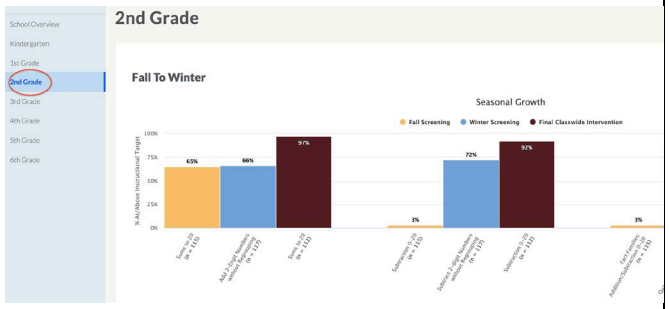
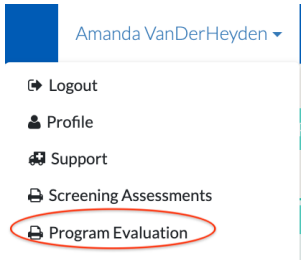
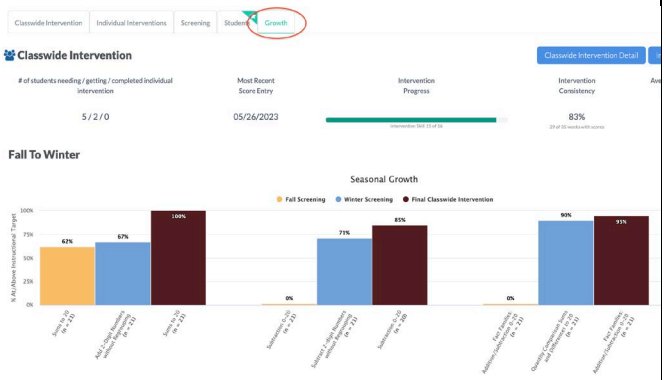
SpringMath – Optimal Implementation Conditions

	Item	Rationale	Current Status of Implementation	Resources to Help
System Leadership	1. District and school administrators understand and agree that effective instruction is science-based, avoids popular misconceptions that are misaligned with science, and provides support for math instruction that is supported by scientific evidence. Flexibility of instruction can be permitted, but science is prioritized over philosophy; and leaders are willing to deliver science-based instruction during each day's lesson. Other tactics, if used, are used as an add-on as time permits.	Misunderstanding the science of instruction can, generally, cause leaders to be wary of evidence-based practices and to, instead, support practices in classrooms that are not effective. Situating SpringMath as a supplement to core instruction is an excellent start. Over time, leaders can use SpringMath to leverage or encourage more effective daily practices such as selecting instructional tactics based on the Instructional Hierarchy.	☐ No ☐ Yes **Goal:** 6-12 months before implementation	• Managing system change to drive achievement gains in math • Understand the teacher's role • Understand implementation support • Know how SpringMath meets the criteria to be an effective MTSS tool (handy checklist to select other tools) • Cost-Benefit Analysis Data • Complete How-To Book (Free) • www.intensiveintervention.org • www.thescienceofmath.com • Rubric for evaluating core math curricula
	2. Principals and internal coaches/leaders (a) attend onboard training, (b) have unique log-in credentials, and (c) log into coach dashboard once per week.	Understanding in real time where MTSS actions are occurring, and with what effects, is necessary to enable effective allocation of resources to improve implementation and drive results.	☐ No ☐ Yes **Goal:** Onboarding complete 2-4 weeks before start	• SpringMath login • Chapter 7: Supporting Math MTSS through SpringMath Guide • Intervention Integrity Make sure leaders receive newsletter & attend free coach trainings offered virtually.

	3. Students are grouped heterogeneously for their core math instruction. Heterogeneous grouping means students are grouped not according to ability, but rather, reflects the full range of performance from low to high.	Research on grouping by ability generally shows poor effects for typical or low-performing students in universal core instruction. Classwide intervention is specifically used in a context of many students needing intervention, and it is used universally. Students should not be grouped by ability for classwide intervention. Classwide intervention produces results when each class grouping reflects the full range of performance of students in the grade from low to high. Benefits for homogeneous (i.e., same ability) grouping can be shown when students are selected for small group supplementation and the intervention is specifically aligned to the needs of students comprising a small group.	☐ No ☐ Yes **Goal:** in place Year 1 or in progress for Year 2	Specifically, heterogeneous whole-class delivery of classwide intervention is necessary to enable strong upward gains on outcome measures as has been shown in research. SpringMath will recommend homogenous small groups for Tier 2 intervention selected based on student assessment data (materials and tactics will be unique to the small group and grouping is adjusted week to week based on student learning gains). SpringMath study: Marr, Solomon, et al. (in preparation). Dissertation study from SUNY student, data analysis complete. Within SpringMath: Heterogeneous universal classwide intervention superior to homogeneous class groupings. • Journal: Within-class grouping: A Meta-Analysis • Journal: Effects of Ability Grouping on Secondary School Students: A Meta-analysis of Evaluation Findings • ERIC: An Analysis of the Research on Ability Grouping
	4. Make sure the schedule allows all students to participate in SpringMath.	Children of all demographic backgrounds, including children on IEPs, show strong benefits in classwide math intervention. Classwide math intervention becomes a more accurate "screening" to determine who needs Tier 2 or 3 intervention, both reducing the overall number of students needing intensification and making those recommendations more accurate. All children must participate to derive the full benefit.	☐ No ☐ Yes **Goal:** In place Year 1 or in progress for Year 2	• Finding Risk & Closing Opportunity Gaps • The Beginnings of Classwide Math Intervention • Summary of research effects for classwide intervention (PDF)
	5. Coaches are identified and engaged, logging in to the coach dashboard weekly and collaborating with teachers in classrooms to improve implementation and effects.	Understanding in real time where MTSS is occurring, and with what results, is necessary to enable effective in-class coaching and consultation to improve implementation and drive results.	☐ No ☐ Yes **Goal:** 2-4 weeks before implementation	• Complete Coach Guide in Support • Coach "Quick Start" Guide • Coach Checklists to Improve Implementation • How to Support Classes that Are Not Having Success • Tips and Tricks for Success

	6. Leaders view "Growth Tabs" in the coach dashboard at least monthly and share successes with teachers, students, parents, and the district community.	The Growth tab shows leaders and teachers real time gains being produced via intervention. Gains in the growth tabs are leading indicators that gains on year-end measures are forthcoming.	☐ No ☐ Yes **Goal:** 4-6 weeks after start & routinely thereafter	In Coach dash: 
	7. Principals and internal coaches/leaders use the Program Evaluation feature in SpringMath to view learning gains annually.	The program evaluation report will tell you how well screening, classwide intervention, and individual interventions were implemented. It will also report gains within and across years on SpringMath measures and external measures (e.g., your year-end test scores). The report will recommend specific actions to improve implementation.	☐ No ☐ Yes **Goal:** End of school year; upload external data & complete before start of next year's implementation	 How to Use Program Evaluation in SpringMath
Teacher Leadership	8. Teachers (a) attend onboard training.	Teachers must be set up for success, meaning they can easily and readily log into their accounts and are comfortable starting universal screening and, most likely, classwide intervention. Teachers need to learn how to print materials and how to view weekly growth for students.	☐ No ☐ Yes **Goal:** Onboarding complete 2-4 weeks before start	• SpringMath login • Teacher Resources • Classwide Intervention Resources Make sure teachers receive newsletter & attend free coach trainings offered virtually.
	9. Include all students in classwide math intervention in their core instructional groupings. Including all students means including students who may already be identified for special education and new students, as well as both higher- and lower-performing students.	Children of all demographic backgrounds, including children on IEPs, show strong benefits in classwide math intervention. Classwide math intervention becomes a more accurate "screening" to determine who really needs Tier 2 or 3 intervention, both reducing the overall number of students needing intensification and making those recommendations more accurate. All children must participate to derive the full benefit.	☐ No ☐ Yes **Goal:** In place during Year 1	• How to Administer Classwide Intervention (with videos in classrooms) • Acquisition Lessons

	10. Teachers log in at least weekly, review screening data or classwide intervention growth for all children, individual intervention student growth, and take actions recommended in their dashboards using the materials provided, including motivation components.	SpringMath materials and actions cannot be implemented if the teacher is not logging in at least weekly and clicking through the right steps/screens as prompted by the interface. Interventions will have no effect if not implemented as recommended.	☐ No ☐ Yes **Goal:** Start 2 weeks following onboarding & continue weekly or more often	• Teacher Guide • Teacher Self-Assessment & Checklist for Classwide Intervention
	11. All teachers view students' gains in Classwide Intervention and in their Growth tabs in their dashboards at least weekly.	Viewing weekly and monthly gains is essential to support ongoing use of interventions. Weekly and monthly gains indicate year-end test scores are likely to improve. When gains are not observed, troubleshooting is required to get the interventions on track.	☐ No ☐ Yes **Goal:** Weekly starting first week of intervention which should be 1 week after screening	In Teacher dash:  • Troubleshooting checklist for classwide intervention • Tips and Tricks for Success
	12. Teachers conduct intervention 4-5 days per week.	Experimental studies in math are converging on consensus: frequently delivered (ideally 4-5 days per week) shorter sessions (e.g., 15-20 min) deliver stronger gains on learning than the same interventions delivered in longer, less frequent sessions, even when the total minutes in the intervention remain the same. Interventions should be implemented 4-5 days per week.	☐ No ☐ Yes **Goal:** Weekly starting first week of intervention which should be 1 week after screening	• Dosage chart (PDF) Codding, R., VanDerHeyden, Martin, R. J., & Perrault, L. (2016). Manipulating Treatment Dose: Evaluating the Frequency of a Small Group Intervention Targeting Whole Number Operations. *Learning Disabilities Research & Practice, 31*, 208-220. Duhon, G. J., Poncy, B. C., Krawiec, C. F., Davis, R. E., Ellis-Hervey, N., & Skinner, C. H. (2020) Toward a more comprehensive evaluation of interventions: A dose-response curve analysis of an explicit timing intervention, *School Psychology Review*. Schutte, G., Duhon, G., Solomon, B., Poncy, B., Moore, K., & Story, B. (2015). A comparative analysis of massed vs. distributed practice on basic math fact fluency growth rates. *Journal of School Psychology, 53,* 149-159. Solomon, B. G., Poncy, B. C., Battista, C., & Campaña, K. V. (2020). A review of common rates of improvement when implementing whole-number math interventions. *School Psychology*, *35*, 353-362.