Using DesCartes to Create Individualized RIT Band

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After analyzing data obtained from MAP testing, the administration at Orange Grove Elementary Charter School decided that students needed to receive individualized math instruction based on their needs. This is in addition the daily math instruction they are already receiving.

They thought, "How are we going to so this?" The answer was to create a RIT Band period.

A RIT score is a number that indicates a student's instructional level. Students obtain an overall RIT score at the end of a Measures of Academic Progress (MAP) test. In addition to RIT scores, math skills are also broken down into five different strands.

The strands for math are:

- Measurement (time)
- Data and analysis (charts and graphs)
- Number and Operations (math calculation)
- Algebra (functions and equations)
- Geometry (shapes and patterns)

Students are placed in groups based on their scores in each individual strand. This is because students demonstrate different levels of mastery within each strand.

Orange Grove has established a forty minute period of instruction that is centered around hands-on learning and SMART Board interactive instruction. Students are to be actively engaged in the learning process on their own level, determined by how they scored on individual strands of the math MAP test. We focus on one strand for a two weeks at a time. Then we rotate to the next strand after regrouping students.

- Lesson plans are created using *DesCartes* from the NWEA website. *DesCartes* is a set of standards that are assessed through the MAP test. These standards are used to remediate students within each strand.
- Examples of *Descartes* are:
  - Identifies and names a triangle
  - Identifies and names a square
  - Identifies and names a rectangle*
  - Identifies and names a circle*

Using the standards from *DesCartes*, activities were planned and lessons created. The teachers were given ideas which they could work from. Some teachers wanted to make their own lesson plans. Others wanted more in depth lessons created for them.

Academic specialists were assigned to generate ideas for given RIT Band levels. It was easier for me to write lesson plans. That led to me creating lesson plans for all of the RIT Band groups.

Sample RIT Band Groups

Sample RIT Band Lesson Plans for Number and Operations

Number and Operations
191-200
Week One

Day 1: Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place
- **Identifies the numeral and written name for whole numbers 10,000 to 100,000**
- **Identifies the numeral and written name for whole numbers over 100,000**

Really Big Numbers – Enter a number then click the Click here button to see how to write it. Use numbers appropriate.

Day 2: • Compares whole numbers through 999,999, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >)

Ordering Numbers
means to arrange them from least to greatest or from greatest to least.
You can also use these symbols
> (greater than) < (less than) = (equal to)

between numbers to show order from least to greatest or greatest to least.

If comparing two 3-digit numbers, put them in order by the first digit --the digit in the hundred's place.

439 625
Since 4 < 6
Then... 439 < 625

Sometimes the first digit is the same.

435 425

When this happens, look at the next digit (the ten's place).

435 425

Since 3 > 2

Then... 435 > 425

But, what if the first two digits are the same?

439 438

Look at the digit in the one's place.

Since 9 > 8

Then... 439 > 438

Comparing Two Numbers - [this link opens on a new page] comparing 4 to 6 digit numbers

Comparing Numbers Quiz - three levels available

Day 3: Orders whole numbers less than 1000*

• Orders whole numbers less than 10,000

Ordering Three-digit Numbers – arrange numbers from least to greatest by clicking and dragging the numbers

One False Move – [this link opens on a new page] (FunBrain) Start with the **lowest** number and work your way **up**. If you don't know where to start, try using the map.

One False Move – [this link opens on a new page] (FunBrain) Start with the **highest** number and work your way **down**.

Day 4: Identifies whole numbers 100 – 999 using base-10 blocks*

• Identifies whole numbers over 999 using base-10 blocks*

Place Value

By the end of grade 2, students should understand that sets of ten can be perceived as single entities. These sets of tens can then be counted and used to describe quantities, and this is a major principle of base-ten numeration. They should have a conceptual understanding that the positions of digits in numbers determine what they represent, and this is a major principle of place value numeration. Another important concept imperative to the second grade student is that groupings of ones, tens, and hundreds can be taken apart in different ways. Children should be presented with many opportunities within the classroom to solidify their understanding of our place value system. Manipulatives, such as place value mats, base-ten blocks, and number charts, are an important tool that will link the base-ten models to the written form in numbers.

Instructional Strategies

1. Teacher will give a number either orally or on the board and the students must represent that number using base 10 blocks.
2. After students have mastered strategy 2, teacher will take lesson further by having students *write* how many 10's and 1's, and then write the number.

3. Base Ten Riddles
Teacher will orally give a place value riddle,
"I have 23 ones, and 4 tens. Who am I?" Students will at first manipulate the answer with base ten blocks, and then progress to responding either with marker boards or orally.
3. Web Sites
a. Online Math Activities for Kids: Base Ten Count
www.edbydesign.com/btcount.html
b. Place Value Games
www.gamequarium.com/placevalue.html
c. Place Value Puzzler
www.funbrain.com/tens/
4. Video Streaming
Video streaming through KLVX is a good resource for teachers in developing math centers and lab activities. Some videos that help develop place value understanding are:
A. Math Investigations, Part One
B. Mathica's Mathshop: Best Wishes

Connection to Children's Literature

Earth Day, Hooray by Stuart J. Murphy
The Most Beautiful Place in the World by Ann Cameron

Concerns that may arise:

- Are the students leveled correctly? (testing situations may alter scores etc.)
- Additional resources
- Time management
- Staffing