Kansas Multi-Tier System of Supports

- Mathematics Implementation Collaborative Team Guide

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Introduction to Document

The *Kansas Multi-Tier System of Supports: Structuring Guide* has been created to assist schools in creating the structures necessary to begin the implementation of a Multi-Tier System of Supports (MTSS). This document serves as a workbook for either schools working with Recognized MTSS Trainers (a current list can be found at www.kansasmtss.org) or as a do-it-yourself guide for schools taking on the challenge themselves. This document provides an explanation of why each component is important as well as suggests steps that have helped other schools successfully complete the tasks and decision making necessary for creating structures that support a sustainable system. Content area specific documents for reading, mathematics, and behavior are companion documents to this one, providing information specific to each content area. All Kansas MTSS documents are aligned with the *Kansas Multi-Tier System of Supports: Innovation Configuration Matrix (ICM)*, which describes the critical components of a MTSS and what each looks like when fully implemented, and the *Kansas Multi-Tier System of Supports: Research Base*, which provides a basic overview of the research support for a MTSS.

Acknowledgements

A significant commitment of time and energy from numerous Kansas educators, their districts, organizations and partners made this document possible. Their efforts to learn and help others understand what it takes to make a MTSS a reality within schools is reflected in this document. This grassroots effort on the part of Kansas educators indicates a commitment to meeting the needs of every student and sharing wisdom from the field and the research. As the list of individuals and districts that have contributed to this effort over the past 10 years has become too long to detail, a collective expression of gratitude is offered here to everyone who has contributed to the concepts, ideas, and knowledge that are reflected in all Kansas MTSS documents.

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MTSS Math Implementation for Preschool

Teams integrating preschool programs into the overall building wide MTSS should refer to this document and one of the following supplemental guides as they work through each of the MTSS Implementation Steps.

MTSS Pre-Implementation Supplement For Preschool Math is intended to direct an elementary leadership team that includes preschool representation through the steps of MTSS implementation when a preschool core math curriculum has not been identified. The implementation steps for preschool will actually start with pre-implementation in which the preschool program identifies and receives training to implement a preschool core math curriculum. This guide addresses each of the MTSS math implementation steps in terms of what the leadership team's preschool representative will be doing/learning and/or ways to utilize data gathered at that specific step to inform decisions about preschool core curriculum and professional development.

MTSS Pre-Implementation Supplement For Preschool Math is intended to give preschool specific information and directions to elementary leadership teams with preschool representation implementing MTSS math at the preschool level. This guide addresses each of the MTSS math implementation steps in terms of what the leadership team's preschool representative will be doing/learning and/or ways to utilize data gathered at that specific step to inform decisions about preschool implementation and interventions.

Included in both versions of the supplement is a chart titled "Comparison of Elementary and Preschool Implementation Process." Before moving into the elementary implementation steps, the BLT and/or Collaborative Team should briefly review the similarities and differences presented in the chart. Once this is done the team will refer to each step outlined in the *BLT Implementation Guide Mathematics and/or Math Implementation Collaborative Team Guide* and then review the corresponding step in the preschool supplement for further guidance regarding preschool involvement.

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Step 1: Review and Validate Universal Screening Data

As outlined in the Structuring process, universal screening assessments are administered a minimum of three times per year to all students. After the data are collected and entered and reports have been generated, an initial review of the data occurs. Collaborative Teams (classroom teachers, instructional coaches, professional learning communities, or grade-level or departmental teams) typically complete this review. The goal of the validation process is to ensure that the screening results are accurate before using them for instructional decision making. Collaborative Teams should consider the following questions when validating screening results:

- Was the screening assessment administered with fidelity?
- Were there environmental circumstances or events in the student's life that may have affected score results? For example, was the student sick on the day of the universal screening assessment? Did the student recently experience a traumatic event?

If an individual student's scores are questionable, the student should be assessed again using an alternate form of the measure. Validated scores need to be entered into the data management system and final reports generated.

Review Decision Rules

When determining instructional groups, teams will need more information than whether the student needs Tier 2 or Tier 3 intervention. Although students can initially be grouped according to needs identified by the universal screening assessment, additional information for grouping will come from the curriculum protocol placement test or student instructional planning report.

NOTES:

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Step 2: Analyze Data

Analyze Grade-Level Data

After every universal screening administration, the Collaborative Teams review grade-level reports showing the distribution of student scores within the On Track (i.e., low-risk), Supplemental, and Intensive instruction recommendation categories. The minimum criterion for intervention is the 25th percentile for AIMSweb and STAR Math Enterprise and the 40th percentile for easyCBM. The 10-24th percentile range for AIMSweb and STAR Math Enterprise and the 20-39th percentile range for easyCBM, includes students needing Supplemental intervention and the 9th percentile and below for AIMSweb and STAR Math Enterprise and the 19th percentile and below for easyCBM, includes students needing Intensive intervention.

SCREENER	ON TRACK RANGE		SUPPLEMENTAL RANGE	INTENSIVE RANGE
	No add'l help	Add'l help needed		
AIMSweb	50%ile and above	25-49%ile	10-24%ile	9%ile and below
STAR Math Enterprise	40%ile and above	25-39%ile	10-24%ile	9%ile and below
easyCBM	50%ile and above	40-49%ile	20-39%ile	19%ile and below

Students (sometimes referred to as "bubble" students) with scores between the 25-50th percentile for AIMSweb, between the 25-39th percentile for STAR Math Enterprise, and the 40-50th percentile for easyCBM need additional instructional support. including differentiated instruction in core.

Building-, grade-, and class-level status worksheets are available in the Appendix

When reviewing the grade-level reports, teams should record the data from the most recent universal screening on the Grade Level Status Worksheet used throughout each academic year. If using AIMSweb, percentages in each intensity level on the grade-level report need to be determined for both the Missing Number and Quantity Discrimination measures for grades K-1 as well as both the Computation and Concepts/Application measures for grades 2 and above (or by domain if using easyCBM or STAR Math Enterprise). Teams should then compare the most recent scores to the previous scores to determine growth.

When reviewing grade level-data from the initial universal screening of the academic year, Collaborative Teams should address the following questions:

- What is the current grade-level status?
- Where should the goal for this academic year be set? When setting the goal, teams might think about what they would want the previous grade level's team to write.

During each subsequent universal screening data collection process, Collaborative Teams should ask:

- Based on current progress, will the established goal be met?
- Is the current goal realistic?
- Does the rate of progress need to be accelerated?

The Collaborative Team should consider the number of students within the On Track, Supplemental, and Intensive ranges. The goal for schools is to have 80 percent of students within the On Track range or above when considering their composite scores. If the building has fewer students than this at the On Track level, then several issues should be considered:

- Are core instruction and the core curriculum being implemented with fidelity? How do we know?
- Is the core instruction explicit, systematic, and scaffolded?
- Are math concepts being taught to mastery?
- Are there sufficient examples, explanations, and opportunities for practice to support new learning?

In terms of differentiating the core, what thoughts arise with regard to the strengths and needs of this current grade?

- Are supports or professional development needed with the core curriculum or core instruction? If so, these need to be communicated to the Building Leadership Team.

NOTES:

- Use a copy of the Grade Level Status form to complete this step.

AIMSweb Grade Level Status for Math

Question: What is the current classroom level status and goal?

Kindergarten		% On Track		% at Supplemental (10-24%ile)	% at Intensive (9%ile and Below)
		50%ile & up	25-49%ile		
Fall	Number ID				
	Oral Count				
	Missing Num				
	Qty Discrim				
Winter	Number ID				
	Oral Count				
	Missing Num				
	Qty Discrim				
Spring	Number ID				
	Oral Count				
	Missing Num				
	Qty Discrim				

Considerations for Discussion

As teams evaluate classroom level data, what comes to mind in terms of…?

- Implementing core with fidelity?
- Strengths and weaknesses of the current group of learners?
- Needs for differentiation?
- Professional development needs?
- Needed supports?

Set Goal: By spring, _____% of students will be On Track for Number Identification.
By spring, _____% of students will be On Track for Oral Counting
By spring, _____% of students will be On Track for Missing Number.
By spring, _____% of students will be On Track for Qty Discrimination.

Discussion Notes:

AIMSweb Grade Level Status for Math

Question: What is the current grade level status and goal?

GRADE		% On Track		% at Supplemental (10-24%ile)	% at Intensive (9%ile and Below)
		50%ile & up	25-49%ile		
Fall	MCAP				
	MCOMP				
Winter	MCAP				
	MCOMP				
Spring	MCAP				
	MCOMP				

Considerations for Discussion

As teams evaluate grade level data, what comes to mind in terms of…?

- Implementing core with fidelity?
- Strengths and weaknesses of the current group of learners?
- Needs for differentiation?
- Professional development needs?
- Needed supports?

Set Goal: By spring, ___% of students will be On Track for MCAP.
By spring, ___% of students will be On Track for MCOMP.

Discussion Notes:

easyCBM Grade Level Status for Math

Question: What is the current grade level status and goal?

GRADE		% On Track		% at Supplemental (20-39%ile)	% at Intensive (19%ile and Below)
		50%ile & up	40-49%ile		
Fall	Composite Score:				
Winter	Composite Score:				
Spring	Composite Score:				

Considerations for Discussion

As teams evaluate grade level data, what comes to mind in terms of…?

- Implementing core with fidelity?
- Strengths and weaknesses of the current group of learners?
- Needs for differentiation?
- Professional development needs?
- Needed supports?

Set Goal: By spring, _____% of students will be On Track.

Discussion Notes:

STAR Math Enterprise Grade Level Status for Math

Question: What is the current grade level status and goal?

GRADE		% On Track		% at Supplemental (10-24%ile)	% at Intensive (9%ile and Below)
		40%ile & up	25-39%ile		
Fall	Composite Score:				
Winter	Composite Score:				
Spring	Composite Score:				

Considerations for Discussion

As teams evaluate grade level data, what comes to mind in terms of…?

- Implementing core with fidelity?
- Strengths and weaknesses of the current group of learners?
- Needs for differentiation?
- Professional development needs?
- Needed supports?

Set Goal: By spring, _____% of students will be On Track.

Discussion Notes:

Analyze Classroom-Level Data

The Collaborative Teams review classroom-level reports showing the distribution of student scores for each classroom. A classroom-level report provides an intensity-level recommendation (i.e., On Track, Supplemental, or Intensive) for each student.

When reviewing the reports, teams should enter current data on the Classroom Level Status Worksheet and compare the percentages to previous data. If using AIMSweb, percentages in each intensity-level recommendation category need to be established for both the Missing Number and Quantity Discrimination measures for grades K-1 as well as both the Computation and Concepts/Application measures for grades 2 and above or by domain if using easyCBM or STAR Math Enterprise. When reviewing classroom-level data, teams should focus on addressing the following questions:

- What is the current status of the classroom?
- Where should the end-of-year goal be set?
- Based on current progress, will the end-of-year goal be met?
- Is the current end-of-year goal realistic?

The Collaborative Team should consider whether the data indicate the need to implement a class-wide intervention. When more than 40% of the students in any single classroom are not On Track, the teacher needs to plan (a) class-wide interventions to address the identified weakness and (b) adjustments in instruction and core curricular materials to support those learning needs. If additional professional development or coaching support is needed, Collaborative Teams should communicate those needs to the Building Leadership Team. If a class-wide intervention is needed, the leadership team may wish to consider whether a significant skill/concept is missing from the core curriculum at an earlier grade. If so, additional materials need to be identified/utilized to strengthen the core curriculum.

Collaborative Teams should review the classroom reports and consider the number of students within the On Track, Supplemental, and Intensive ranges. The goal for buildings is to have 80% of students within the On Track range or above. If a class has a lower percentage of students than this in the On Track or above ranges for any of these measures, the following issues should be considered:

- Is the core being taught with fidelity?
- Is sufficient instructional time being allocated to core math instruction?
- Is core instruction explicit, scaffolded, and differentiated?
- Are there sufficient opportunities for practice and review?
- Are peer tutoring strategies being used in the core to support the needs of students with math difficulties?

Teachers also need to consider how to differentiate instruction and provide a variety of curricular materials to meet the needs of a classroom in which so many students lack adequate skills. Collaborative Teams then need to decide which of these issues should be reported to the Building Leadership Team.

NOTES:

- Use a copy of the Classroom Level Status for Early Numeracy (Grades K-1) form to complete this step.

AIMSweb Classroom Level Status for Math

Question: What is the current classroom level status and goal?

TEACHER Kindergarten		% On Track		% at Supplemental (10-24%ile)	% at Intensive (9%ile and Below)
		50%ile & up	25-49%ile		
Fall	Number ID				
	Oral Count				
	Missing Num				
	Qty Discrim				
Winter	Number ID				
	Oral Count				
	Missing Num				
	Qty Discrim				
Spring	Number ID				
	Oral Count				
	Missing Num				
	Qty Discrim				

Considerations for Discussion

As teams evaluate classroom level data, what comes to mind in terms of…?

- Implementing core with fidelity?
- Strengths and weaknesses of the current group of learners?
- Needs for differentiation?
- Professional development needs?
- Needed supports?

Set Goal: By spring, _____% of students will be On Track for Number Identification.
By spring, _____% of students will be On Track for Oral Counting
By spring, _____% of students will be On Track for Missing Number.
By spring, _____% of students will be On Track for Qty Discrimination.

Discussion Notes:

AIMSweb Classroom Level Status for Math

Question: What is the current classroom level status and goal?

TEACHER		% On Track		% at Supplemental (10-24%ile)	% at Intensive (9%ile and Below)
		50%ile & up	25-49%ile		
Fall	MCAP				
	MCOMP				
Winter	MCAP				
	MCOMP				
Spring	MCAP				
	MCOMP				

Considerations for Discussion

As teams evaluate classroom level data, what comes to mind in terms of…?

- Implementing core with fidelity?
- Strengths and weaknesses of the current group of learners?
- Needs for differentiation?
- Professional development needs?
- Needed supports?

Set Goal: By spring, ____% of students will be On Track for MCAP.
By spring, ____% of students will be On Track for MCOMP.

Discussion Notes:

easyCBM Classroom Level Status for Math

Question: What is the current classroom level status and goal?

TEACHER		% On Track		% at Supplemental (20-39%ile)	% at Intensive (19%ile and Below)
		50%ile & up	40-49%ile		
Fall	Composite Score:				
Winter	Composite Score:				
Spring	Composite Score:				

Considerations for Discussion

As teams evaluate classroom level data, what comes to mind in terms of…?

- Implementing core with fidelity?
- Strengths and weaknesses of the current group of learners?
- Needs for differentiation?
- Professional development needs?
- Needed supports?

Set Goal: By spring, _____% of students will be On Track.

Discussion Notes:

STAR Math Enterprise Classroom Level Status for Math

Question: What is the current classroom level status and goal?

TEACHER		% On Track		% at Supplemental (10-24%ile)	% at Intensive (9%ile and Below)
		40%ile & up	25-39%ile		
Fall	Composite Score:				
Winter	Composite Score:				
Spring	Composite Score:				

Considerations for Discussion

As teams evaluate classroom level data, what comes to mind in terms of…?

- Implementing core with fidelity?
- Strengths and weaknesses of the current group of learners?
- Needs for differentiation?
- Professional development needs?
- Needed supports?

Set Goal: By spring, _____% of students will be On Track.

Discussion Notes:

Step 3: Use Data to Group Students

Grouping students based only on recommendations for instructional intensity (i.e., On Track, Supplemental, or Intensive) is not sufficient. Instructional intensity recommendations only indicate the level of support students require for success. Collaborative Teams must also determine the skill/concept focus for instruction. Students who do not score within the On Track range on the universal screening measure used at their grade level often have problems with prerequisite skills. Therefore, additional assessment may need to be conducted to determine how students should be grouped based on skill/concept deficits and the focus for instruction.

Determine Instructional Level (Test Down) for Each Student in Intervention

Students should be monitored at their instructional level. For screeners that do not identify the instructional level, the steps for determining instructional grade level are:

- For students in grades 2 and above who scored below the On Track range, test down (using progress monitoring probes) one grade level at a time.
- Determine the level at which the student passes (i.e., scores On Track) for the time of year of the testing, using the norms for the grade level of the test.
- The student's instructional level is one grade level higher than the passing level; use the instructional level for instructional materials and progress monitoring.

Determine Instructional Focus for Each Student

Once the placement test/instructional planning report information has been collected, group students according to their needs. When finalizing the groups after completing this process, it is important to review the data to ensure that the final grouping is a match for the student's instructional level, specific instructional needs, and the level of Supplemental or Intensive instruction to be provided. In addition, the instructional focus of each group should be revisited to ensure that the planned intervention is aligned with the students' identified needs for that group. Teachers should remember that the protocol interventions selected for each group come from the Curriculum Protocol tool (from Structuring). Whenever universal screening is conducted, it is essential to revisit and refine the alignment of students' needs with both the levels of intervention intensity and the instructional focus of the groups.

In terms of providing instruction, it is critical to have a good match between the instructors' knowledge and the interventions they will be teaching. Collaborative Teams will make some decisions about this

match, based on guidance from the Building Leadership Team. Therefore, it is important to know the strengths and professional development needs of intervention providers (e.g., teachers, para-educators). For example, some teachers are confident in teaching math whereas others are uncertain about good instructional practices for mathematics. The Student Grouping Worksheet will aid in planning and documenting instructional groups. Note that the assessments to be used for progress monitoring and exit criteria help ensure ongoing data collection and appropriate movement between instructional groups.

NOTES:

- Use the Instructional Grouping Worksheet to group students.

Instructional Grouping Worksheet

Intensive Intervention Group

Instructional Focus: Intervention Curriculum:
Interventionist: Location:
Progress Monitoring Tool:
Frequency of Progress Monitoring:

Student Receiving Intervention	Student Percentile (AIMSweb)		OR Student Composite Percentile (STAR)	Lowest strand/domain-where intervention begins?	Instructional Level to Progress Monitor
	MCAP	MCOMP			

Supplemental Intervention Group
Instructional Focus: Intervention Curriculum:
Interventionist: Location:
Progress Monitoring Tool:
Frequency of Progress Monitoring:

Student Receiving Intervention	Student Percentile (AIMSweb)		OR Student Composite Percentile (STAR)	Lowest strand/domain-where intervention begins?	Instructional Level to Progress Monitor
	MCAP	MCOMP			

Step 4: Determine Focus of Intervention

Determine Appropriate Instructional Materials for Each Intervention Group

Once the student intervention groups have been formed and an instructional focus for each group has been determined, the Collaborative Team will need to select the appropriate intervention for each group. The most successful groupings and progress occur when a placement test is used to pinpoint and align the appropriate intervention. After the grouping process has been finalized, Collaborative Teams will need to choose appropriate interventions from the building's Math Comprehensive Curriculum Protocol. After selecting the interventions, teams will need to determine and document the following information on the Math Student Grouping Worksheet:

- Who will provide the intervention for each group.
- The instructional focus of the group.
- The location where the intervention will be delivered.
- The person responsible for progress monitoring.

Begin Comprehensive Protocol Intervention

Once the appropriate materials have been selected, the students should begin the protocol intervention. Again, fidelity to the curriculum selected is critical.

Begin Daily Fact Fluency Practice

Students should receive 10 minutes of fact fluency practice during every intervention period (Gersten et al., 2009). For all areas of mathematics, teachers must be careful not to present too much information at one time or in a very short period of time as this can overload students' processing capacity (i.e., working memory). When working with students to build proficiency or automaticity, it is particularly important that teachers consider how information might be chunked or grouped into smaller pieces for instruction (Riccomini & Witzel, 2010).

NOTES:

Step 5: Determine Instructional Level for Progress Monitoring and Intervention Goal

Identify Skill(s)/Concept(s) to be Progress Monitored

Progress monitoring tools are selected based on the domain the intervention is addressing if using easyCBM. Computer-adapted assessments like STAR Math Enterprise automatically generate the appropriate probe at the correct level. If using AIMSweb, it is recommended that both the computation and concepts and application assessments be given. (When monitoring these students, it is recommended that each measure be given on a different day.)

In addition to progress monitoring to determine skill growth, teachers will also need to assess skills for instructional purposes. For example, students receiving instruction on specific basic facts should receive frequent curriculum-based assessment of those facts to help determine skill mastery.

Determine the Appropriate Instructional Level for Progress Monitoring

Progress monitoring students at their instructional level is critical for helping them close the achievement gap between themselves and their peers. The instructional level was determined during the grouping process; the same level should be used for progress monitoring. Universal screening is always done at the current grade level.

Determine the Frequency of Progress Monitoring Data Collection and Review

The Collaborative Teams should follow the rules regarding the frequency of data collection and data review. The decision rules of the system include, for example, the 3 data-point decision rule to help teams determine if student performance indicates that adjustment to the instruction may be appropriate. The decision rules were determined by the Building Leadership Team during Structuring.

In general, students are likely to learn earlier and more discrete fundamental skills quickly after skill-focused intervention is provided. More complex skills usually require a longer period of time for a student to demonstrate growth. Maintaining an intervention log is critical for documenting changes made to the student's intervention plan. Any changes to a protocol intervention or an individualized plan should be based on the results of the progress monitoring data and documented in the intervention log.

Determine the Appropriate Intervention Goal

At a minimum, the goal for students should be to achieve the 25th percentile on end-of-year norms for the grade level at which the students are being progress monitored (instructional level) or the 40th percentile if using easyCBM. The national norms for the universal screening assessment administered within your building should be used to establish end-of-year goals for students.

Once the level for progress monitoring has been determined and a goal for the student has been identified, a chart for progress monitoring can be started. The Collaborative Team should plot the score the student obtained on the probe at the student's instructional level (or from the universal screening assessment if the student is being monitored at grade level) as the baseline score. Next, the team should plot the student's goal score at the level being used for progress monitoring. Now draw a line between the baseline point and the goal point. This is the student's aim line, sometimes called the goal line, and progress toward the goal will be determined by the number of points at, above, or below this aim line. The team should graph the data and chart the growth of individual students. Decisions about changing instruction will be based on the previously developed decision rules.

Progress monitoring data need to be organized so they are useable for teams to determine when to make an adjustment in instruction. Keeping progress monitoring visible is a good method for ensuring that it remains useable. These data can be made visible and useable in different ways. Charts are best for visual representations to help staff interpret the progress monitoring data in relation to the student's goal. Assessment cards can be used to display both screening data and progress monitoring information to staff. Whatever method is used, it is important to ensure that data are maintained in a confidential manner while being readily available to staff members who work with the student.

NOTES:

Step 6: Analyze Progress Monitoring Data

Validate Progress monitoring Data

As soon as progress monitoring data are collected, they should be added to each student's progress monitoring chart. It is important for each Collaborative Team to establish a routine for examining all the progress monitoring graphs for accuracy. The team should look to confirm that:

- The correct skills were progress monitored at the correct level.
- Sufficient data were collected to make decisions, according to the established decision rules.
- Data were accurately graphed.

Looking for and thinking about these issues provide a basic fidelity check of the process and help ensure that decisions about instructional adjustments are accurate.

Determine if the Student is Making Enough Progress Toward End-of-Year Goal

The analysis of progress monitoring data is a two-step process: (a) determine whether the student is making progress and (b) determine whether the rate of growth is sufficient to close the gap. The most valid means of defining progress is by analyzing the trend line (Fuchs & Deshler, 2007), which is the line of best fit for the progress monitoring points collected over time (i.e., the line drawn through the data points that comes closest to having all of the points fall on the line). The team should determine if the student is making progress by comparing the student's trend line to the identified goal line or aim line and then applying the decision rules of the system. The team should also determine if the student's progress is sufficient to close the gap with grade-level peers by comparing a continuation of the student's trend line to the final desired level of performance, which is typically the On Track range for the instructional level.

In the following examples, a 3-data-point decision rule is used. If the local system uses a 4- or 6-data-point rule, the same process applies, with just a modification of the number of data points.

Three or More Consecutive Data Points Above Aim Line or Data Points Are Both Above and Below Aim Line

If a student has three or more data points consecutively above the aim line or if the data points are inconsistent (i.e., both above and below), it means that the intervention is having a positive impact and progress is being made. This result alone is not a sufficiently deep

analysis to determine whether an adjustment in instruction is appropriate.

Three or More Consecutive Data Points below the Aim Line but Trend Line Shows an Upward Trend

If three or more consecutive data points are below the aim line, but the trend line shows an upward trend, it means that sufficient progress is not being achieved. This result alone is not a sufficiently deep analysis to determine any potential adjustment in instruction.

Three or More Consecutive Data Points below the Aim Line and Trend Line is Flat or Downward

When the trend line is below the aim line and on a flat or downward trend, progress is not being made.

Determine if Student is Mastering Intervention Skill(s)/Concept(s)

The ultimate goal for students in intervention is to close the gap between where they are currently performing and the grade-level performance of peers enough to enable them to return to only core instruction. The chart of a student who is closing the gap will show data points that fall above or both below and above the aim line as well as a trend line that intersects the goal line before the end of the year (or other monitoring time period).

Made Progress and Sufficient Growth to Close the Gap

If the team determines that the student's progress is at or above the aim line and the student is making progress sufficient to meet the goal, the team needs to make one of the following decisions:

1. Should the intervention recommendation be changed—i.e., should the student's intervention be changed from Intensive to Supplemental? Teams should follow decision rules for moving students between tiers.

2. Should the student be regrouped to work on a different skill? If the instructional focus is on a skill that is multiple grade levels below grade-level core instruction, the team will want to consider conducting additional assessment to determine the appropriate instructional focus for the student and regroup the student, as necessary, based on the new skill.

3. Should intervention continue as currently designed and implemented? Just because a student is showing progress does not mean that immediate action must be taken. Generally speaking, the team will want to continue the student in the current successful intervention until the goal for that instructional level is met. Once the student meets the goal, teachers should move to the next higher grade level for instructional materials and progress

monitoring level. Teachers should repeat this process for increasing the level of instructional materials based on progress monitoring results until the student's progress has closed the achievement gap with peers. Once the student closes this gap, gradually decreasing the amount of support provided to the student should be considered. Continued progress monitoring will indicate whether decreased support is sufficient for student growth to continue.

4. Should intervention be discontinued and would core instruction be sufficient? Having students learn skills to the point they can succeed with only core instruction is the goal of MTSS. When considering this decision, the team needs to ask questions such as:

    - How close is this achievement to being within the On Track range for the student's grade level? If the student's current level is considerably below the On Track range, it is likely that the student will continue to need intervention.
    - What are the next critical skills the student needs to learn? Identifying these skills enables the team to make informed decisions about the appropriate instructional focus for the student.
    - What are the skills being taught within the core curriculum? Identifying these skills enables the team to understand and make informed decisions about the instructional match between what is being taught in the core and in the intervention.
    - What level of support has been provided to allow for this level of achievement? If a very high level of support has been provided to achieve the performance, the team may consider reducing the intervention intensity as opposed to immediately discontinuing intervention.
    - How frequently should progress be monitored if intervention is discontinued and the student is only receiving core instruction? Even after a student has exited from the intervention, it is important to conduct additional checks—more frequently than just universal screening—to ensure that the skills have generalized to the classroom and the student is still able to be successful.
    - If a student is returned to the core curriculum, then continued progress monitoring for a specified period of time is recommended in case the need re-emerges for additional support.

If the Student is Not Making Sufficient Growth to Close the Gap, Intensify Instruction

If the graph of student performance shows an upward trending line that will not intersect with the goal line or aim line, then a student is

improving, but at a rate that is insufficient to close the gap with peers.

Made Progress but Insufficient Growth to Close the Gap

If the team determines that the student is showing growth but at an insufficient rate to close the gap, then the team needs to determine how to increase the intensity of the current instruction. Options for intensifying instruction include:

- Checking student's attendance to determine if the student needs intervention to improve his or her participation in instruction.
- Increasing the number of student responses in a minute by reducing group size.
- Increasing the number of questions and error corrections the student receives in a minute.
- Increasing the scaffolding by breaking the task down further or providing more structure so that the student can be successful.
- Spending more time modeling the "I do" and "We do" guided practice before the student practices independently.
- Increasing the number of repetition cycles on each skill before moving on to see whether mastery is achieved with more practice.
- Using a more systematic curriculum so that skills are taught in a prescribed manner, with the teacher asking questions and cueing students using the same language for each routine (Hall, 2007).

If the Student is Not Making Progress, Customize the Intervention

If the graph of student performance shows a trend line that is flat or downward, then teams should consider customizing the intervention.

Many factors can influence whether a student makes progress; therefore, it is important to have a systematic process for analyzing the cause, starting with the most basic and easiest to change. However, it is always important to remember that the protocol intervention must be taught with fidelity. If the student is still not making progress, then the intervention can be customized one piece at a time.

In analyzing the lack of progress, the team must look into each of the following items, in sequence:

1. First check the student's attendance to ensure that access to instruction is not the issue.
2. Next, check to ensure the skill being progress monitored is the same as the instructional focus (what is being taught) of the intervention.
3. If the skill and the progress monitoring measure are consistent, check the fidelity of instruction. This can be done by looking at

the intervention log to verify whether the intervention was given as frequently as planned (i.e., daily), for the duration planned (i.e., 30 or 60 minutes) and using the materials as designed and that progress monitoring was conducted as planned (i.e., weekly).

4. If both point 2 and point 3 are happening, consider increasing the pace of instruction. Often teachers respond to a student having difficulty in learning by slowing down the pace of instruction, when in fact they need to increase the pace of instruction. Slowing down the pace of instruction can result in lower levels of student attention and motivation whereas a faster pace can keep students engaged. The pace of instruction is related to the number of student–teacher interactions per minute. For Intensive intervention with groups of three or fewer, students should be expected to provide five correct responses per minute (via choral or individual responses).
5. Next, consider modifying the pace of intervention. For example, reducing the number of new skills introduced each week can slow the pace of intervention. If new skills are being introduced at a rate of five new skills per week, consider introducing only three new skills per week and providing a greater amount of practice on each skill before moving to the next one.
6. Ensure the alignment of programs. Teams need to ensure that vocabulary is used the same way in both core and intervention curricula so that skills are taught and practiced in the same way in all instructional settings for each student.
7. If all of the six previous points have been completed and everything is in place as planned, the team should consider adjusting the instructional materials.
8. Consider moving the student to a different group with a different instructional focus.
9. Consider moving the student from Supplemental to Intensive intervention.

If the Student is Not Making Progress, Customize the Intervention

When a student receiving Intensive intervention fails to show progress despite data-based adjustments to the intervention being provided, the Collaborative Team—in collaboration with the Building Leadership Team—should consider the need for individual student problem solving to customize the intervention. At this point, formal diagnostic assessments, such as KeyMath or Tools for Early Assessment in Math (TEAM), might be used. In addition, it would be appropriate to administer an error analysis. One source for error analysis is Marilyn Burns' Math Reasoning Inventory, which can be found at https://www.mathreasoninginventory.com/.

When a student receiving Intensive intervention fails to show progress despite data-based adjustments to the intervention being provided,

teams should consider the need for individual student problem solving to customize the intervention. When customizing an intervention, teachers should use current research to determine the necessary components of the individualized plan. Teams should analyze all the data available regarding the student and develop a hypothesis about the underlying causes of the student's lack of progress so that a more individually customized intervention plan can be developed and implemented.

The individual student problem-solving process is what schools have traditionally used for general education interventions, often conducted by Student Improvement Teams (also known as SIT, SAT, TAT, and CARE teams, among other names). Within the MTSS model, the Collaborative Teams conduct the work of the General Education Intervention or Student Improvement Team (SIT). The Collaborative Team working to customize an intervention for a student may decide that the data indicate that the student needs to be referred for evaluation for special education services.

At any time when a Collaborative Team suspects the student may be a student with an exceptionality, they must refer the student for an initial evaluation. Any parent request for a special education evaluation must be reported to the building administrator or to the appropriate staff person, as designated by district special education procedures. The MTSS should not delay a student from receiving a special education evaluation. A student does not have to move through all the tiers before a referral for a special education evaluation is made. Conversely, having received all tiers of instruction or needing Tier 3 instruction does not indicate in and of itself that a student should be referred for a special education evaluation.

Research-Based Practices to Consider Regarding Intervention Effectiveness

Instruction	Curriculum

• Fidelity of instruction
• Modeling and guided practice prior to independent practice (I Do, We Do, You Do)
• Explicit teaching
• Pace of instruction
• Opportunities to respond
• Time allocated
  • Intervention in addition to core
  • Intervention time daily
  • More intervention time needed
• Sufficient questioning, check for understandings
• Clear directions
• Sufficient practice, application, and review
	• Appropriate match between learner and intervention
	• Instructional focus based on diagnostic process
	• Relation to post-school outcomes and student interests
	• Variety of activities
	• Provides for explicit approach to teaching
	• Appropriate independent work activities
	• Teaches skills to mastery
	• Provides adequate opportunities for practice and review
	• Progress is being monitored on the appropriate skill
	• Appropriate rate of progress to reach goal

Setting	**Individual**

• Classroom routines and behavior management support learning
• Appropriate person teaching the intervention group
• Group arrangements for instruction
  • Size of group
  • Student is in appropriate group
  • Movement to group using decision rules
• Interruptions to class are infrequent
• Academic learning time is high
• Transitions are short and brief
• Time devoted to homework with monitoring
	• Motivation
	• Task persistence
	• Social skills/peer relationships
	• Commitment to school
	• Self-efficacy
	• Attendance
	• Learning strengths
	• Pattern of performance errors reflect skill deficits
	• Connection with school, community, adults, and family
	• Home-based reading and math activities (practice, no new learning)

Step 7: Update Student's Tracking Information

Update Student Intervention Log and Progress Monitoring Graph

Once any instructional adjustments have been completed, instruction and progress monitoring of student skill growth continue as described in previous steps. The student intervention log and the progress monitoring graph need to be consistently updated so that an accurate record of the interventions and their results can be maintained. It is critical that teachers document both the instruction being provided and the intervention sessions that each student actually attends. This documentation is critical as a source of information when analyzing student growth. This cycle of assessment, adjustment, and adding to the graph or log continues as long as a student requires intervention. To summarize, all students in intervention need:

- An accurate record of interventions.
- An accurate record of actual student participation in intervention instruction.
- An accurate record of progress monitoring results.
- Ongoing, consistent, regular data review meetings, with instructional adjustments made according to decision rules.

Steps 1 through 7 will be repeated during this year and subsequent years as the Building Leadership Team and the Collaborative Teams continue to collect and analyze data for MTSS implementation for mathematics. Teams will become more adept at the process with practice, but it is important to periodically review the process as described in the Collaborative Team workbook to maintain fidelity to the process.

Appendix

AIMSweb Grade Level Status for Math
Question: What is the current grade level status and goal?

GRADE		% On Track		% at Supplemental (10-24%ile)	% at Intensive (9%ile and Below)
		50%ile & up	25-49%ile		
Fall	MCAP				
	MCOMP				
Winter	MCAP				
	MCOMP				
Spring	MCAP				
	MCOMP				

Considerations for Discussion

As teams evaluate grade level data, what comes to mind in terms of…?
Implementing core with fidelity?
Strengths and weaknesses of the current group of learners?
Needs for differentiation?
Professional development needs?
Needed supports?

Set Goal: By spring, ___% of students will be On Track for MCAP.
By spring, ___% of students will be On Track for MCOMP.

Discussion Notes:

AIMSweb Grade Level Status for Math
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Considerations for Discussion

As teams evaluate grade level data, what comes to mind in terms of…?
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Set Goal: By spring, ___% of students will be On Track for MCAP.
By spring, ___% of students will be On Track for MCOMP.

Discussion Notes: