Ma & Pa Kettle Math
What is Singapore Math?

It is the highly successful national math program that has been taught in Singapore since 1982.

In the year 2000 the Singapore Math Primary Mathematics series was adapted for use in the United States.
Key Components of Singapore Math

- Mental math
- Building mathematical language
- Early emphasis on building students’ understanding of “ten”
- Number bonds, ten frames, place value charts
- Whole-part-part; part-part-whole;
- Concrete to Pictorial to Abstract (CPA)
- Model Drawing
What is appropriate?

In kindergarten, activities should allow students to build understanding of number combinations (fact families) without using the + and – signs.
Number Sense-Concepts of Numeration

- Develop Cardinality (The final number stated while counting is the number of the set.)
- Conservation of number (One-to-One Correspondence)
- Subitization (Instantly recognizing units of a number – usually 1-6)
- Part/whole relationship (6 and 1 are parts of 7 because they contribute to the 7: Number Bonds)
- Compensation (Other ways to make the same number: Branching)
Concepts of Language

- Describing
- Comparing/Contrasting
- Sequencing
Activity

Work in a group to identify the vocabulary from the standards that mean:

- to describe
- to compare/contrast
- to sequence
One of the main components of Singapore Math is building understanding from **concrete to pictorial to abstract** ... therefore, what would be a good **precursor** activity for number bonds?

What are some important things to remember about making the transition from the concrete to abstract?
What part of CPA is generally left out?

4 four
Look and Talk Mats

Small group
Talk about - Colors, size.
Graph it
Write - How many big/small colors.
How many more... then...
Tree Map: Categories
(Describing-Comparing/Contrasting)
Activity

Create a Tree Map for your Look and Talk Mat

Be ready to share
Brace Map: Part/Whole
What Math Concept Does This Map Teach?
Sense of Numbers

· Basic Counting
· Understanding Size
· Number Relationships
· Patterns
· Operations
· Place Value
What Do These Teach?
Numeral Foundations

Number bonds

• Part-Part Whole
  Addition
  Subtraction

• Whole-Part-Part
  Fact Families

Place Value
Number Bracelets
Mental Math

• Mental math starts with number bonds in kindergarten
• Number bonds are a precursor to mental math
• Number bonds are used after students have numeral recognition
• Number bonds are used after the concrete stage
is worth

1 cent  5 cents  10 cents  25 cents
Measurement

• Liquids
• Solids
• Linear
• Standard
• Metric
• Time
Measurement

Measure Man.....
One of my Favorites
Thematic Units...

Let's Look at Tacky....

Name that Skill
Name That Color
Name that Penguin
What Shape is Your Penguin?
Touchy Penguins
Counting Penguins
Matching Penguins
What's Your Penguin Wearing?
Ordinal Penguins
Locate That Penguin
Penguin Vacation
Where will you travel?
Oh my, What to pack?
Analogy

Is Part of a Foot: just as

Person: Penguin

Flipper: Engine

Foot: Control Tower

Is Part of: the same as

Penguin: Airplane

The Same as: Slope

Rate of Change: Slope