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Georgia Numeracy Project

Professional Learning

Mathematics is the queen of the sciences and Number Theory is the queen of mathematics. She often condescends to render service to astronomy and other natural sciences, but in all relations, she is entitled to first rank.

~Carl Friedrich Gauss

High Leverage Practices

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- High-Leverage Practices (HLPs)-are the basic fundamentals of teaching.

https://highleveragepractices.org/

- HLP 12: Systematically design instruction toward a specific learning goal.
- HLP 13: Adapt curriculum tasks and materials for specific learning goals.
- HLP 17: Use flexible grouping.
- HLP 18: Use strategies to promote active student engagement.
- HLP 21: Teach students to maintain and generalize new learning across time and settings.
- HLP 22: Provide positive and constructive feedback to guide students' learning and behavior.

Alignment to Georgia's Tiered System of Support

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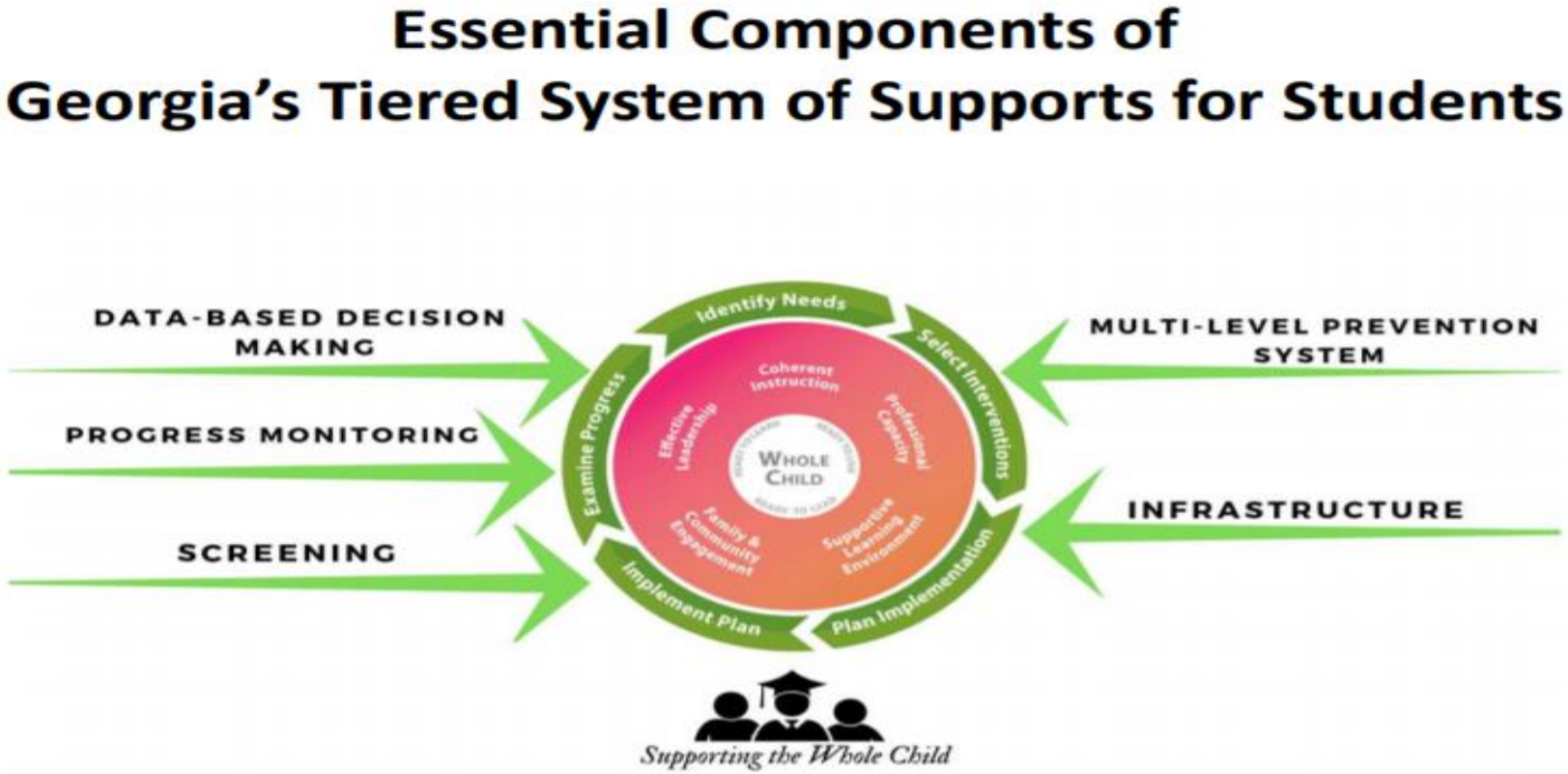

Georgia Numeracy Project and MTSS

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- The Georgia Numeracy Project can be used as a resource for MTSS, including Georgia's Tiered System of Supports for Students

Services Provided to Students

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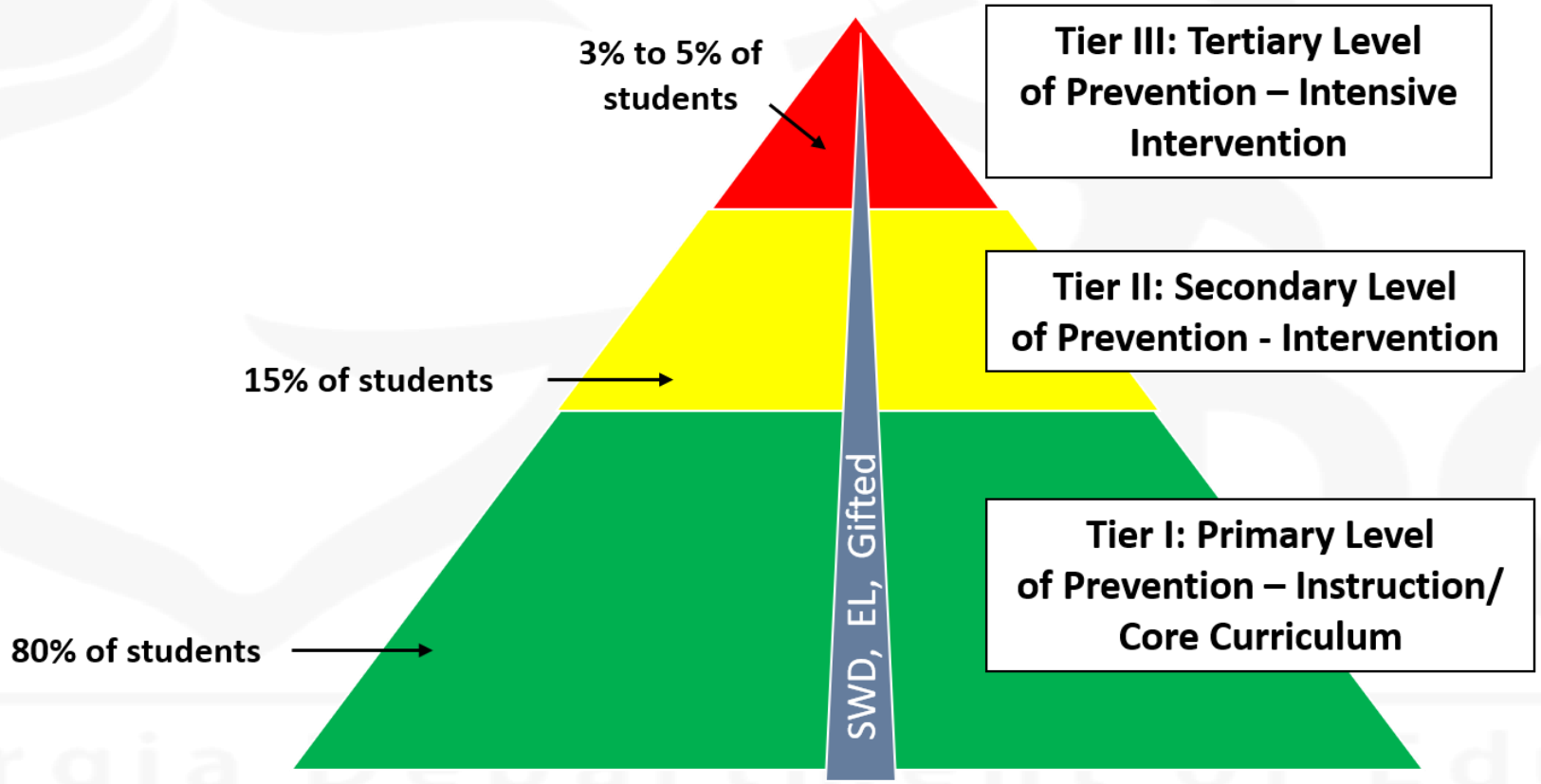

Students receive services at all levels, depending on need.

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GEORGIA NUMERACY PROJECT OVERVIEW

Numeracy Project

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- The Georgia Numeracy Project is a free numeracy development resource provided by the Georgia Department of Education, which introduces teachers and teacher leaders to the trajectory by which learners acquire a solid foundation in numeracy.
- The Georgia Numeracy Project is focused on developing students' understanding of numbers, and their ability to use numbers to solve problems. Students may solve number problems by counting, adding, subtracting, multiplying, dividing, or any combinations of these operations. Students should develop strategies that support their use of these operations in real-world and mathematical problems.

https://www.georgiastandards.org/Georgia-Standards/Documents/Georgia-Numeracy-Project-Overview.pdf

More Details

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- The Numeracy Project is a 4-Part Process:
  - Part 1: GloSS
  - Part 2: IKAN
  - Part 3: Numeracy Intervention Instrument
  - Part 4: Intervention Activities

  - This process lends itself to customizing the intervention based on each student's needs.
  - Not all students will need intensive intervention outlined in Part 3 or Part 4.
  - The intervention activities in Part 4 may also be used to support Tier 1 small group instruction, as needed.

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THE GEORGIA NUMERACY PROJECT, AN EVIDENCE-BASED INTERVENTION

Research to Support Georgia Numeracy Project

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Assisting Students Struggling with Mathematics: Response to Intervention (RtI) for Elementary and Middle Schools (2009)

The Institute of Education Sciences (IES)
National Center for Education Evaluation and Regional Assistance

https://ies.ed.gov/ncee/wwc/PracticeGuide/2

Numeracy Project Evidence-Base

	Included in design of Georgia Numeracy Project	Strong Evidence	Moderate Evidence	Minimal Evidence
1. Screen all students to identify those at risk for potential mathematics difficulties and provide interventions to students identified as at risk.	√		◆	
2. Instructional materials for students receiving interventions should focus intensely on in-depth treatment of whole numbers in kindergarten through grade 5 and on rational numbers in grades 4 through 8.	√			◆
3. Instruction during the intervention should be explicit and systematic.	√	◆		
4. Interventions should include instruction on solving word problems that is based on common underlying structures.	√	◆		
5. Intervention materials should include opportunities for students to work with visual representations of mathematical ideas and interventionists should be proficient in the use of visual representations of mathematical ideas	√		◆	
6. Interventions at all grade levels should devote about 10 minutes in each session to build fluent retrieval of basic arithmetic facts.	√		◆	
7. Monitor the progress of students receiving supplemental instruction and other students who are at risk.	√			◆
8. Include motivational strategies in tier 2 and tier 3 interventions				◆

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GEORGIA NUMERACY PROJECT QUICK REFERENCE GUIDE

Georgia Numeracy Project Quick Reference Guide

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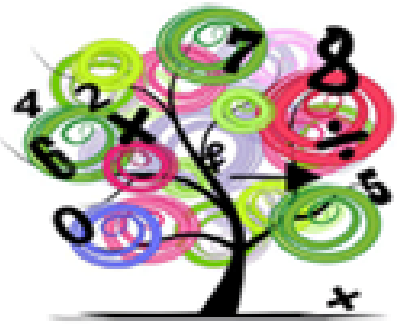
- Administer GloSS assessment interview
- Analyze data from GloSS
- New students and Stage 0-3: Administer IKAN Counting Interview
- Stage 4 or higher: Administer IKAN II
- Analyze results from both assessments using the GloSS and IKAN Expectation Continuums

- If student is:
  - ***At Expectations or Above*** - Continue Tier 1 Instruction
  - ***Cause for Concern*** - Begin with Tier 2 Instruction:
    - Numeracy Activities
  - ***At Risk*** - Begin with Tier 3 instruction:
    - Numeracy Intervention Instrument
    - Material Masters for Intervention Instrument
    - Numeracy Activities or Activity resource books from NZMaths
    - Progress Monitoring Data Collection



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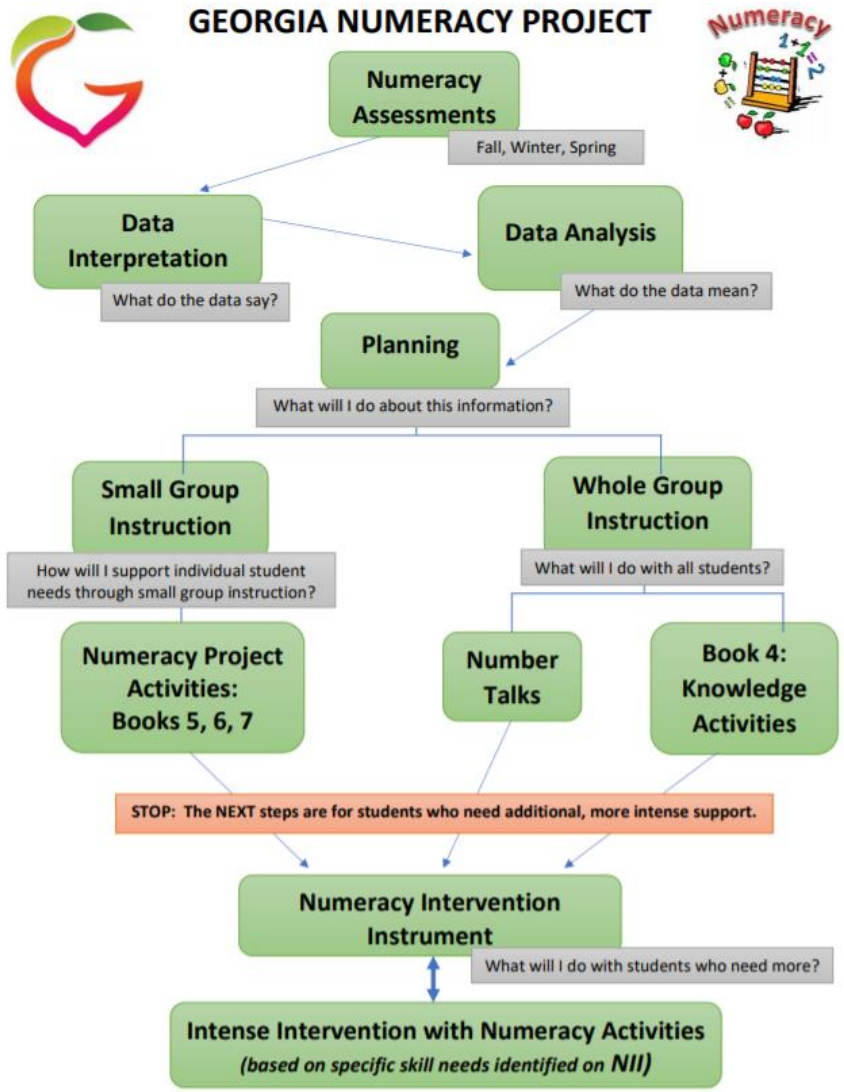
ADMINISTRATION PROTOCOL

Implementation Flowchart



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See handout in Participant's Guide

Georgia Numeracy Project Administration Instructions

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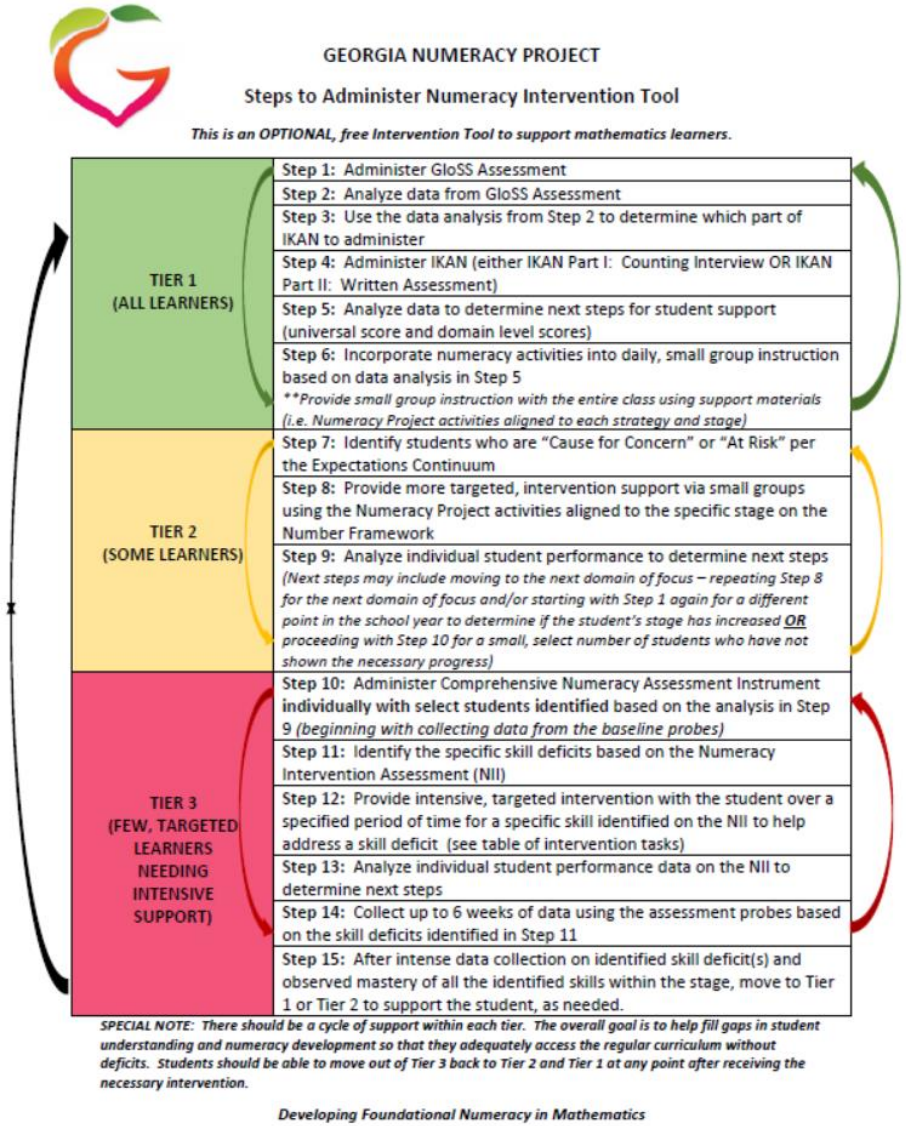

GEORGIA NUMERACY PROJECT

Steps to Administer Numeracy Intervention Tool

This is an OPTIONAL, free Intervention Tool to support mathematics learners.

TIER 1 (ALL LEARNERS)	**Step 1:** Administer GloSS Assessment
	Step 2: Analyze data from GloSS Assessment
	Step 3: Use the data analysis from Step 2 to determine which part of IKAN to administer
	Step 4: Administer IKAN (either IKAN Part I: Counting Interview OR IKAN Part II: Written Assessment)
	Step 5: Analyze data to determine next steps for student support (universal score and domain level scores)
	Step 6: Incorporate numeracy activities into daily, small group instruction based on data analysis in Step 5 ***Provide small group instruction with the entire class using support materials (i.e. Numeracy Project activities aligned to each strategy and stage)*
TIER 2 (SOME LEARNERS)	**Step 7:** Identify students who are "Cause for Concern" or "At Risk" per the Expectations Continuum
	Step 8: Provide more targeted, intervention support via small groups using the Numeracy Project activities aligned to the specific stage on the Number Framework
	Step 9: Analyze individual student performance to determine next steps *(Next steps may include moving to the next domain of focus – repeating Step 8 for the next domain of focus and/or starting with Step 1 again for a different point in the school year to determine if the student's stage has increased **OR** proceeding with Step 10 for a small, select number of students who have not shown the necessary progress)*
TIER 3 (FEW, TARGETED LEARNERS NEEDING INTENSIVE SUPPORT)	**Step 10:** Administer Comprehensive Numeracy Assessment Instrument **individually with select students identified** based on the analysis in Step 9 *(beginning with collecting data from the baseline probes)*
	Step 11: Identify the specific skill deficits based on the Numeracy Intervention Assessment (NII)
	Step 12: Provide intensive, targeted intervention with the student over a specified period of time for a specific skill identified on the NII to help address a skill deficit (see table of intervention tasks)
	Step 13: Analyze individual student performance data on the NII to determine next steps
	Step 14: Collect up to 6 weeks of data using the assessment probes based on the skill deficits identified in Step 11
	Step 15: After intense data collection on identified skill deficit(s) and observed mastery of all the identified skills within the stage, move to Tier 1 or Tier 2 to support the student, as needed.

SPECIAL NOTE: There should be a cycle of support within each tier. The overall goal is to help fill gaps in student understanding and numeracy development so that they adequately access the regular curriculum without deficits. Students should be able to move out of Tier 3 back to Tier 2 and Tier 1 at any point after receiving the necessary intervention.

Developing Foundational Numeracy in Mathematics

See handout in Participant's Guide

Numeracy Project
Global Strategy Stages Assessment (GloSS)

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Global Strategy Stage Assessment

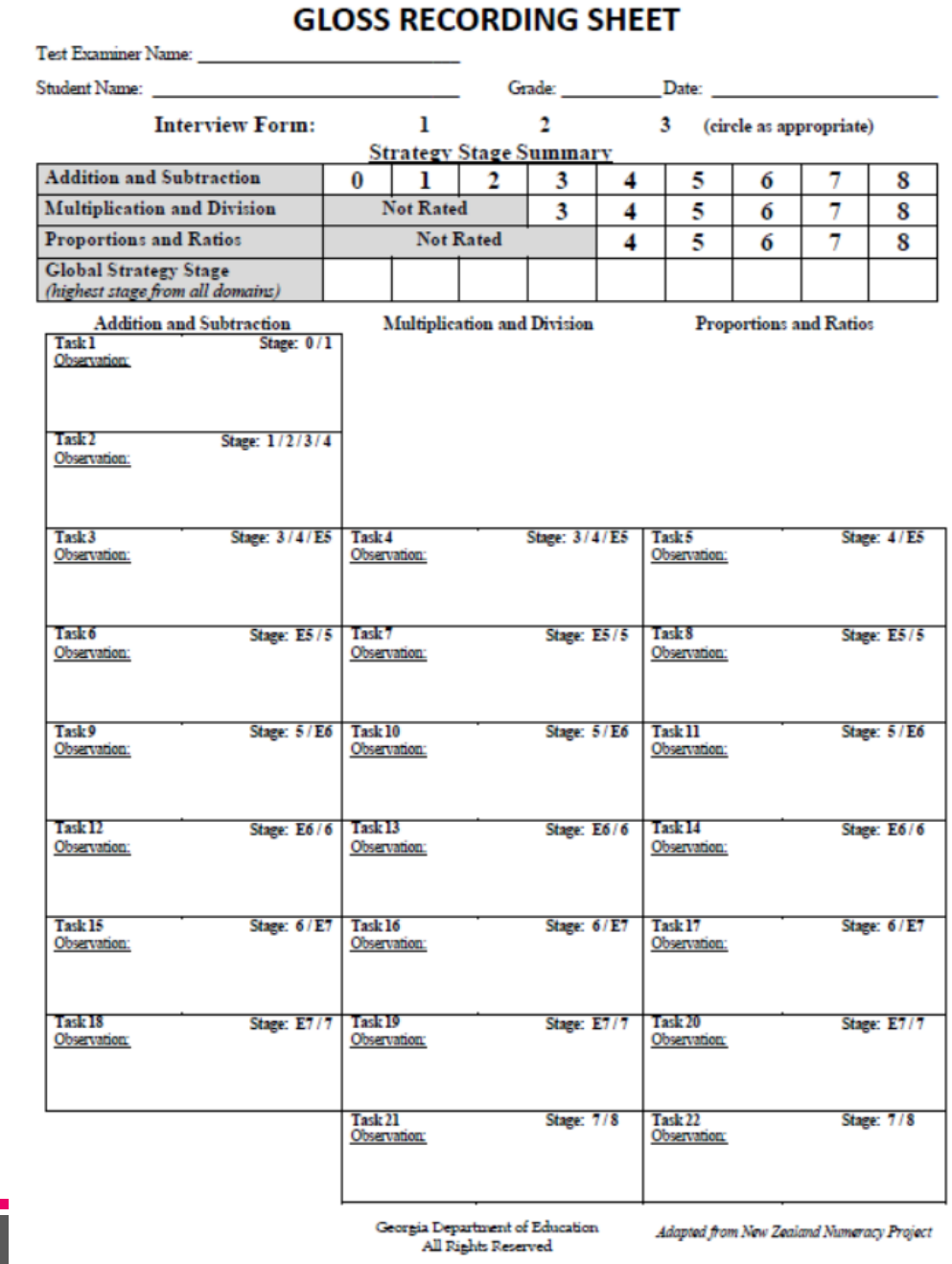
(GloSS – Individual *Verbal*/Mental Reasoning)

Strategy Screener

Possible Stage Scores 0-8

Assesses Three Strategy Domains

- Addition and Subtraction
- Multiplication and Division
- Proportions and Ratios



GLOSS RECORDING SHEET

Test Examiner Name: _____

Student Name: _____ Grade: _____ Date: _____

Interview Form: 1 2 3 (circle as appropriate)

Strategy Stage Summary

Addition and Subtraction	0	1	2	3	4	5	6	7	8
Multiplication and Division	Not Rated			3	4	5	6	7	8
Proportions and Ratios	Not Rated				4	5	6	7	8
Global Strategy Stage *(highest stage from all domains)*									

Addition and Subtraction	Multiplication and Division	Proportions and Ratios
Task 1 Stage: 0 / 1 Observation:		
Task 2 Stage: 1 / 2 / 3 / 4 Observation:		
Task 3 Stage: 3 / 4 / E5 Observation:	Task 4 Stage: 3 / 4 / E5 Observation:	Task 5 Stage: 4 / E5 Observation:
Task 6 Stage: E5 / 5 Observation:	Task 7 Stage: E5 / 5 Observation:	Task 8 Stage: E5 / 5 Observation:
Task 9 Stage: 5 / E6 Observation:	Task 10 Stage: 5 / E6 Observation:	Task 11 Stage: 5 / E6 Observation:
Task 12 Stage: E6 / 6 Observation:	Task 13 Stage: E6 / 6 Observation:	Task 14 Stage: E6 / 6 Observation:
Task 15 Stage: 6 / E7 Observation:	Task 16 Stage: 6 / E7 Observation:	Task 17 Stage: 6 / E7 Observation:
Task 18 Stage: E7 / 7 Observation:	Task 19 Stage: E7 / 7 Observation:	Task 20 Stage: E7 / 7 Observation:
	Task 21 Stage: 7 / 8 Observation:	Task 22 Stage: 7 / 8 Observation:

Adapted from New Zealand Numeracy Project

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Blank Student Recording Sheet for Gloss

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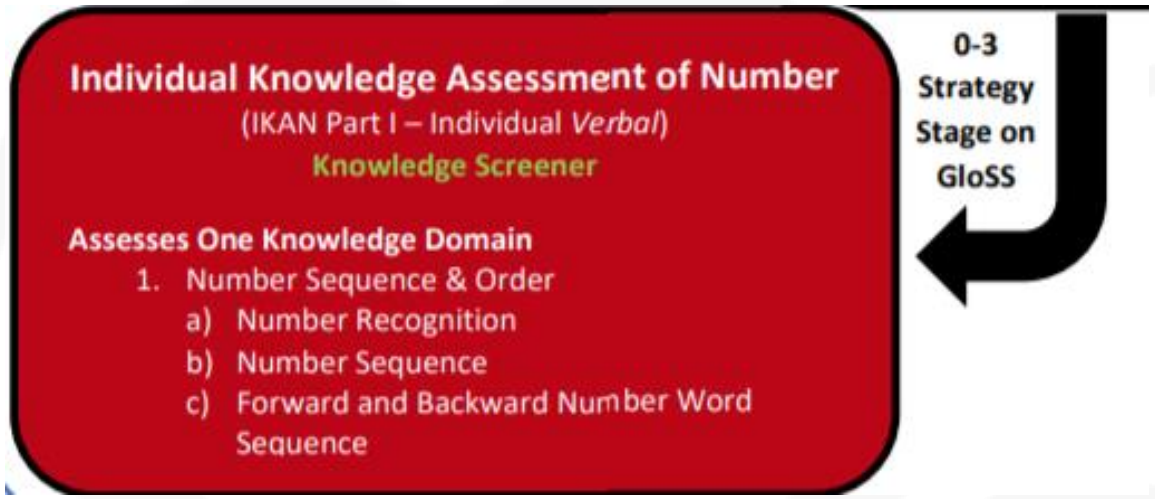

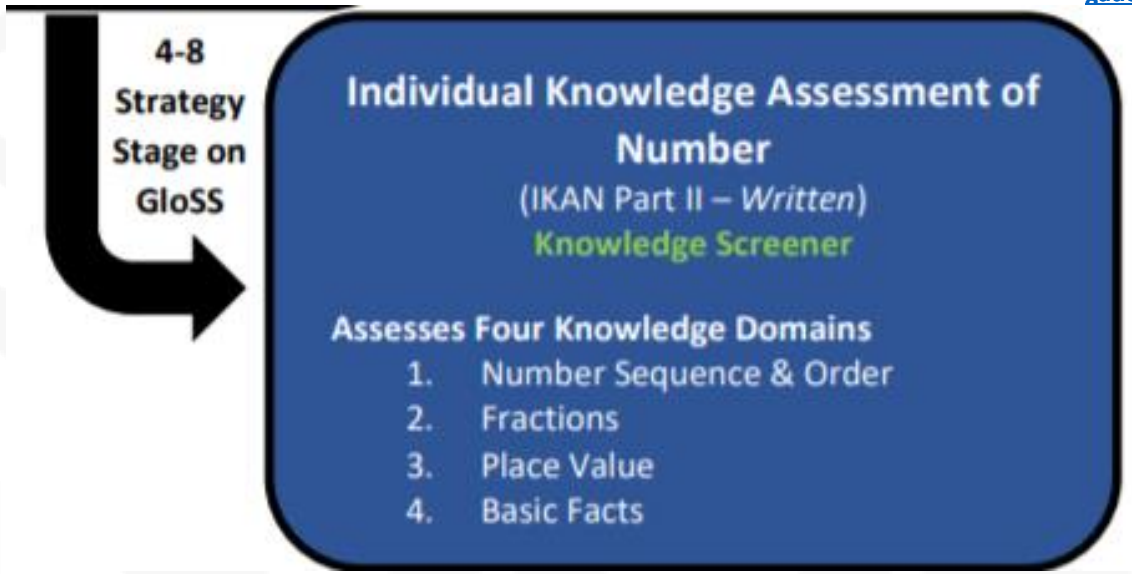

Numeracy Project
Individual Knowledge Assessment of Number (IKAN)

Individual Knowledge Assessment of Number (IKAN) – PART I
COUNTING INTERVIEW (Early Numeracy)

Name:_____

Student Counting Interview

***for students scoring within Strategy Stage 0 - 3**

Look for confusion between "teen" and "ty" numbers in questions (1), (3), (7), (8), and (9) and for "dropping back" to find the numbers after and before.

(1) Say: "Start counting from 1. Stop at 32."
Listen for student response: 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32
STUDENT MUST STOP COUNTING AT (32) AND NOT GO BEYOND

(2) Say: "Start counting from 51. Stop at 78."
Listen for student response: 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78

(3) Say: "Start counting from 10 by tens. Stop at 100."
Listen for student response: 10, 20, 30, 40, 50, 60, 70, 80, 90, 100 STUDENT MUST STOP AT 100

(4) Say: "Count backwards from 10. Stop at 0."
Listen for student response: 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0 STUDENT MUST SAY "ZERO"

(5) Say: "Count backwards from 23. Stop at 11."
Listen for student response: 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13, 12, 11 STUDENT MUST STOP COUNTING AT (11) AND NOT GO BEYOND

Action: Show each number card. For each number, ask the following three questions:

Questions:	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Show Card	1	5	11	14	31	50	80	100	111	409	870	999
What is this number?												
What number comes after?												
What number comes before?												

Place a check mark in the boxes above for each correct response.

record dates when mastery was achieved FNWS/BNWS/R&S in the space below
FNWS (#1 - #3):
BNWS (#4 & #5):
Number recognition to 1000:
"After" number recognition to 1000:
"Before" number recognition to 998:

FNWS – Forward Number Word Sequence BNWS – Backward Number Word Sequence R&S – Recognition and Sequence *Adapted from NZMaths*

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Let's review the IKAN Part I: Counting Interview

- For students who scored within Strategy Stages 0 – 3 on GloSS, administer the IKAN Part I: Counting Interview

Numeral cards for IKAN Counting Interview

NUMBER RECOGNITION AND SEQUENCE CARDS

1	5	11	14
31	50	80	100
111	409	870	999

Let's review the IKAN Written Assessment

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IKAN WRITTEN ASSESSMENT RECORDING SHEET

Individual Knowledge Assessment of Number (IKAN) Written Assessment	*This assessment is for students scoring within Strategy Stages 4 or higher on GloSS. IKAN 1 IKAN 2 IKAN 3 IKAN 4 (Circle the form used)					
Student Name: _____ Teacher Name: _____ Grade Level: _____ Date: _____						
	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional	
DOMAIN	Part One	Part Two	Part Three	Part Four	Part Five	Domain Stage Score (for classroom use)
Number Sequence and Order	1. 2.	1. 2.	1. 2.	1. 2.		
Fractions	3. 4.	3. 4.	3. 4.	3. 4.	1. 2.	
Place Value	5. 6.	5. 6.	5. 6.	5. 6.	3. 4.	
Basic Facts	7. 8.	7. 8.	7. 8.	7. 8.	5. 6. 7. 8.	
Total Correct						

Adapted from NZ Maths Numeracy Project, New Zealand Ministry of Education

Overall Number Knowledge Stage Score: _____
(Last Stage of Consecutive Mastery: Last stage where all items are correct, before student begins missing items)

- For students who scored within Strategy Stages 4 – 8 on GloSS, administer the IKAN Part II: Written Assessment
- Let's review the student scoring sheet

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EXPECTATIONS CONTINUUM

GloSS Expectations Continuum

End of Year Strategy Stage Expectations

End of Grade Level	At Risk	Cause for Concern	At Expectation	Above Expectation

Kindergarten	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
1st Grade	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
2nd Grade	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive *addition/ subtraction	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
3rd Grade	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive *multiplication/ division	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
4th Grade	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive *addition/ subtraction	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
5th Grade	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive *multiplication/ division	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
6th Grade	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
7th Grade	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
8th Grade	Stage 0 Emergent	Stage 1 One-to-One Counting	Stage 2 Counting from One using	Stage 3 Counting from One by Imaging	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional

***By the end of 7th grade, students should have successfully completed through stage 8 of the GloSS. ***

IKAN Expectations Continuum

End of Year Number Knowledge & GSE Expectations

End of Grade Level	At Risk	Cause for Concern	At Expectation	Above Expectation

	IKAN Counting Interview					IKAN Written Assessment				
Kindergarten	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
1st Grade	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
2nd Grade	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
3rd Grade	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
4th Grade	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
5th Grade	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
6th Grade	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
7th Grade	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional
8th Grade	No Parts Mastered	FNWS/BNWS Mastered but R&S Not Mastered	FNWS/BNWS and R&S to 100 Mastered	FNWS/BNWS and R&S to 120 Mastered	FNWS/BNWS and R&S to 1000 Mastered	Stage 4 Advanced Counting	Stage 5 Early Additive	Stage 6 Advanced Additive	Stage 7 Advanced Multiplicative	Stage 8 Advanced Proportional

FNWS – Forward Number Word Sequence
BNWS – Backward Number Word Sequence

R&S – Number Recognition & Number Sequence

Adapted from the New Zealand Numeracy Project

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NUMERACY INTERVENTION INSTRUMENT

Numeracy Project Intervention Assessment

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Numeracy Project Assessment
(Individual *Verbal*)
Strategy & Number Knowledge
Numeracy Intervention Instrument

Deeply Assesses Strategy & Number Knowledge

- Each of the Strategy and Knowledge Domains on the GloSS and IKAN

Intervention Probes

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6:7	*Read decimals with tenths, counts forwards and backwards in tenths, order decimals with tenths (4.NF.6)*	DP#1	Action: ***Show the student the problem card. (Material Master 6:7)*** Say: "What number is this?" *(6.9)*		X 9/18
		DP#2	Action: ***Show the student the problem card. (Material Master 6:7)*** Say: "What number is this?" *(29.2)*	X 9/25	
		DP#3	Action: ***Show the student the problem card. (Material Master 6:7)*** Say: "What number is this?" *(87.1)*		
		DP#4	Action: ***Show the student the problem card. (Material Master 6:7)*** Say: "What number is this?" *(21.4)*		
		DP#5	Action: ***Show the student the problem card. (Material Master 6:7)*** Say: "What number is this?" (18.3)		
		BL	Say: "Start counting by tenths from 1.7. Stop at 2.5."		*X 9/12*
		DP#1	Say: "Start counting by tenths from 3.2. Stop at 4.8."	X 9/18	
		DP#2	Say: "Start counting by tenths from 23.4. Stop at 24.5."		
		DP#3	Say: "Start counting by tenths from 0.6. Stop at 2.0."		
		DP#4	Say: "Start counting by tenths from 1.0. Stop at 2.5."		
		DP#5	Say: "Start counting by tenths from 129.0. Stop at 130.5."		
		BL	Say: "Count backwards from 8.9 to 7.1 by tenths."		*X 9/12*
		DP#1	Say: "Count backwards from 9.0 to 8.0 by tenths."	X 9/18	
		DP#2	Say: "Count backwards from 21.4 to 19.8 by tenths."		

Data Collection Spreadsheet

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Date	Stage	Baseline	PM 1	PM 2	PM 3	PM 4	PM 5	PM 6	PM 7
8/18	Stage 1 = 12 pts	12							
8/18	Stage 2 = 26 pts	26							
8/18	Stage 3= 42 pts	42							
8/18	Stage 4 = 66 pts	66							
	Stage 5 = 93 pts	78	12	3					
	Stage 6 = 142 pt	101	10	10	10	5	1	5	
	Stage 7 = 172 pt	142	4	5	3				
	Stage 8 = 192 pts								

Data Collection Graph

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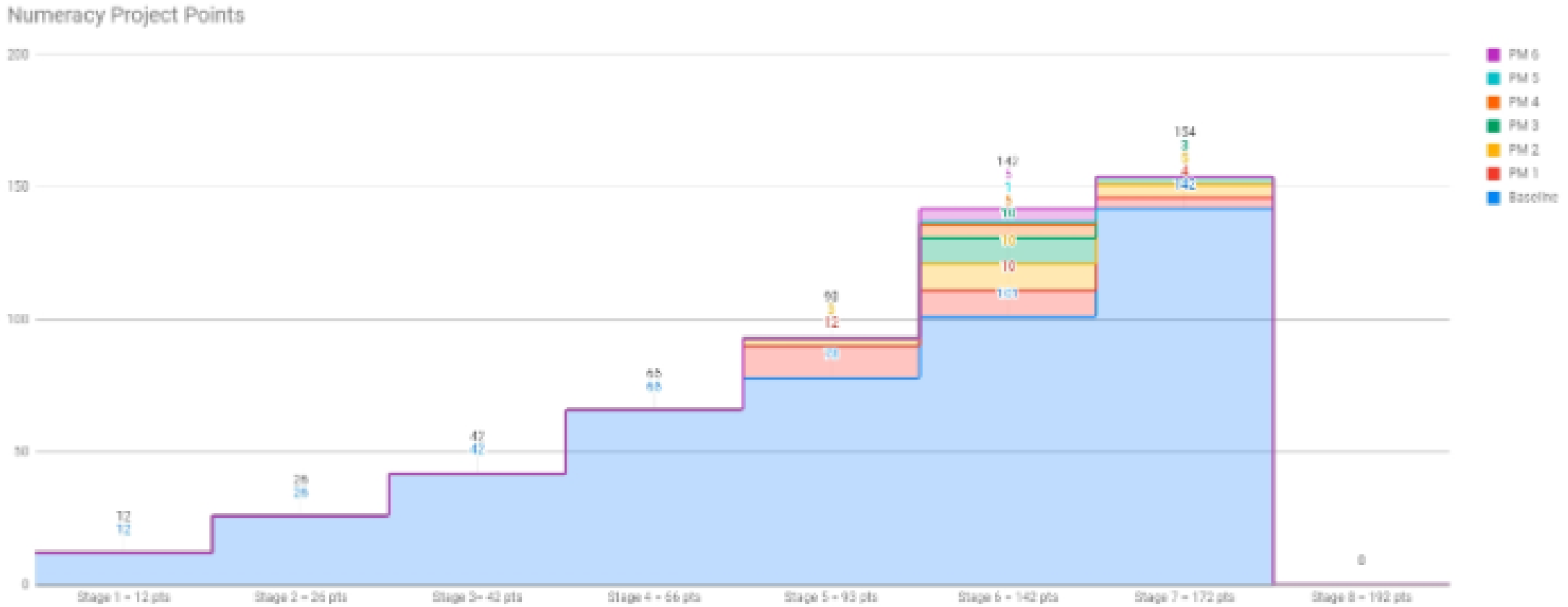

Numeracy Project Intervention Resources

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- Instruction during the intervention should be explicit and systematic.
- Instruction is based on the Numeracy Intervention Activities that align with the Strategy Stages
- Instructional materials for students receiving interventions through the Numeracy Project focus intensely on in-depth treatment of whole numbers in kindergarten through grade 5 and on rational numbers in grades 4 through 8.
- Intervention activities included in the Numeracy Project include instruction on solving word problems that is based on the underlying structure of building foundational numeracy.
- Intervention materials provided to teachers through the Numeracy Project include opportunities for students to work with visual representations of mathematical ideas
- Interventionists are provided with explicit instructions on how to use visual representations of mathematical ideas as it relates to activities presented
- Interventions at all grade levels (i.e. the use of Number Talks and/or other intervention activities) should be implemented for at least 10 minutes (depending on the activity) in each session to build fluent retrieval of basic arithmetic facts.

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Georgia's School Superintendent
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NUMERACY INTERVENTION ACTIVITIES

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Numeracy Project Intervention Resources

Numeracy Development Intervention Activities

(Activities for Support)

These resources provide the teacher/interventionist with the activities to support students where they are in their progression and help them move to the next level of numeracy development.

Numeracy Project Intervention Resources

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SAMPLE

NUMERACY PROJECT TASKS AND ACTIVITIES

Stage Three

- The following list of activities is designed to be used for a student who scores at Stage Three on the Numeracy Assessment Universal Screener.
- Teachers and interventionists should choose activities in the areas in which the student was unable to demonstrate mastery of a particular skill in order to create an "Intervention Prescription".
- These resources can be found here: https://nzmaths.co.nz/resource-finder/numeracy.

3:1 ***Rote counting 0-50***	***3:2*** ***Saying the forwards and backwards number word sequence in the range 0-50, starting and ending with any number***	***3:3*** ***Numeral recognition 0-50***	***3:4*** ***Number order: What comes before and after a given number in the range 0-50***	***3:5*** ***Ordering the numbers in the range 0-50***	***3:6*** ***Counting up to 50 objects by grouping the objects in tens***
❖ Arrow Cards ❖ Clapping ❖ Counting ❖ Counting as We Go ❖ Knocks and Taps ❖ Loud and Soft ❖ Number Fans ❖ Tick Tock	❖ Arrow Cards ❖ Bead Strings ❖ Clapping ❖ Counting ❖ Counting as We Go ❖ Knocks and Taps ❖ Loud and Soft ❖ Number Fans ❖ Number Line Flips ❖ Tick Tock ❖ Walk the Bridge	❖ Arrow Cards ❖ Birthday Cakes ❖ Caterpillar Legs ❖ Knocks and Taps ❖ Lily Pads ❖ Lucky Dip ❖ Number Fans ❖ Number Line Flips ❖ Pipe Cleaner Numbers ❖ Ten Frames ❖ Walk the Bridge	❖ Bead Strings ❖ Clapping ❖ Knocks and Taps ❖ Lily Pads ❖ Loud and Soft ❖ Number Fans ❖ Number Line Flips ❖ Ten Frames ❖ Walk the Bridge	❖ Bead Strings ❖ Card Ordering ❖ Caterpillar Legs ❖ Rocket – Where Will I Fit? ❖ Who is the Richest?	❖ Bead Strings ❖ More Ones and Tens ❖ Ten in Tens
3:7 ***Comparing two numbers in the range 0-50 using number cards***	***3:8*** ***Instantly recognizing patterns to 10, including doubles***	***3:9*** ***Recalling facts within 5, and doubles to 10***	***3:10*** ***Solving addition problems to 20 by counting all the objects in their head***	***3:11*** ***Solving subtraction problems from 20 by counting all the objects in their head***	***Solv… subtrac… with decade… counting tens… head***
❖ Comparisons with Number Cards ❖ Ten Frames	❖ Adding and Subtracting with One Hand ❖ Both Hands ❖ Compatible Numbers to Ten ❖ Making Tens ❖ Rekenrek Patterns to Ten ❖ Rekenrek Reinforcing Five Grouping ❖ Rekenrek Reinforcing Ten Grouping ❖ Ten Frames	❖ Adding and Subtracting with Counters ❖ Adding and Subtracting with One Hand ❖ Imaging Many Hands ❖ Making Tens	❖ Adding and Subtracting with Counters ❖ Crossing the Five Barrier ❖ Counters in a Row ❖ Both Hands ❖ Bowl a Fact ❖ Imaging Many Hands	❖ Both Hands ❖ Bowl a Fact ❖ Crossing the Five Barrier ❖ Imaging Many Hands ❖ What's Hidden?	❖ More Ones ❖ Imaging w… Frames ❖ What's H…

More K-8 intervention activities coming in July 2019

Stage 5 Example

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NUMERACY PROJECT TASKS AND ACTIVITIES

Stage Five

- The following list of activities is designed to be used for a student who scores at Stage Five on the Numeracy Assessment Universal Screener.
- Teachers and interventionists should choose activities in the areas in which the student was unable to demonstrate mastery of a particular skill in order to create an "Intervention Prescription".
- These resources can be found by clicking on the activity name below.

5:1	5:2	5:3	5:4	5:5
Identify numbers in the range 0-1,000	*Say the forwards and backwards number word sequences by ones, ten, hundreds, and thousands in the range of 0-1,000,000, including finding numbers that are 10, 100, and 1,000 more or less than a given number*	*Order the numbers in the range 0-1,000*	*Recall the number of tens and hundreds in 100s and 1,000s*	*Round three-digit whole numbers to the nearest 10 or 100*
Number Fans Number Hangman Place Value Houses	Counting Nudge Number Fans Number Hangman Rocket - Where will I fit? Skip-counting on the Number Line	Rocket – Where Will I Fit? Squeeze - Guess my Number Who is the Richest?	Close to 1000 How Many Ten Dollar Bills? Saving Hundreds Slavonic Abacus Zap	Can You Guess?

5:6	5:7	5:8	5:9	5:10	5:11
Recall the multiples of 100 that add up to 1,000	*Identify the symbols for halves, quarters, thirds, fifths, and tenths including fractions greater than 1*	*Order fractions with the same denominator*	*Know the number 1, 10, and 100 before and after a given number in the range 0-1,000*	*Recall addition and subtraction facts to 20*	*Recall groupings within 100*
Close to 1000 Tens and Ones Tens in Hundreds and More Zap	Creating Fractions Fraction Pieces More Geoboard Fractions Non-unit Fractions	Fraction Circles More Geoboard Fractions	Number Hangman Skip-counting on the Number Line	Bowl a Fact Bridges Bridges Game Comparisons Dinosaur Stomp What's Hidden?	Adding in Parts Traffic Lights

5:12	5:13	5:14	5:15	5:16
Solve addition and subtraction problems by using doubles	*Solve addition problems by using compatible numbers*	*Solve addition and subtraction problems by using place value partitioning*	*Solve addition and subtraction problems by compensating with tidy numbers*	*Solve multiplication problems by using repeated addition*
Adding in Parts Adding Tens	Compatible Numbers Three or More at a Time You Don't Need the Number	Adding in Parts On and Off the Train Saving Hundreds Subtracting Tens and Ones Zap	Jumping the Number Line Problems like 23 + ? = 71 Problems like ? + 29 = 81	Adding Tens Animal Arrays Bowl a Fact Multidice Five Three's Company

5:17	5:18	5:19	5:20
Solve fives times tables by doubling and halving	*Find unit fractions of sets*	*Find unit fractions of regions*	*Solve division problems by sharing*
Doubling and Halving Multiplication or out Twos, Fives, and Tens	Creating Fractions Fraction Animals Wafers	Creating Fractions Hot Stuff! Playdough Fractions Playdough Fractions – Feeding Animals Playdough Fractions – Same but Different	Biscuit Boxes Introducing Decimal Fraction Place Value Pirate Crews

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Important Websites to Obtain Additional Information

www.gadoe.org/mathematics Georgia Mathematics Program Updates
www.edweb.net Professional Learning Communities
www.georgiastandards.org Curriculum Resources