Supplemental File 4

Procedural Fidelity Checklists

Baseline: Independent Performance Prior to Teaching

☑	Measured Behavior
☐	All materials are accessible (i.e., case notes, manipulatives, worksheets, pencils, calculators)
☐	Help students select case file
☐	Read word problem aloud. Let students know they can ask you to read it again.
☐	Say "Solve this problem. You can use the materials you have if you need to. Let me know when you are finished."
☐	Do not give feedback (confirmation or correction) while student(s) solve problems
☐	End only when student indicated they were finished or after one minute of unproductive work
TOTAL BASELINE BEHAVIORS: ___/6	

Lesson 1: Ratio & Proportion (referred to as “Discovery Days” in Math Scene Investigators)

☑	Measured Behavior
☐	All materials are accessible (i.e., case file, manipulatives, worksheets, pencils, calculators)
☐	Concept development: Introduce reading multiplication problems two ways: “times” and “groups of”
☐	Concept development: Model equations with manipulatives (first factor is # of groups, second factor is the amount in each group, count to find product; optional: show students how to skip count and find product)
☐	Concept development: Parts of a multiplication problem – Play I spy with “factor”, multiplication sign & saying “times,” “equals”, “product”
☐	Concept development: Discrimination between equal groups/non-equal groups
☐	Concept development: Practice with equal groups rule
☐	Concept development: Show equations/expressions video. Discrimination using a T-chart with equations and expressions
☐	Introduce the difference between an equation and a word problem (the equation has to be derived from the information in the written problem)
☐	Review hand motion for the equal groups problem type
☐	Explain the purpose of a “schematic diagram”
☐	Use think aloud to model filling in the schematic diagram; introduce each component (group, amount, and product)
☐	Use think aloud to model writing equation
☐	Model solving equation with manipulatives while providing think-aloud; students should be repeating what the teacher does with their own set of manipulatives
☐	Repeat equal groups rule first and then a second time with information from the problem
☐	Closure: ask students problem type and two ways to read multiplication problem

TOTAL LESSON 1 BEHAVIORS: ___/15

Lesson 1 Coaching Notes

Lesson 2: Ratio & Proportion (referred to as “Discovery Days” in Math Scene Investigators)

☑	Measured Behavior
☐	All materials are accessible (i.e., case file, case notes (for 100 chart), manipulatives, worksheets, pencils, calculators)
☐	Concept development: Review reading multiplication problems two ways: “times” and “groups of”; then provide each student with a practice problem of their own
☐	Concept development: Model equations with manipulatives (first factor is # of groups, second factor is the amount in each group, count to find product; optional: show students how to skip count and find product)
☐	Concept development: Review the equal groups rule; each student should perform rule on their own
☐	Concept development: Review parts of a multiplication problem – Play I spy with “factor”, multiplication sign & saying “times,” “equals”, “product”
☐	Concept development: Students should practice making equal groups on their own; Students should place chip on 100 chart to show product
☐	Concept development: Introduce “variable” as a letter that represents unknown
☐	Concept development: Show equations/expressions video. Discrimination using a T-chart with equations and expressions
☐	Review problem type and what an equation is, as well as the difference between an equation and a word problem (the equation has to be derived from the information in the written problem)
☐	Use think aloud to model filling in the schematic diagram; introduce each component (group, amount), product is unknown so we use a variable
☐	Use think aloud to model writing equation; students should practice writing equation as well
☐	Model solving equation with manipulatives while providing think-aloud; students should be repeating what the teacher does with their own set of manipulatives
☐	Repeat equal groups rule first and then a second time with information from the problem
☐	Closure: ask students problem type and two ways to read multiplication problem

TOTAL LESSON 2 BEHAVIORS: ___/14

Lesson 2 Coaching Notes

Intervention Model: Ratio & Proportion

☑	Measured Behavior
☐	All materials are accessible (i.e., case notes, manipulatives, worksheets, pencils, calculators)
☐	Review equal groups rule
☐	Help students select case file and investigate picture
☐	(not on model day 1) Review case notes from prior day and goal for today
☐	Use think aloud to model investigation steps one at a time. *Note: This should be marked as an error if teacher does not keep students from working ahead.*
☐	[Step 1] Review equal groups rule one time. Read problem to all students
☐	[Step 2] Use think aloud to model circling the evidence (i.e., two factors)
☐	[Step 3] Use think aloud to model underlining what is being investigated (i.e., how many ____ plus the verb in the sentence)
☐	[Step 4] Use think aloud to model identifying type of problem (i.e., equal groups by writing EG and circling the box that describes equal group)
☐	[Step 5] Use think aloud and model filling in schematic diagram
☐	[Step 6a] Use think aloud to model writing the equation
☐	[Step 6b] Use think aloud to model using manipulatives to solve. Make correct number of groups and place amount in each group
☐	[Step 6c] Model writing correct answer (i.e., product plus unit/label)
☐	[Step 7] Report the findings (i.e., state what was solved in a sentence; this should include noun, product, and verb that was underlined in step 3)
☐	Teacher modeled checking off each step
TOTAL INTERVENTION MODEL BEHAVIORS: ___/15	

Intervention Model Coaching Notes

Intervention Guided Practice: Ratio & Proportion

☑	Measured Behavior
☐	All materials are accessible
☐	[Step 1] Read problem aloud
☐	[Step 2] Students circle evidence; confirm or correct
☐	[Step 3] Students underline investigation; confirm or correct
☐	[Step 4] Students identify problem type; confirm or correct
☐	[Step 5] Students fill in schema; confirm or correct
☐	[Step 6a] Students write equation; confirm or correct
☐	[Step 6b] Students solve with manipulatives; confirm or correct
☐	[Step 6c] Students write correct answer; confirm or correct
☐	[Step 7] Students report findings in full sentence (noun, product, verb); confirm or correct
☐	Use appropriate pacing and prompts
☐	Ensure all students are engaged
TOTAL INTERVENTION MODEL BEHAVIORS: ___/12	

Intervention Guided Practice Coaching Notes
