

Real Math Program



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Agenda

Session 1

Icebreaker Activity

Research and Background
Activity

Research and Background
Activity

Break

Why Play Games?

Getting Familiar with Games and
Manipulatives

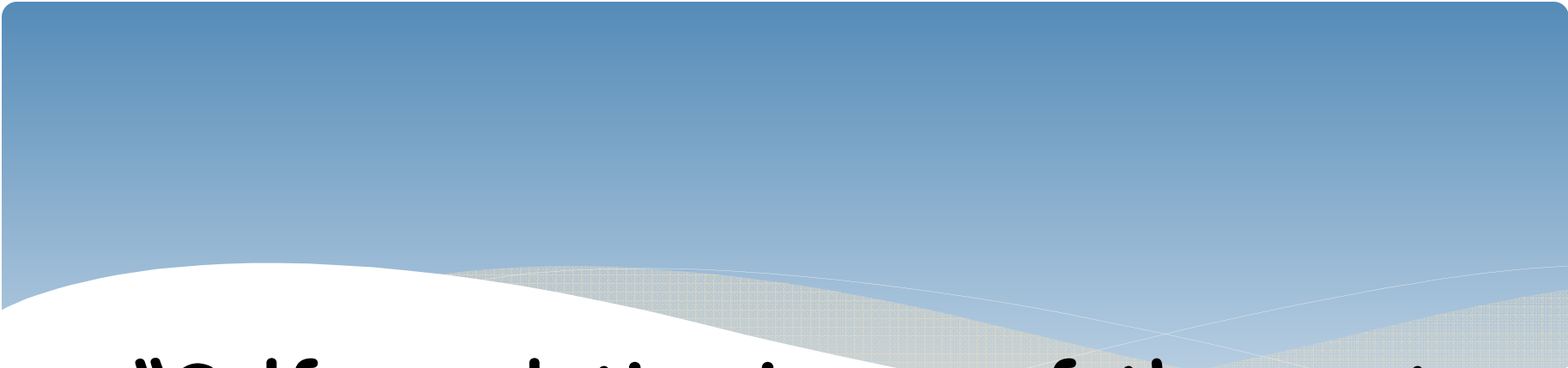
Wrap-up and Readings

Activity

- ❖ Divide your page into 4 sections
- ❖ Record 3 different numbers of importance about yourself in outside section
- ❖ Record one number from each section in the middle so that the numbers have something in common
- ❖ Share your middle number and its commonalities

Attitude

**Complete the Tutor's Attitude
Toward Math survey on pages
9-10**



“Self-regulation is one of the most powerful predictors of children’s academic achievement & emotional well-being and is directly and ideally supported through playful activities.”

“Whitebread, 2011”

Research and Background

- ❖ Vygotsky
- ❖ Zone of Proximal Development
- ❖ Scaffolding
- ❖ Psychological Tools
- ❖ Thoughts into words (social theory)



Problem Solving

- ❖ Old math textbooks presented students with lots of practice questions and 3 or 4 'word problems' which were actually just practice questions put into words
- ❖ Everyone can make sense of a problem that has a context they understand
- ❖ Using tools to show what is happening in the problem makes it make sense

Math Strands

- ❖ **Number Sense**
- ❖ **Operations**
- ❖ **Patterns**
- ❖ **Algebra**
- ❖ **Geometry**
- ❖ **Measurement**
- ❖ **Probability**

Levels

- ❖ Not the same as grades
- ❖ Many games can be used at several levels
- ❖ In our model, a student may be able to do some things in a level, and the others can be taught using a combination of practice, games and problem solving

**“Intentional effortful
learning and remembering
requires emotional and
motivational regulation.”
“Whitebread 2012”**



Motivation → Games → Math Skills

Practise

- ❖ **Helps build automaticity**
- ❖ **Introduces tallying, graphing, data analysis**
- ❖ **Allows for modelling by tutor**

Let the Games Begin



Games

Groups of Two

- ❖ Play a Level 1 game
- ❖ Play a different Level 2 game

Switch partners

- ❖ Play a Level 3 game
- ❖ Play a different Level 4 game

Homework

- ❖ **Teaching for Conceptual Change: Confronting Children's Experience pages 14-15**
- ❖ **Creating an Environment Where Students Can Succeed pages 15-18**
- ❖ **Let the Games Begin pages 35-36**
- ❖ **Problem Solving pages 38-42**