**Vernon’s (K – 5 )Math Bottom Lines 2014-15**

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| **Elements of a Balanced Math Program** |
| **Conceptual Understanding:** I build students’ mathematical knowledge by focusing on conceptual understanding and reasoning (as opposed to focusing on the answer or procedural shortcuts).I provide daily opportunity for students to practice the lesson objective in cooperative or independent settings. |
| **Procedural Skill & Fluency:**I practice math fluency daily to develop students’ counting and computational competence. I teach strategies that are flexible, accurate, and efficient. |
| **Application:** I make math meaningful by giving math problems that have a real-world context.I use math tasks to guide, assess, and track students’ use of the Standards of Math Practice. (K-2 may use these and/or Eureka Math application problems, 3-5 uses tasks) |
| **Environment/ Routines/ Independence** |
| I act as facilitator to help students make sense of math and build problem solving skills, so that they can internalize concepts and transfer knowledge to other situations. |
| I explicitly teach perseverance during math by modeling and valuing students’ efforts. |
| I have a math center with appropriate tools (e.g. base ten blocks, counters, rulers, etc). It is accessible to students and they understand how to use and care for the materials. |
| I have a word wall to support student talk and concept development. When possible words are accompanied with visuals. |
| I create a safe environment where students feel comfortable sharing ideas and answers. The students talk, listen, and work together in a respectful manner. |
| **Professional Practice** |
| I participate in district offered professional development and self-reflect to identify and initiate personal opportunities for growth.  |
| I access the VPS Faculty Portal to obtain the latest district documents. |
| I review unit assessments prior to planning instruction. |
| I share and discuss ideas, materials, and resources with my colleagues.  |

**Note**: These bottom lines draw extensively on the Standards of Mathematical Practice. Professional development and resources are available from the Curriculum office to support teachers in these areas.

**Self-Reflection Checklist**

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|  | **Elements of Balanced Math Instruction** | **Environment/Routines/independence** | **Professional Practice:** |
| **Teacher** | **I plan for fluency practice daily by…**🞏 including time in my daily lesson plans and choosing purposeful activities🞏 including writing prompts to explain strategies**I teach for conceptual understanding by…**🞏 questioning, listening, & guiding🞏 providing inquiry opportunities for experiential, hands-on learning🞏 promoting problem solving🞏 focusing on the process not the answer🞏 clearly stating/posting the daily math objective prior to student practice🞏 planning activities for cooperative and/or independent practice🞏 providing counter examples**I have students apply their learning by…**🞏 giving real-world problems/situations daily🞏 valuing multiple solutions to one problem🞏 modeling how to contextualize (add a story or meaning to math) and decontextualize (pull the math out of a word problem)🞏 giving the answer & asking students to work backwards🞏 having students write to explain their thinking**I use math tasks to…**🞏 provide modeled, guided, and independent problem solving experiences🞏 promote multiple ways to solve a single problem | **I have a math center…**🞏 which includes: base ten blocks, counters, linking/unifex cubes, games, playing cards, coins, ten frames, rekenreks, rulers, tape measures, etc.**I teach…**🞏 use & purpose of manipulatives explicitly🞏 procedures to take & put away materials**My Word Wall…**🞏 contains words related to the current unit🞏 contains visuals🞏 is referred to when I teach**I promote a safe environment by…**🞏 valuing student thinking & work🞏 acknowledging the importance of mistakes as opportunities to improve learning**I facilitate learning by…**🞏 creating anchor charts that explain math concepts and provide talk stems🞏 guiding students through questioning (Does it make sense?, How can we check?)🞏 teaching students how to make a plan🞏 using math journals, so students can take & refer to notes and keep a record of their thinking | **I participate in…**🞏 staff meetings 🞏 grade-level meetings🞏 PD sessions 🞏 book studies**I contribute by…**🞏 coming prepared🞏 adding to the discussion🞏 sharing ideas & resources🞏 following the group norms🞏 taking ownership of my own learning🞏 seeking answers in books, articles, websites, and by communicating with the curriculum office**I view and use the VPS Faculty Portal…**🞏 unit documents 🞏 assessments🞏 coaching resources |
| **Student** | **Students…**🞏 practice fluency in a variety of ways (counting up/back, skip counting, computation, writing)🞏 know daily math objective🞏 practice concepts cooperatively & independently🞏 say, “I know this, I know that, here’s where I get stuck…” (not: “I don’t know how.”)🞏 talk & listen to deepen understanding🞏 estimate and check for reasonableness of answers🞏 use manipulatives and show work with words, drawings, and numbers | **Students…**🞏 frequently use tools in math center🞏 use materials appropriately (with purpose & care)🞏 have open access to choose materials🞏 refer to word wall & use precise language orally & in writing🞏 share ideas🞏 agree & disagree with ideas🞏 repeat & add on to the ideas of others🞏 make mistakes and fix them🞏 monitor and evaluate their thinking as they work | I/my team would like to learn more about…\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Curriculum** | **I review district documents prior to teaching:**🞏 unit documents 🞏 unit assessments🞏 answer keys 🞏 common core standards🞏 Eureka Math, Everyday Math, Rocket Math, Number Talks |  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |