What is the Best Game for a Classroom Party?
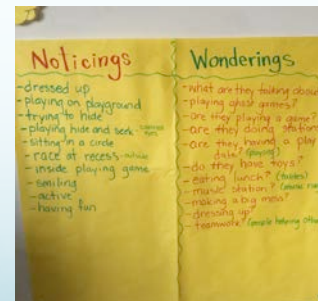
Student Learning

- How to work together to solve a math problem.

- "Best" is a comparative word that requires context to determine.

Teacher Learning

- It is so important to use strategic questioning to draw out student knowledge and encourage making connections before "teaching."

Renee Gilpin, Lena Wessel, Adrienne Petch, Joanne Heusel, Michele Beitel, & Kristi Gaines

First-Grade Modeling

Task 1: What is the one carnival game we should tell the PAC to keep next year?

When: September

Mathematics content: Voting/tallying, graphing

Modeling content: defining best; convincing the PAC president we know which is best

What we learned about teaching: How long is too long. Even the carnival is abstract to first graders. We didn't need to frontload to engage students in modeling, but we had to scaffold.
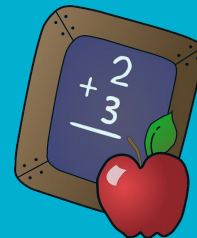
Task 2: How many bags of candy do we need for our class harvest party?

When: October

Mathematics content: counting, repeated addition, guess and check, sorting, grouping, equal shares

Modeling content: determining how many pieces of candy each student should get. Fair.

What we learned about teaching: using manipulatives was more engaging,

Learning with Legos

- Our modeling task was to design, build, and identify important pieces to develop a Lego vehicle to transport a bouncy ball.

- Students learned a variety of ways to add large numbers, how to sort to make counting easier, and how to organize data.

- We learned that teaching with different learning styles in mind provides engagement for more students.
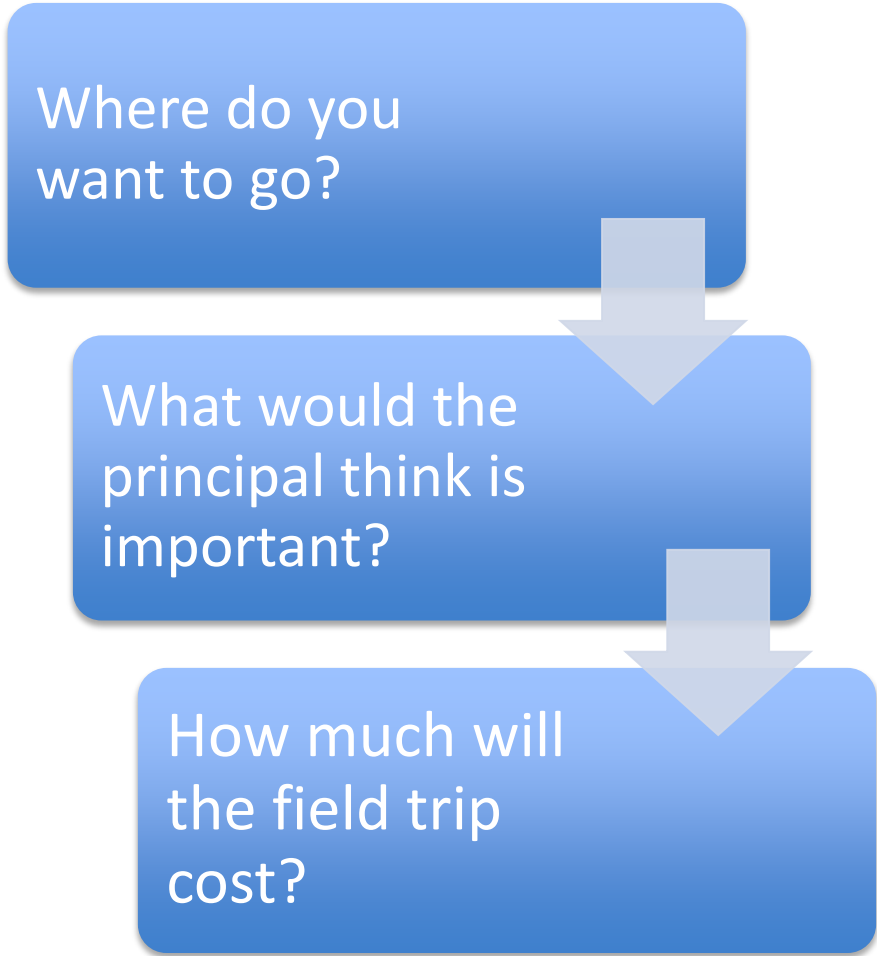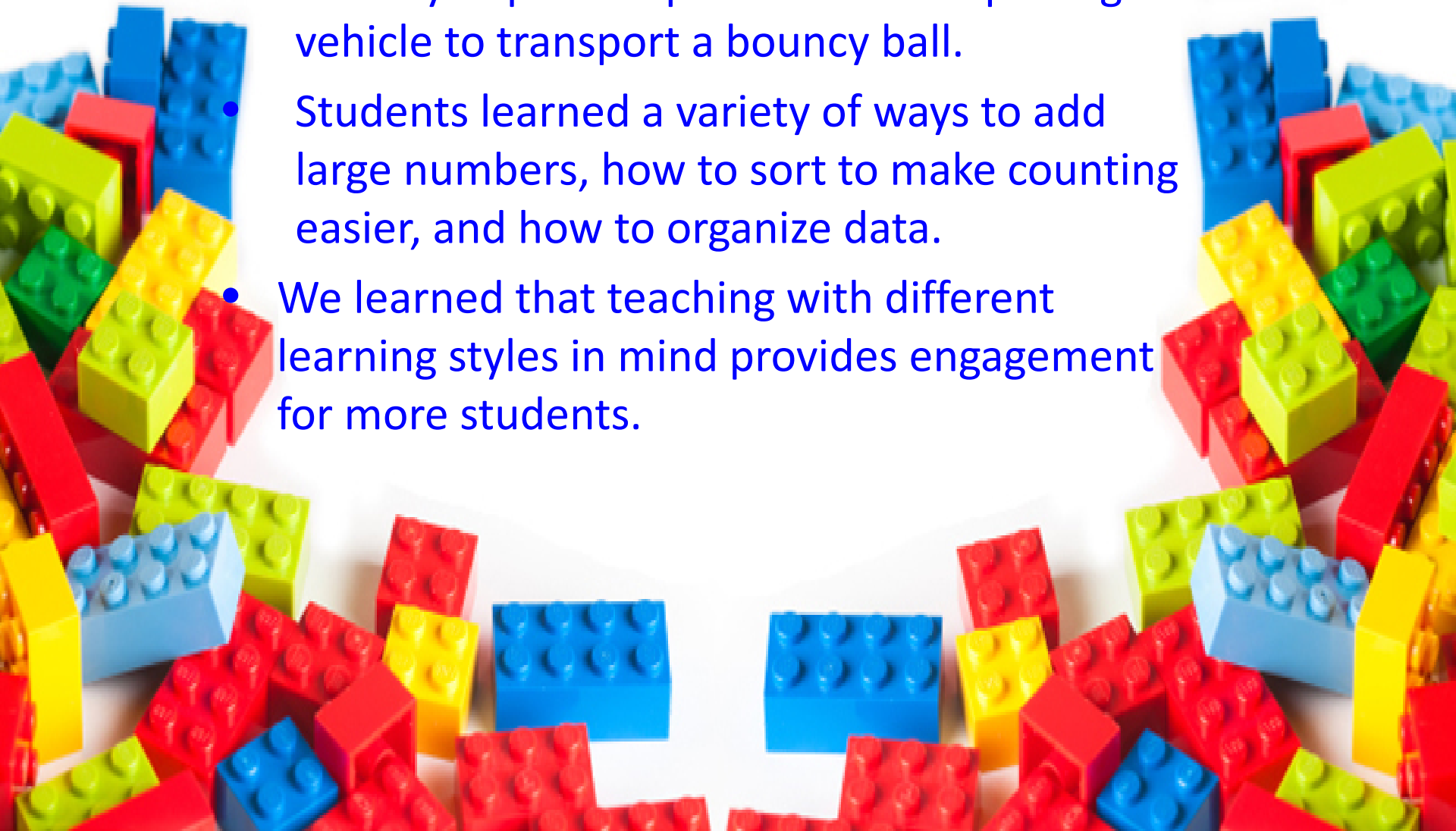
Game Making

Cheri Jakovac, Kristi Crawford, Ami Lakatos, Whitney Todd, and Megan Wickstrom

- Modeling Task: Second graders designed and made partner games to practice their basic math facts of addition and subtraction.

- In addition to basic math fact fluency, students learned teamwork, collaborative skills and perseverance. Students were also able to share what they valued in a partner game.

- As teachers, we learned how an open ended modeling task can benefit multiple ability levels. It also became apparent how we can alter other activities so they are more open- ended.

The Field Trip

Where do you want to go?

↓

What would the principal think is important?

↓

How much will the field trip cost?

Students
- Empowerment
- Connection to value of a number
- Purpose for operations and strategies
- Understanding things that vary
- Justifying decisions

Teachers
- Trusting the process and the students
- Trusting students to find and use efficient strategies
- Seeing students want to dig deeper
- Seeing all students engaged and excited

Best 5th Grade Field Trip

Who is our client?

What does it mean to be BEST?

what is a mathematical model anyway?

How can we mathematize our ideas of BEST?

Does one factor matter more than another factor?

how do other field trips we've experienced rate if we run them through our model?

What we learned…

- momentum matters
- effective PD requires working with like-minded learners
- modeling is complex and messy
- authentic nature of modeling is naturally engaging