Stars & Stripes Craft Fair Badges Task

Summary

A 3rd grade task to incorporate problem solving into multiplication.division. 3.OA.1, 3, & 7

Main Core Tie

Mathematics Grade 3

Strand: OPERATIONS AND ALGEBRAIC THINKING (3.OA) Standard 3.OA.3

Time Frame

1 class periods of 45 minutes each

Group Size

Pairs

Life Skills

Thinking & Reasoning

Materials

Ruler, grid paper, foil stars, beads, sequins, paper, pencil, glue

Background for Teachers

Curriculum Guide for 3.OA.3: http://www.schools.utah.gov/CURR/mathelem/Core/Operations-and-Algebraic-Thinking/3OA3.aspx

Student Prior Knowledge

Students should know the meaning of multiplication/division and be able to perform problem solving techniques to solve the task.

Intended Learning Outcomes

The Mathematical Practices for this task:

Make sense of problems and persevere in solving them.

Instructional Procedures

Launch the task:

Your class wants to make badges for a craft fair. You can use foil stars, beads, and sequins to make your badge. Make your badge by arranging the stars, beads, and sequins in a 10x10 array on the graph paper. After you create your badge, determine the cost to make your badge by using these prices:

- beads: 7 cents;
- stars: 2 cents;
- sequins: 5 cents.

Extension questions:

How much would you spend on stars if you made 9 badges? How much on beads? How much on sequins? How much would it cost in all to make 9 badges? Beads are sold in packages of 20, so how many packages would you need?

Questions to ask students during exploration:

Do you have everything you need?
What are you supposed to be doing? How do you know?
How many stars/beads/sequins are in your design?
Who did you determine the cost?
How did you figure it out?
What does your design tell you?
What other ways could you figure the answer?
Explain your thinking.
Is your answer reasonable? How do you know?

Students should write to explain their thinking.
Circulate, question and facilitate thinking. Refocus and choose successful designs from simple to more complex.
Have students share their designs and explain their thinking. NOT A SHOW AND TELL. Make connections to multiplication and the ways students can figure out answers from visual representations to algorithms, to written explanations.

Assessment Plan

Teachers will assess students' knowledge from visual representations and written explanations. Students should be encouraged to write the multiplication expressions or equations to represent their badges.

Bibliography

Wikispaces - 2012 Core Academy Task site: https://ccak52012.wikispaces.com/Third+Grade+Teacher+Created+Tasks

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