Friday Focus

Greenup County Schools

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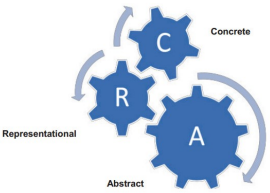
Math– More Than The Facts

Have you ever felt confused using a construction manual, a remote control, or perhaps putting together a cheap piece of furniture? Did you eventually give up and drag out all the pieces and start touching various labeled parts, bolts, oddly shaped metal components? Ever attempt to read a computer program manual or did you eventually just stick the CD-ROM in the drive and start happily clicking until you figured out what parts of the program you needed? If you answered yes, then you can relate to why students need manipulatives and models to provide a conceptual mathematics foundation before moving on to abstract processes.

In 2013, the National Council of Supervisors of Mathematics (NCSM) issued a position statement on the use of manipulatives in classroom instruction to improve student achievement. "In order to develop every student's mathematical proficiency, leaders and teachers must systematically integrate the use of concrete and virtual manipulatives into classroom instruction at all grade levels." (NCSM, 2013)]

Manipulatives and constructing conceptual knowledge can take on many forms from attribute blocks, fraction strips, two color counters, geometric 3-d figures, to diagrams of ten frames that allow a student to transfer knowledge to paper.



Providing guidance and developing concepts via student engaging manipulatives and discussion about learning are the key components to student growth and success in mathematics. This is not just true for our kindergarten students , but for all student grades PK-12.

Our newest standards and alignment are very clear that a student must develop conceptual understanding with multiple strategies prior to considering an algorithm. This deeper conceptual understanding can lay the groundwork for future advanced mathematic development.

Intentional planning for implementing manipulatives, models, and student conversation are necessary for us to lead our students to confident in mathematics.

If you are looking for some great model ideas feel free to contact the district office for KAGAN materials, SmartBoard support, or other technology integration ideas.

Upcoming Academy Dates:

Math 3-5– 1/ 27 Eve.

Social St. Network– 1/23

ACT Prep Day– 1/31

Inside this issue:

NVL Interactive Manipulatives

YouTube– Decimal Math Channel

CIA Math Resource Page

Engage New York

Making Math Magic

I Do, We Do, You Do

The components of "I Do, We Do , You Do" teaching model are derived from best practices of Explicit Instruction .

I Do

- Identify the concept in the Learning Target
- Provide a written clear definition or rule that contains the concepts critical attributes
- Share examples and non-examples to emphasis desired concept.
- Have students interact with the concept.
- Teach using models, explanations, and demonstration.
- Check for understanding with good questions.

We Do

- Students do initial practice with the teacher under direct guidance using methods shown in "I Do"
- Bridge content guided practice by observing students practice problems together, and monitor for understanding.
- Make corrections and identify misconceptions. Clarify, reteach.
- Use white boards, partner strategies, response systems to engage student practice.
- Check for understanding with good questions.

You Do

- Students can complete practice on their own or begin a project.
- Reinforce skills and place into long term memory by having students explain the concept to another person.
- Attempt a "You Do " assignment that goes beyond a worksheet.
- Check for understanding with good questions and feedback on independent work.

GAP Strategy of the Week:

Plan learning sessions to match student attention. On average students can only attend to direct instruction for one minute times their age with a cap of 15-20 minutes for everyone. Be aware of this and provide time to apply new information , us in a hands-on way, discuss it etc.—Eric Jensen