Number Sense and Computational Fluency in K-6:
June 8 - 12, 8:30-3:30 Antioch University, Room 203
Workshop leaders: Bill Jacob (UCSB) and
Marianne Caston (Antioch University)

This workshop will examine research-based strategies for developing computational fluency in grades K-6. Participants will receive the instructional units necessary to develop the strategies as well as the mini-lessons and tools to incorporate them throughout the year as part of the new math adoption. Because it is essential that these strategies be used coherently across grade levels, the workshop will devote two days to learning how the strategies play across grade levels. Then participants will then work in teams at their grade levels. Teachers in the Harding-Cesar Chavez summer school will be among the participants.

Participating teachers will receive a $500 stipend

The units studied in the is workshop are:
Organizing and Collecting: Early numeracy and place value
The Double Decker Bus: Addition and subtraction facts using the arithmetic rack
Measuring For the Art Show: Addition, subtraction, and measurement strategies and development of the open number line
Groceries Stamps and Measuring Strips: Introduces strategies and representations for early multiplication including arrays, skip counting, and using the number line.
Ages and Timelines: Subtraction strategies, including constant difference and use of the open number line
Muffles Truffles: Place value and early multiplication
The Box Factory: Advanced use of arrays for multiplication and spatial thinking
Best Buys, Ratios, and Rates: Develops ratio tables and double number lines as models useful for operations with fractions.
The California Frog Jumping Contest: Equivalence, early algebra, and the double number line.

The workshop will be limited to 20 participants. Workshop sessions will be held at Antioch University in Room 203. An application is attached. Applications are due by April 15, 2009. This workshop is funded in part by a grant from the Educational Advancement Foundation. For more information contact Bill Jacob at jacob@math.ucsb.edu or Monica Guzman at monica@math.ucsb.edu.
Number Sense and Computational Fluency in K-6:
June 8 - 12, 8:30-3:30 Antioch University, Room 203

APPLICATION

Name:__________________________________________________________

School: ______________________________________________________ Grade:

Home Mailing Address: ___________________________________________

City: ________________________________ Zip Code: _______________

Home Telephone:_________________________________________________

E-mail:_________________________________________________________

Mail, Fax or email application to:

Monica Guzman
Department of Mathematics
University of California, Santa Barbara
Santa Barbara, CA 93106
Fax (805) 893-2385
monica@math.ucsb.edu

This project is funded by a grant from the Educational Advancement Foundation. For more information email Bill Jacob at jacob@math.ucsb.edu. Space is limited. Application Deadline: April 15, 2009. Applicants will receive program information prior to the start of the program.
Mathematical Development in grades K-3:
July 13 - 17, 8:30-3:30, Cesar Chavez Charter School
Workshop leaders: Bill Jacob, John Siegfried, Alethea Barbaro

These workshops will focus on mathematical development at these grade bands, including the big ideas, strategies and models students need to develop robust numbers sense. Although there will be some overlap with the June Computational Fluency workshop, participants are welcome to attend both (space permitting). The purpose is to study development in greater detail as well as Context For Learning Units at these grade bands in greater detail. The workshops includes instructional units necessary to develop the strategies as well as mini-lessons and tools to incorporate the materials throughout the year as part of the new math adoption. Participants may choose to receive a $500 stipend or 32 hours SB 472 follow-up credit if they have completed the first 40 hours of SB 472 training.

Participating teachers will receive a $500 stipend or 32 hours SB 472 follow-up credit

The emphasis of the workshop will be to examine student thinking through video and their written work. Then participants will then work in teams learning to use the Contexts units. The units also include mini-lessons that can be used throughout the year to help students develop computational fluency.

The units studied in the is workshop are:
Organizing and Collecting: Early numeracy and place value
The Double Decker Bus: Addition and subtraction facts using the arithmetic rack
Measuring For the Art Show: Addition, subtraction, and measurement strategies and development of the open number line
Groceries Stamps and Measuring Strips: Introduces strategies and representations for early multiplication including arrays, skip counting, and using the number line.
Ages and Timelines: Subtraction strategies, including constant difference and use of the open number line

The workshop will be limited to 20 participants. An application is attached. Applications are due by April 15, 2009. This workshop is funded in part by a grant from the Educational Advancement Foundation. For more information contact Bill Jacob at jacob@math.ucsb.edu or Monica Guzman at monica@math.ucsb.edu.
Mathematical Development in grades K-3:
July 13 - 17, 8:30-3:30, Cesar Chavez Charter School

APPLICATION

Name:__________________________________________________________

School:________________________________________________________ Grade:____

Home Mailing Address:____________________________________________

City:_________________________ Zip Code:__________________________

Home Telephone:_________________________________________________

E-mail:__________________________________________________________

I have completed the SB 472 workshop and would like to use this workshop for follow-up

hours: Yes ______ No: ______

Mail, Fax or email application to:

Monica Guzman
Department of Mathematics
University of California, Santa Barbara
Santa Barbara, CA 93106
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This project is funded by a grant from the Educational Advancement Foundation. For more information email Bill Jacob at jacob@math.ucsb.edu. Space is limited. Application Deadline: April 15, 2009. Applicants will receive confirmation and program information prior to the start of the program.
Integrating Arithmetic and Algebra in grades 4-6:
July 20 - 24, 8:30-3:30, Cesar Chavez Charter School
Workshop leaders: Bill Jacob, John Siegfried, Alethea Barbaro

These workshops will focus on mathematical development at these grade bands, including the big ideas, strategies and models students need to develop robust numbers sense. Although there will be some overlap with the June Computational Fluency workshop, participants are welcome to attend both (space permitting). The purpose is to study development in greater detail as well as Context For Learning Units at these grade bands in greater detail. The workshops includes instructional units necessary to develop the strategies as well as mini-lessons and tools to incorporate the materials throughout the year as part of the new math adoption. Participants may choose to receive a $500 stipend or 32 hours SB 472 follow-up credit if they have completed the first 40 hours of SB 472 training.

Participating teachers will receive a $500 stipend or 32 hours SB 472 follow-up credit

The emphasis of the workshop will be to examine student thinking through video and their written work. Then participants will work in teams learning to use the Contexts units. The units also include mini-lessons that can be used throughout the year to help students develop computational fluency.

The units studied in the is workshop are:
- **Muffles Truffles**: Place value and early multiplication
- **The Box Factory**: Advanced use of arrays for multiplication and spatial thinking
- **Best Buys, Ratios, and Rates**: Develops ratio tables and double number lines as models useful for operations with fractions.
- **The California Frog Jumping Contest**: Equivalence, early algebra, and the double number line

An application is attached. **Applications are due by April 15, 2009.** This workshop is funded in part by a grant from the Educational Advancement Foundation. For more information contact Bill Jacob at jacob@math.ucsb.edu or Monica Guzman at monica@math.ucsb.edu.
Mathematical Development in grades 4-6:
July 20 - 24, 8:30-3:30, Cesar Chavez Charter School

APPLICATION

Name: ________________________________________________________________

School: ____________________________________________________________ Grade:_______

Home Mailing Address: ________________________________________________

City: _____________________________ Zip Code: _________________________

Home Telephone: _______________________________________________________

E-mail: ______________________________________________________________

I have completed the SB 472 workshop and would like to use this workshop for follow-up
hours: Yes ______ No: _______

Mail, Fax or email application to:

Monica Guzman
Department of Mathematics
University of California, Santa Barbara
Santa Barbara, CA 93106
Fax (805) 893-2385
monica@math.ucsb.edu

This project is funded by a grant from the Educational Advancement Foundation. For
more information email Bill Jacob at jacob@math.ucsb.edu. Space is limited. Application
Deadline: April 15, 2009. Applicants will receive confirmation and program information
prior to the start of the program.