

MANIPULATING NUMBER SENSE

Teacher Academy

November 1, 2011

Lisa M. Beisel-Linn, M.Ed.

WELCOME



MAKING THE CASE FOR MANIPULATIVES

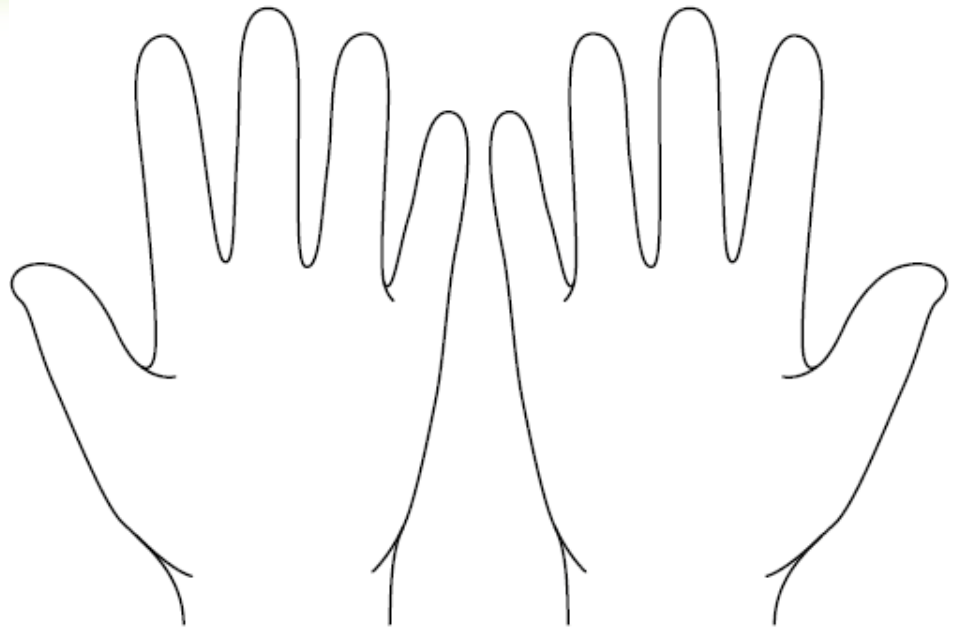
- ◎ Elementary students operate at a concrete operational stage of development
 - ◎ [Educational Psychology - Stages of Development](#)
- ◎ Constructivist approach to learning
- ◎ Component of effective instruction for all students
 - ◎ [NCTM Article](#)

BEYOND ROTE COUNTING

- ◎ Movement/rhythm
- ◎ Groups of objects
- ◎ Number line
- ◎ Number grid
- ◎ Make it personal



MAKING 10



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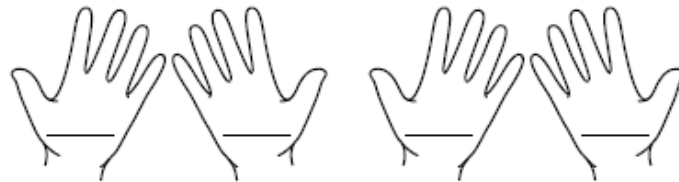
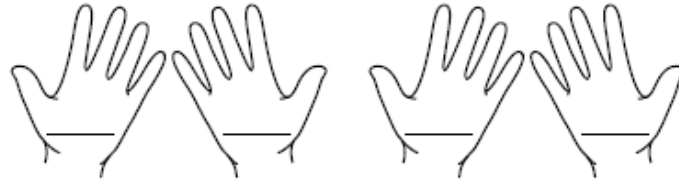
TWO FISTED PENNY RECORD

Name _____

Date _____

LESSON
2·3

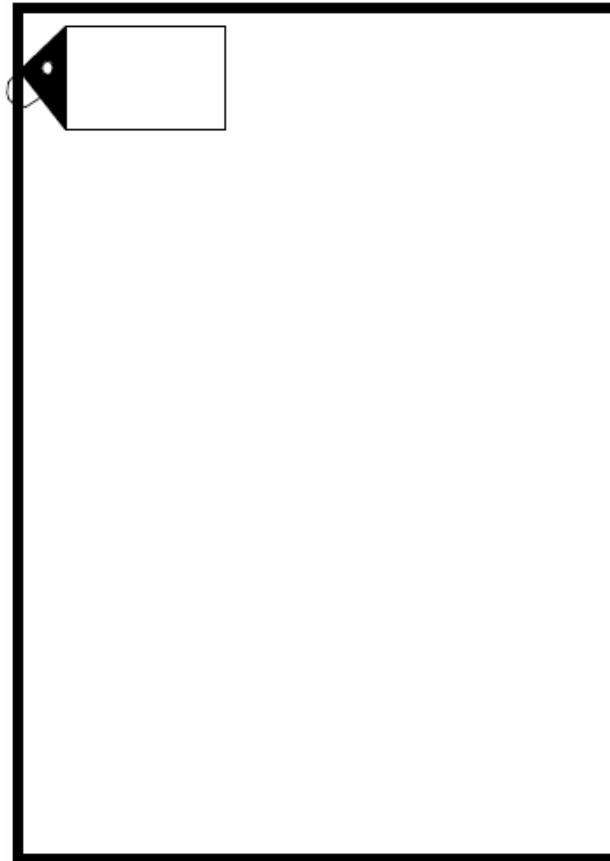
Combinations for _____ Pennies



EQUIVALENCIES FOR 10

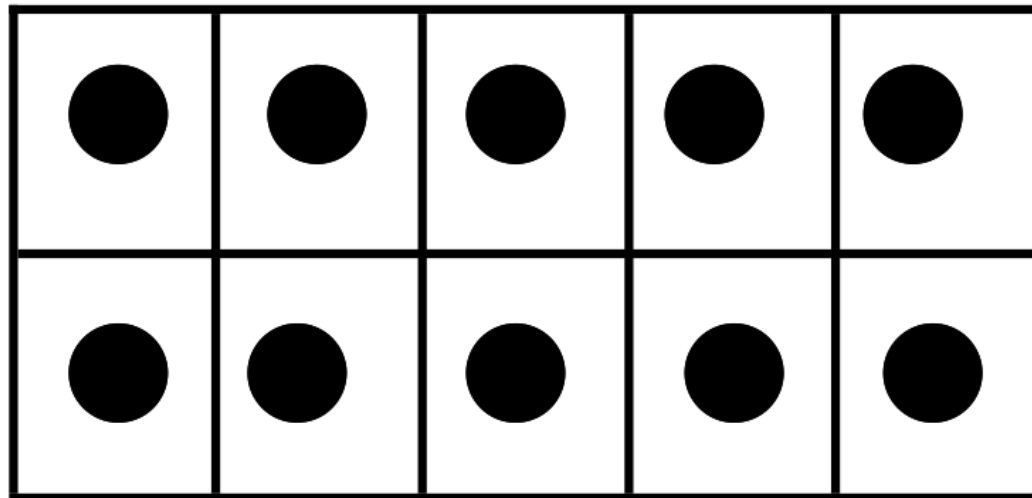
| | |
|---|---|
| | |
| 3 | 7 |
| 4 | 6 |
| 5 | 5 |
| 9 | 1 |

NAME COLLECTION BOXES



TENS FRAMES

- ◎ Resource from ODE Model Curriculum
- ◎ Dot Card and Ten Frame Activities (pp. 9-11, 21-24, 26-30, 32-37) Numeracy Project, Winnipeg School Division, 2005- 2006



WORKING WITH TENS FRAMES

- ⊙ Building Sets
- ⊙ Roll and Build
- ⊙ Ten Frame Flash
- ⊙ Ten Frame Trains
- ⊙ Make 10
- ⊙ Penny Plate

TOUCH MATH



MATH MONSTERS MAKE

10



ONLINE RESOURCES

- ① [Mend the Number Square](#)
- ① [Piggy Bank](#)
- ① [Ca\\$h Out](#)
- ① [Smarty Games Money](#)
- ① [Tangrams – Sagwa](#)
- ① [Tangrams – Cyberchase](#)
- ① [National Library of Virtual Manipulatives](#)

QUESTIONS?



CONTACT INFORMATION

- ⦿ E-mail

- ⦿ lisa.beisel@lakewood.k12.oh.us

- ⦿ Work Phone

- ⦿ 216-529-4230

- ⦿ Classroom Website

- ⦿ <http://lakewoodcityschools.org/olc/class.aspx?id=1927&s=1452>