase III	
The Teaching & Learning cycle and the Conditions for Learning are used to implement: <ul style="list-style-type: none"> • 3-Part Problem Based Lesson • Number Talks 	The Teaching & Learning cycle and the Conditions for Learning are used to implement: <ul style="list-style-type: none"> • Independent Practice 		The Teaching & Learning cycle and the Conditions for Learning are used to implement: <ul style="list-style-type: none"> • Small group instruction 	
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