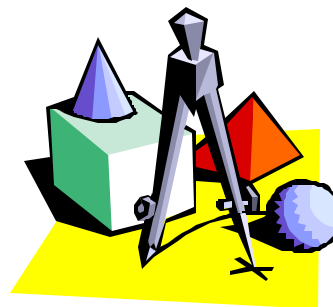


Algebra/Geometry Institute Summer 2003

Lesson Plan 1

Faculty Name: Garth Stewart
School: John F Kennedy Memorial HS
City: Mound Bayou, MS
Grade Level: Grade 9 Pre-Algebra



1 Teaching objective(s)

- ❖ Solve one step equations using addition and subtraction (MS framework 1b,2b,2e)

2 Instructional Activities

- ❖ Start the class with a motivational chant from the file (such as “ YOU can do it – You can do it – IF YOU put your mind to it – 3 repeats) followed by a round of applause and cheering.
- ❖ State the lesson objective and write an example on the white board such as $X + 8 = 10$, in a colored marker – use different colors for the left side, the right side and the equal sign.
- ❖ Discuss with the students the concept that an equation is like a teeter-totter with the equal sign being the balance point. Ask if they can think of any other things that have a balance point.
- ❖ Lead the discussion to equal arm balances and bring out the balance and the Algebrablocks®. Set an equal number of orange blocks on each side of the balance. Choose a different number of green blocks and put equal amounts on each side of the balance.
- ❖ Explain that when the balance is level like it is, it is like an equation – the LEFT side of the balance equals the Right side of the balance. Have the students predict what will happen as you add and remove blocks to the balance’s pans. Be sure to remove equal amounts from both sides some of the time and lead the students to the observation that if equal amounts are added or subtracted from both sides that the balance stays in balance.
- ❖ Now divide the students into teams of 4 and tell them that they are going to become balances. Have them choose a team member to be a balance (make sure the class understands that each team member will get a turn). Have the “balance“ put the index card around their head and hold their arms straight out from their body. State “ Now you guys are balances !”. Have the balances close their eyes and have a team member put a text book in one hand. The balance will go out of balance as the weight of the book makes their arm drop down slightly. Bring the balance (student) back into balance by adding a text book to the other hand. Add

and remove text books (no more that 2 in a hand at a time). Make sure all team members play the role of the balance.

- ❖ Have a discussion of how it felt to be in balance and out of balance.
- ❖ Direct the class's attention to the equation example put on the board at the beginning of the lesson and have the class direct you as to what numbers you should add or subtract to isolate the single variable on the one side of the equal sign and have it in balance with the solution on the other side.
- ❖ Hand out worksheet 2-5 for class work and do 2 examples from the work sheet before the students start their work.
- ❖ Assign homework just before the class session ends.
- ❖ Students whose class work and/or homework indicate that additional help is required will be assigned reteaching worksheet 2-5 during the next lesson period for before or after school remedial help.

3 Materials and Resources

- ❖ 15 index cards (3x5) each marked with a large equal sign in black felt marker with a 2 foot long piece of string attached to each end.
- ❖ 1 equal arm balance
- ❖ 10 orange and 10 green, Algebrablocks®
- ❖ 24 Pre-Algebra text books – Pre-Algebra – Tools for a Changing World, Prentice Hall
- ❖ 24 copies of Worksheet 2-5 Solving Equations by Adding or Subtracting from the Prentice Hall Chapter 2 Support File to the text book Pre-Algebra - Tools for a Changing World
- ❖ Worksheet 2-5 RETEACHING – from the Resource file 2 – Prentice Hall (if necessary)
- ❖ White board
- ❖ Dry erase markers

4 Assessment

- ❖ Observation of the activity
- ❖ Classroom work – Worksheet 2-5
 - Typical question: $y - 6 = 8$
- ❖ Homework page 87 – exercises 13 – 24; problem 42 - astronomy from Prentice Hall text book Pre-Algebra – Tools for a changing World
 - Typical question: $13 + d = 5$
- ❖ Remedial – Worksheet 2-5 RETEACHING from Prentice Hall Support File 2
- ❖ Biweekly test