Design Zone





Design Zone is...



- An exhibition to promote creativity and innovation, and build math literacy
- A non-traditional, experiential approach to math
- A substantial professional development program for host museums



Algebraic Thinking in Design Zone

Visitor actions	Visitor questions
Explore representations of patterns of change	As this changes, how does that change?
Discover rules by studying examples of patterns and relationships and generalizing	As this changes, how does that change?
Use rules they've discovered to make and test predictions	How could I get that using this? What do I use to get that from this? What do I get if I do this to that?
Create rules and use them to make and extend patterns or transform objects and numbers	What do I get if I do this to that? How is that different than if I do that to this?





Math Reasoning Behavior Checklist: Balancing Art Coder in		Coder initials: Dete:	Group R		
	Level 2	Level 3	Level 4	Level 5	Rating
Talking about mathematical quantities	 Verbalizes nun Verbalizes nun 	nber labels on weights Inber labels on bar	 Mentions equals counting "balance Mentions distance farther/closer Mentions heavin 	 Mentions equals or equivalence (not counting "balance") Mentions distance from center or farther/closer Mentions heaviness, weight, or force 	
Describing mathematical relationships	States that both weight and distance matter relative to force, balance, or "heaviness"	 States that the farther out, the heavier States that some combination of distance and weight on both sides have to be equal 	 Describes a specific <i>quantitative</i> case, with numbers, an operator, and an equal sign (e.g., 2 x 3 = 6) States that weight needs to be multiplied by distance 	States that the sum of weight times distance must be equal on both sides for bar to balance	Highest level checked Level 1: No boxes checked Rating:
Exploring mathematical relationships	Places, replaces, or moves weight incorrectly afte checking balance	 Moves, replaces, or adds weight correctly after checking balance 	 Verbalizes or writes calculation and then places weight (no clear predication verbalized or written) 	 Verbalizes or writes calculation, verbalizes or writes prediction of needed weight and location, and then places weight 	Highest level checked Level 1: No boxes checked Rating:
Achieving mathematical	 Balances symmetric configurations Number: 		Balances asymmetric configurations		(See below) Level 1: No



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#MathMaking2016