

## **Harrison Elementary Mathematics Program and Policy**

This document shall serve as the official way of facilitating Mathematics instruction at Harrison Elementary. Teachers shall review this document prior to the beginning of each school year and revisit when necessary. This is a “living” document and will be updated as the staff undergoes additional professional development. It is imperative that we are explicit and systematic with our instruction, utilizing data to guide our instruction and make decisions that are best for the students at Harrison. The program consists of a curriculum aligned with state standards, mathematical practices, 21<sup>st</sup> century skills, professional development for teachers, and administrative support and monitoring.

### **Mathematics Block**

The daily minimum time for mathematics is ninety minutes for both primary and intermediate. Twenty minutes is devoted to Tier 2 instruction through the use of SuccessMaker Math. Ten minutes is devoted to Calendar Math. The CRTL model will be utilized with the hour block remaining to incorporate continuous review (5 minutes); real world connection and vocabulary (5 minutes); gradual release model (I Do: 5-10 minutes, We Do: 10-15 minutes, You Do: 10-15 minutes); assessment (5 minutes).

### **Planning for Instruction**

Daily common planning will be provided for grade level teams. Grade level teams and/or administrators will meet allowing teachers to augment core program lessons based on student needs and data. Grade level teams and administrators will meet for plan review, data analysis, goal setting, motivation, and/or professional development weekly.

Explicit plans will be utilized, congruent to Kentucky Core Academic Standards for Mathematics, to ensure all students are successful. As a team, whole group lessons will be planned so that all students, in any given grade are provided with systemic instruction. The team will scaffold lessons according to the needs of the students. Multiple forms of assessment data will be used to differentiate and align instruction according to the three tiers of instruction (Tier 1- Core, Tier 2-Supplemental, Tier 3- Intervention).

**\*\* See Long Range Plans – Appendix A1**

**\*\* See Implementing Standards for Mathematical Practices—Appendix A2**

**\*\* See Explicit Lesson Observation Planning Tool -- Appendix A3**

### **Delivery of Instruction**

Delivery of instruction should be brisk with active student engagement. Instruction should begin with explicit instruction using the gradual release model: beginning with the teacher model (I

Do) and then providing guided practice (We Do) moving toward independent practice (You Do) or through the 5 E's model. Students should have practice with concrete models before moving to visual models and then abstract models to deepen their mathematical understanding.

Continuous review is monitored through the use of flashbacks. Exit slips and other forms of assessment data should be used to determine if students have met the expectations of the skill and strategies taught. Students should also self-assess in regards to goal setting and their level of understanding. Students shall participate in discussions with peers through partnerships, small group, and whole group to strengthen problem solving and mathematical reasoning.

**\*\* See Gradual Release Model --- Appendix A4**

**\*\* See Flashback Example—Appendix A5**

**\*\* See Using Daily Exit Slips & Exit Slip Example--- Appendix A6**

### **Tiers of Instruction**

A student's instructional tier is determined by assessment criteria. Multiple forms of assessment will be used to determine which tier of instruction a student should receive. The tiers included Core (Tier 1), Supplemental (Tier 2), and Intensive (Tier 3). Progress monitoring data should be analyzed through the use of MTSS for students in Tier 3 instruction.

*Tier 1:* All students will receive whole group instruction. Instruction is driven by standards and skills that are aligned to the Kentucky Core Academic Standards. Instruction should be developmentally appropriate and incorporate the use of the Mathematical Practice Standards.

*Tier 2:* Instruction is needs based and supplemental to Tier 1 instruction. Students will receive specific skills-based instruction identified according to assessment results and observations. These students are performing below the 50%ile in math according to MAP benchmark assessment data. Students' deficit skills will be targeted. SuccessMaker Math is an example of a program used for Tier 2 computer-based instruction.

*Tier 3:* Students identified as intensive will receive a third tier of instruction. These students are performing below the 15%ile in math according to MAP benchmark assessment data. The MTSS team will meet to create explicit systematic instructional plans where all three tiers are aligned and student need is targeted. An example of Tier 3 instruction is a 1-on-1 instructional setting using Accelerated Math data to target math instruction of specific skills.

### **Assessment in Math**

Student data will be organized in a data notebook along with a computerized "Watchlist" on Harrison's SharePoint drive. Notebooks and Watchlists should be updated as each assessment is given. The "Watchlist" and/or notebook should be brought to the grade level's weekly team meeting so administrators and teams can analyze the data and plan appropriately to meet the

needs of the students. Students should also be given the opportunity to use wrong answer analysis on unit assessments to deepen understanding.

Suggestions for **Primary Notebooks** include: pre- and post- test unit assessment data, monthly SuccessMaker performance level, MAP benchmarks (Fall, Winter, and Spring), fluency assessments for structuring as well as addition & subtraction (Within 5, 10, 20). **Intermediate Notebooks** could include pre- and post- test unit assessment data, monthly SuccessMaker performance level, MAP benchmarks (Fall, Winter, and Spring), fluency assessments for structuring as well as addition & subtraction (Within 100), and accelerated math progress monitoring.

### **Extended Response Questions & Short Answer Questions**

Given bi-weekly, these are usually related to previously learned content from whole group instruction. The written response is a good indication of whether or not the students can apply the knowledge of the strategy to real-world application. Students should be given a checklist and rubric to evaluate their work.

**\*\* See Show the Love—Appendix A9**

### **Professional Development**

Professional Development needs are determined by the needs of the staff, staff surveys, classroom observations, walk-throughs, and achievement data. Professional Development opportunities will be:

- Job embedded
- During Faculty Meetings
- Observing other professionals
- Individual PD opportunities as needed
- Instructional Lead Team- Train the Trainer Model
- Book Studies to support Mathematical Thinking
  - Number Talks

### **Mathematical Skills**

Harrison Elementary will incorporate a variety of mathematical resources, technological tools and multiple opportunities for students to develop complex mathematical thinking for a variety of purposes.

- All students will be actively engaged in math daily in classrooms in a variety of formats; and across content areas when real-world mathematical application can be made.
- All students will demonstrate their ability to solve and explain mathematical thinking through writing (Short Answer & Extended Response Questions).

- All students will have opportunities to explain their mathematical thinking and reasoning verbally to their classmates in a variety of formats (examples: KAGAN cooperative learning strategies, number talks, etc.)
- Technology will be implemented through the use of virtual manipulatives, tier two instruction (SuccessMaker Math), and to expose students to multiple modes of instruction and meet the various learning styles of students.
- Students will engage in real world application and problem solving designed to meet Kentucky Core Academic Standards for Mathematics.

**\*\*See Singapore Math & Common Core Alignment—Appendix A7**

**\*\* See Every Day Counts Calendar Math Correlation to Common Core State Standards**

**\*\*See Math Manipulative List—Appendix A8**

### **Use of Feedback in Math**

Harrison Elementary teachers will provide descriptive feedback to focus on strengths and weaknesses to all students regarding their mathematical thinking and abilities.

- Students will receive descriptive feedback from all classroom teachers on their mathematical abilities to improve student learning.
- Students will receive feedback from peers through cooperative learning strategies.
- Students will have opportunities to use checklists and rubrics to self assess.
- Students will use multiple forms of feedback to reflect on their mathematical thinking.
- Teachers will monitor student progress through the use of formative and summative assessment data.
- Classroom teachers will provide students, parents, and SBDM frequent feedback on student progress in mathematics in order to move learning forward and close achievement gaps.

### **Implementation of Mathematics Program**

- Harrison Elementary's Mathematics Program will be aligned to Kentucky Core Academic Standards.
- All teachers will participate in professional development based on student mathematical needs to support the school's mathematics program.
- Administration and leadership will support and guide mathematical instruction based on our mathematical program and plan.
- The SBDM Council will review and revise the mathematics program as determined necessary by the principal in consultation with the Instructional Lead Team or as indicated by changes in state or district policy or standards for instruction.

Established: June 2016

Approved: \_\_\_\_\_

Policy # \_\_\_\_\_