Guided Math Small-Group Lessons

Targeting Instruction to Meet Student Needs

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What do students need in order to be successful in math?



We know that to be successful in math students must develop...

- Deep conceptual understanding
- Computational fluency
- The ability to apply their mathematical knowledge to solve problems
- The ability to communicate mathematical ideas with precision

Yet, students are not all alike.

- Gaps in foundational knowledge and skills.
- Misconceptions
 Need for additional challenges
- Different learning styles



Too often we begin our instruction aiming toward the middle and praying for ricochet.



What is differentiation?

A teacher attending to the learning needs of a particular student or small group of students, rather than teaching a class as though all individuals in it were basically alike.



Principles of Differentiated Instruction Flexible grouping is a hallmark of differentiated instruction. · Focus on essential ideas and skills Guided Math is a Tomiinson and Allan Responsiveness to individual differences flexible instructional • Integration of assessment and instruction The Guided Math framework supports framework. · Ongoing adjustment of content, process, flexible grouping and aligns with the and products to meet students' levels of prior knowledge, critical thinking, and principles of differentiated instruction. MATH expression styles. MATH . Tomlinson and Allar *****









Using a combination of • environment of numeracy ▶ math warm-ups

- whole class instruction
- small group instruction
- math workshop
- conferences

balanced assessments

MATH 15



Small-Group In	struction
Advantages	Challenges
Easy to differentiate Mathematical communication Social nature of learning Monitoring of student work Feedback Maintain attention Use of manipulatives Precision and timeliness of instruction (response) Relationship building	Targeted, timely assessment Planning to meet student needs Math work stations Management of Math Workshop

Small-Group Instruction Composition of the groups may be even more <u>fluid</u> than for Guided Reading.

- Groups are usually homogenous, yet flexible-- grouped by the needs of students.
- Students are continuously assessed either formally or informally to determine their
- instructional needs.









How does a small-group lesson differ from a large-group lesson?













Allows teachers to *assess informally*







Small-Group Instruction



Organization, Planning, and Teaching



Small-Group Instruction

Where?

- · Small table, group of desks, or floor
- · Sit in the middle



Small-Group Instruction

Supplies?

- Instructional: Dry erase board, manipulatives, lesson materials, recording forms
- Student: pencils, paper, calculators, markers,

manipulatives



Small-Group Instruction

Procedure?

- Plan and teach transitions
- . Break them down into
- teachable components Revisit when needed



Scheduling Guided Math Small-Group Lessons

□Math Warm-up (15-20 minutes max). It may include any of these: □Calendar Board □Math Stretches Daily Review □Problem of the Week DMini Lesson (10 minutes-only if needed) Demonstrate Math Workshop with Small-Group Instruction (50-60 minutes)





		GUIDE		
G Games for Mathematicians	U Using What We Know	Independent Math Practice	D Developing Fluency	E Expressing Mathematical Ideas
Math games to maintain previously mastered math concepts and skills	Problem solving or other challenges in which students draw upon their mathematical understanding and skills	Materials used to teach previously mastered concepts incorporated into station tasks Paper and pencil tasks may be included.	Tasks that help students develop number sense and mental math skills	Focus on mathematical vocabulary and communication May include use of math journals or math vocabulary notebooks
Red Team	Blue Team	Yellow	Green Team	Orange







Materials





Let's Look at a Lesson

- 1. Standard or topic: Essential Question
- 2. Prerequisite knowledge/skills
- 3. Pre-assessment
- 4. Grouping
- 5. Basic lesson
- Differentiation:

 Additional Challenge
 Rebuild foundational
 - -Rebuild fou knowledge
- Knowledg

Planning Assessments for Grouping

- What foundational knowledge and skills do students need to be successful with the lesson?
 How will you know if students
- have gaps in these areas?
- How can you address these gaps most effectively and move students to the current instructional focus?

Small-Group Instruction





Consider this concept development lesson to teach equivalent fractions. <u>Problem 1</u>: Use an area model to show that $\frac{3}{4} = 6/8$. <u>Problem 2</u>: Draw an area model to represent the equivalence of two fractions, and express the equivalence as the sum and product of unit fractions Problem 3: Decompose to create equivalent fractions by drawing an area model and then dividing the area model into smaller parts. From EngageNY-Grade 4

What prerequisite knowledge and skills do students need to be successful?				
<u>Problem 1</u> : Use an area model to show that $\frac{3}{4} = 6/8$.				
Problem 2: Draw an area model to represent the equivalence of two fractions, and express the equivalence as the sum and product of unit fractions				
<u>Problem 3</u> : Decompose to create equivalent fractions by drawing an area model and then dividing the area model into smaller parts.				
From EngageNY—Grade 4				

What kinds of assessments could be used to determine whether students possess this knowledge and skill?

How could you effectively fill gaps in these areas?



How does this approach impact lesson planning?



Turn and Talk Share with a partner.

Reflections
1. What are one or two "ahas!" you got
from the session?
2. What are one or two "huhs?" that still
remain?
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Using Guided Math

