

RTI WBCSD Mathematics Pathway

First Grade (12/18/15)

Universal Screening (Fall) Benchmark Measures (Winter and Spring) ALL STUDENTS	Fall(Sept): <i>easyCBM Numbers and Operations # 1</i>	Winter (Jan): <i>easy CBM Number, Operations, and Algebra # 1</i>	Spring(May): <i>easy CBM Number, Operations, and Algebra # 1</i>
	Tier 1: Benchmark (50th percentile)	Tier 2: Strategic (25th percentile)	Tier 3: Intensive (Inc. Sp. Ed.) (10th percentile)
Identification/Definition of Need: Analyze for causes/ Collaborative team review *SEE ASSESSMENT BENCHMARK CRITERIA	Numbers and Operations <ul style="list-style-type: none"> • 10+ Fall • 13 + Winter • 15 + Spring Numbers, Op., and Alg. <ul style="list-style-type: none"> • 9 + Winter • 12 + Spring 	Numbers and Operations <ul style="list-style-type: none"> • 7-9 Fall • 10-12 Winter • 12-14 Spring Numbers, Op., and Alg. <ul style="list-style-type: none"> • 6-8 Winter • 9-11 Spring 	Numbers and Operations <ul style="list-style-type: none"> • 0-6 Fall • 0-9 Winter • 0-11 Spring Numbers, Op., and Alg. <ul style="list-style-type: none"> • 0-5 Winter • 0-8 Spring
Instructional Plan: Instructional focus <i>(Approximately 85% of core time spent on the focal points.)</i> ↓	Instructional Emphasis (focal Points): <ul style="list-style-type: none"> • Represent and solve problems involving addition and subtraction • Understand and apply properties of operations and the relationship between addition and subtraction • Add and subtract within 20 • Work with addition and subtraction equations • Extend the counting sequence • Understand place value • Use place value understanding and properties to add and subtract • Measure lengths indirectly and by iterating length units • Grade level standards 	Instructional Emphasis: <ul style="list-style-type: none"> • Focal Points from Tier 1 • Focus intensely on properties of whole numbers and operations (last page of the pathways) • Instructional materials are explicit and systematic • Opportunities to solve problems in group and communicate strategies • 10 minutes per session devoted to retrieval of basic facts through: <ul style="list-style-type: none"> ✓ Decomposing ✓ 1 and 2 more ✓ 1 and 2 less ✓ Doubles/near doubles ✓ Part-part-whole relationships ✓ Place value 	Instructional Emphasis: <ul style="list-style-type: none"> • Focal Points from Tier 1 • Focal Points from previous year • Focus intensely on properties of whole numbers and operations (last page of the pathways) • Instructional materials are explicit and systematic • Opportunities to solve problems in group and communicate strategies • 10 minutes per session devoted to retrieval of basic facts through: <ul style="list-style-type: none"> ✓ Decomposing ✓ 1 and 2 more ✓ 1 and 2 less ✓ Doubles/near doubles ✓ Part-part-whole relationships ✓ Place value
Core Program and/or Intervention: Standard Treatment Protocol and/or Individual Plan ↓	<ul style="list-style-type: none"> • Engage NY • Van de Walle • Kathy Richardson • Georgia • Envisions 		

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Mathematical Practices ALL STUDENTS 	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 		
Implementation: Duration/frequency and delivery of instruction w/ fidelity	60 minutes a day	Intervention is in ADDITION to Core Program (1:6 maximum) 30 minutes 4 times a week	Intervention is in ADDITION to Core Program (1:4 maximum) 30 minutes 4 times a week
Progress Monitoring: Verify progress by monitoring response to instruction/intervention	Formative Assessments <ul style="list-style-type: none"> • Exit tickets • Teacher observation and note taking 	<ul style="list-style-type: none"> • EasyCBM progress monitor 1 time/ 3 weeks • Formative assessment 	<ul style="list-style-type: none"> • easyCBM progress monitor 2times/3 weeks (Use Numbers and Operations and either measurement or geometry) • Formative Assessments
Evaluation and Adjustment: Certify mastery and adjust the plan according to the decision making process	Evaluation by classroom teacher weekly/monthly and RTI team quarterly ~easyCBM (Benchmark) ~Formative/Summative Assessment ~Cumulative Review	Evaluation by RTI team every 8-10 weeks ~easyCBM (Benchmark and Progress Monitor) ~Formative/Summative Assessment ~Cumulative Review of Focal Points	Evaluation by RTI team every 8-10 weeks ~easyCBM (Benchmark and Progress Monitor) ~Formative/Summative Assessment ~Cumulative Review of Focal Points

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Addition and Subtraction Situations by grade level			
	Result Unknown	Change Unknown	Start Unknown
Add To	A bunnies sat on the grass. B more bunnies hopped there. How many bunnies are on the grass now? $A + B = ?$	A bunnies were sitting on the grass. Some more bunnies hopped there. Then there were C bunnies. How many bunnies hopped over to the first A bunnies $A + ? = C$	Some Bunnies were sitting on the grass. B more bunnies hopped there. Then there were C bunnies. How many bunnies were on the grass before? $? + B = C$
Take From	C apples were on the table. I ate B apples. How many apples are on the table now? $C - B = ?$	C apples were on the table. I ate some apples. Then there were A apples. How many apples did I eat? $C - ? = A$	Some apples were on the table. I ate B apples. Then there were A apples. How many apples were on the table before? $? - B = A$
	Total Unknown	Both Addends Unknown *	Addend Unknown**
Put Together /Take Apart	A red apples and B green apples are on the table. How many apples are on the table? $A + B = ?$	Grandma has C flowers. How many can she put in her red vase and how many in her blue vase? $C = ? + ?$	C apples are on the table. A are red and the rest are green. How many apples are green? $A + ? = C$ $C - A = ?$
	Difference Unknown	Bigger Unknown	Smaller Unknown
Compare	"How many more?" version. Lucy has A apples. Julie has C apples. How many more apples does Julie have than Lucy? $A + ? = C$ $C - A = ?$	"More" version suggest operation. Julie has B more apples than Lucy. Lucy has A apples. How many apples does Julie have? $A + B = ?$	"Fewer" version suggests operation. Lucy has B fewer apples than Julie. Julie has C apples. How many apples does Lucy have? "More" version suggest wrong answer. Julie has B more apples than Lucy. Julie has C apples. How many apples does Lucy have? $C - B = ?$ $? - B = C$

Darker shading (Orange) indicates the four Kindergarten types. Grade 1 and 2 students work with all subtypes and variants. Unshaded problems are the four difficult subtypes or variants that students should work with in Grade 1 but need not master until Grade 2. Adapted from CCSS p. 88, which is based on *Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity*, National Research Council, 2009, pp. 32-33

*This can be used to show all decompositions of a given number, especially important for numbers with 10. Equations with totals on the left help children understand that = does not always mean "makes" or "results in" but always means "is the same as." Such problems are not a problem subtype with one unknown, as is the Addend Unknown subtype to the right. These problems are a productive variation with two unknowns that give experience with finding all of the decompositions of a number and reflecting on the patterns involved.

**Either addend can be unknown, both variations should be included.

https://commoncoretools.files.wordpress.com/2011/05/ccss_progression_cc_0a_k5_2011_05_302.pdf