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WAYS OF KNOWING

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Math Conversations

Accuracy, Efficiency and Flexibility with Numbers

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Central Idea:

Math conversations build accuracy, efficiency and flexibility with numbers.

An inquiry into...

- teacher facilitated math conversations (form)
- the six steps to improve number sense (function)
- how math conversations enrich the PYP classroom (connection)

1.5 x 48 =

Ian

$$\begin{array}{r} 48 \times 1 = 48 \\ \frac{1}{2} \text{ of } 48 = 24 \\ \hline 72 \end{array}$$

Lotta

$$\begin{array}{r} 1.5 \times 50 \\ 1 \times 50 = 50 \\ \frac{1}{2} \text{ of } 50 = 25 \\ \hline 75 \\ - 3 \\ \hline 72 \end{array}$$

37 x 3

(30+7) x 3

$$\begin{array}{r} 30 \times 3 = 90 \\ 7 \times 3 = 21 \\ \hline 111 \end{array}$$

37 x 3 = 111

$$\begin{array}{r} 37 \\ 37 \\ \hline 111 \end{array}$$
$$\begin{array}{r} 37 \\ \times 3 \\ \hline 111 \end{array}$$

675 ÷ 25

P-

$$\begin{array}{r} 4 \times 25 = 100 \\ 6 \times 25 = 150 \\ \hline 250 \\ \hline 27 \end{array}$$

Lillian: thought of money

$$\begin{array}{r} 24 + 3 = 27 \\ \hline 27 \end{array}$$

Lotta

25 goes into 75 3x

$$24 + 3 =$$



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What are the benefits of having conversations about math thinking?





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FORM

What is a Math Conversation?

$13 + 7 = 20$
 $17 + 3 = 20$
 $13 + 7 =$
 $10 + 3 = 13$
 $13 + 2 = 15$
 $15 + 5 = 20$

- Daily routine
- 5-15 minutes
- Teacher is facilitator
- Promotes a community of risk takers



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Why Math Conversations?

To Improve Computational Fluency and Number Sense

- Builds students' repertoire of a variety of strategies
- Allows students justify their thinking and explain their understanding, and therefore clarify their own thinking and reasoning
- Help students learn to produce accurate answers efficiently
- Promotes oral language development and listening skills
- Encourages students to make mathematical connections
- Reinforces meta-cognition and reflection





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FUNCTION

Six Step Math Conversation Process

1. Teacher presents the problem
2. Students figure the answer mentally (wait time)
3. Students share their answers
4. Students share their thinking- justify answers
5. Class agrees on “real answer”
6. Steps are repeated for additional problems





Examples of Math Conversations

- Video removed



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BREAKOUT SESSIONS

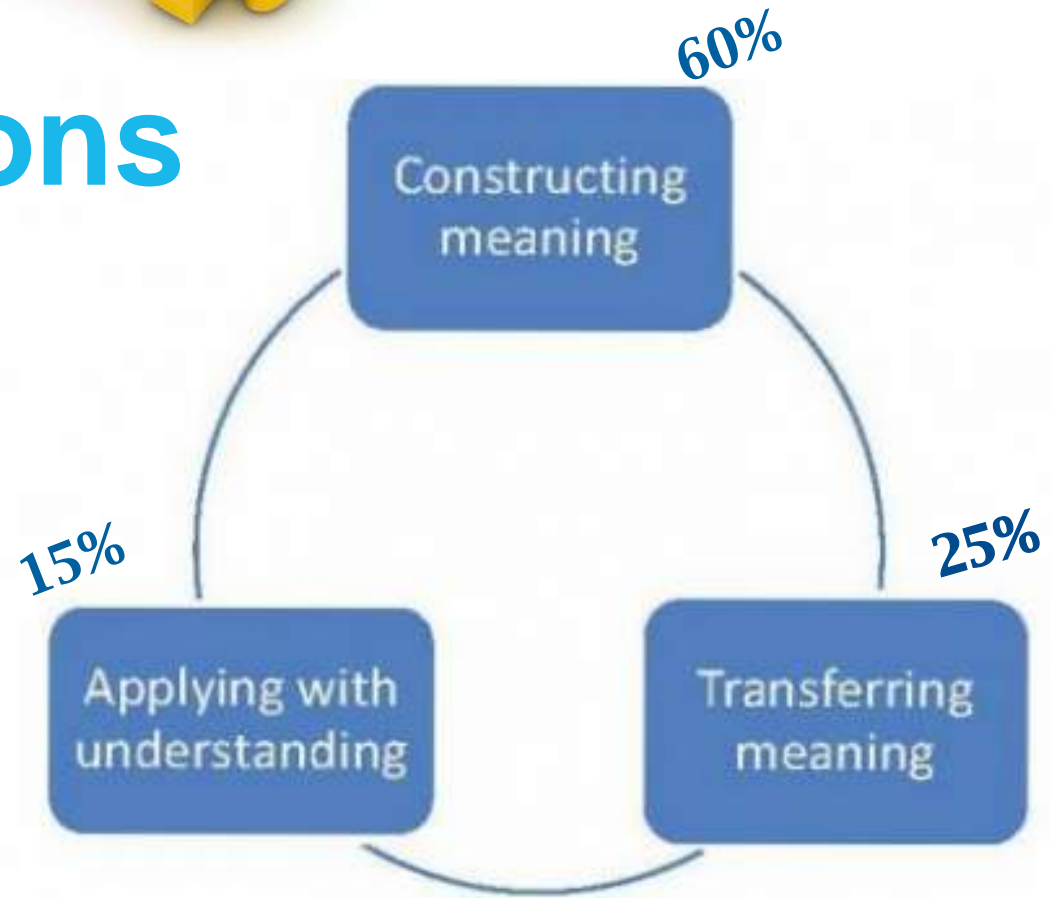
Genta- Pre-k to Grade 2 teachers
Leah- Grades 3 to 6 teachers



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Making Connections





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Connection

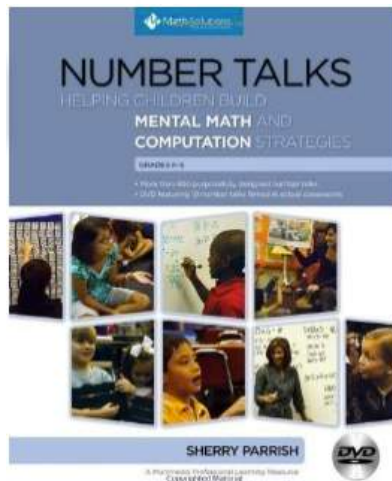
reflective
principled
knowledgeable
open-minded
inquirer
caring
communicator
risk-taker
balanced
thinker

Integrity
Curiosity
Tolerance
Cooperation
Creativity
Enthusiasm
Independence
Commitment
Confidence
Appreciation
Empathy
Respect



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Resources & Contacts



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