

# Encouraging Students to Demonstrate the Standards for Mathematical Practices

Saturday, October 22, 2011

# East Butler Public Schools District Characteristics

- Rural School District
  - Small communities of Brainard, Dwight, Prague, Loma, Abie, Bruno, Bee, and a few others
  - Farming families and commuters
- NSAA Class C-2 school district
- Three K-6 elementary centers
  - Dwight(48), Prague(19) and Brainard(102) - preschool
- 7-12 building in Brainard (170)
- 339 Total students

# East Butler Educational Centers



# Demonstrating Standards for Mathematical Practices

- Kathy Bohac
  - 5<sup>th</sup> and 6<sup>th</sup> grade mathematics teacher at Brainard Elementary
  - 20<sup>th</sup> year teaching upper elementary students
  - Graduate of the 4<sup>th</sup> cohort of Math in the Middle
  - Masters in Special Education - Behavior Disorder
- Doug Glasshoff
  - 7<sup>th</sup> through 12<sup>th</sup> grade mathematics teacher at High School in Brainard
  - 11<sup>th</sup> year teaching junior high and high school students
  - Graduate of the 1<sup>st</sup> cohort of Math in the Middle
  - Graduate of the Nebraska Assessment Cohort (2003)

# Mathematics Textbooks

- 5<sup>th</sup> and 6<sup>th</sup> grades
  - Mathematics: The Path to Math Success!
    - Silver, Burdett and Ginn
- 7<sup>th</sup> grade
  - Houghton Mifflin Mathematics Structure and Method Course 1
    - Dolciani, Sorgenfrey and Graham
- 8<sup>th</sup> grade
  - Houghton Mifflin Mathematics Structure and Method Course 2
    - Dolciani, Sorgenfrey and Graham
  - Houghton Mifflin Algebra Structure and Method Course 1
    - Brown, Dolciani, Sorgenfrey and Cole

# 5<sup>th</sup> and 6<sup>th</sup> Grade Math Classes

- Traditional approach to lessons
  - Reading and discussing lesson and objectives
  - Practice exercises led by students and teachers
- Problems of the day
  - Addresses the need for problem solving skills
  - “Habits of Mind” type problems
  - Presented by student volunteer - *Promethean Boards*
  - Others present if they solved in a “different way”

# Problem of the Day Examples

## 99 Remainder 98

1

QuickTime™ and a  
DV/DVCPRO - NTSC decompressor  
are needed to see this picture.

# Problem of the Day Examples

## Fence Posts

1

QuickTime™ and a  
DV/DVCPRO - NTSC decompressor  
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# Problem of the Day Examples

## 5, 10, 20 Chart

1

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# Problem of the Day Examples

## 28 Steps

1

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# 2010 NeSA Mathematics Testing

- 5<sup>th</sup> grade
  - District: 72% meets/exceeds the standards (107 ave. scale score)
  - State: 66% meets/exceeds the standards (103 ave. scale score)
- 6<sup>th</sup> grade
  - District: 71% meets/exceeds the standards (105 ave. scale score)
  - State: 63% meets/exceeds the standards (100 ave. scale score)
- 7<sup>th</sup> Grade
  - District: 80% meets/exceeds the standards (109 ave. scale score)
  - State: 61% meets/exceeds the standards (99 ave. scale score)
- 8<sup>th</sup> Grade
  - District: 66% meets/exceeds the standards (102 ave. scale score)
  - State: 60% meets/exceeds the standards (98 ave. scale score)

# Question and Answer

