Description: Towers Group Sharing, Clip 1 of 6: Discussing the solution and patterns related to it **Content: Harding Elementary School** **Researcher: Professor Carolyn Maher** **Tape: Towers Group Sharing** **Date: 10/11/90**	**Authors: Madeline Yedmen** **Verified: Robert Sigley** **Date: 12/07/13** **Page: 1 of 5**

Transcript

1	00:00	**Amy (T)**	Can I get everyone's attention? Okay. Some of you are still busy. I know some of you are still working but I would like to get started so those of you who are working, quietly finish up what you are doing, okay? The rest of you, I wan you to pay attention. Okay? We are going to go over some of these now because they are just so good. Okay, this is (inaudible).
2	00:39	**T2**	Did everybody figure out how many different towers they can make? Awesome. How many did you find?
3	00:50	**S1 (boy)**	Sixteen.
4	00:53	**T2**	Did anybody get something similar? How many of you got sixteen? (4 students raise their hands.) Did everybody (inaudible)? You think that might be (inaudible)?
5	1:08	**Jeff**	Yes.
6	1:08	**S2 (girl)**	No.
7	1:09	**T2**	Some people said yes. Did anybody ever think it might be seventeen? And maybe even nineteen?
8	1:18	**Jeff**	Yeah.
9	1:20	**T2**	Did you think there might be more? Okay, what made you decide there weren't more? How did you decide there were just sixteen? Why don't you come up and show me where yours is. Okay, how did you decide there were just sixteen?
10	1:57	**Jamie**	Well, if you got seventeen, (someone coughs) you must have some of the patterns that you already have.
11	2:04	**T**	What? Did anybody else think that if you had seventeen,

			there must be another one (duplicate)?
12	2:15	**Jamie**	Yes. There must have been one.
13	2:18	**T**	And (inaudible)?
14	2:19	**Jamie**	Because there could be like switched around… (interrupted by the teacher)
15	2:24	**T**	And why do you think they have been switched by the other way around?
16	2:30	**Jamie**	It just was… there (a student's mumble is on top of Jamie's explanation)
17	2:40	**T**	Did any of the rest of the (inaudible) you did it one way and you did what (inaudible), is that what you did? And did you do that Stephanie?
18	2:50	**Stephanie**	Yeah, well, we have something here that we have like a pattern, red blue red blue, and then we have a pattern that's like blue red blue red.
19	3:08	**T**	Blue red blue red. Jamie, did you and Michael do that? Can you show me one that would be switched to be the opposites of each other?
20	3:18	**Jamie**	We put blue red blue red and red blue red blue. And all blue and all red.
21	3:30	**T**	Did anybody also do that? Show me, where were your thoughts? Did you have all lined up (inaudible) show them to? Did they all go away, remember? You had ones that are opposites? Can you show me? (A student holds up all of his towers.) Can you show me one opposites?
22	3:56	**Student (boy)**	This one has red blue red red and this one and other next to it have red blue blue blue.

23	4:06	**T**	Okay, these two here, are these the ones you are talking about?
24	4:10	**Student (boy)**	No, these two. This one and this one are complete opposites.
25	4:14	**T**	Are they? How are they totally opposite?
26	4:18	**Student (boy)**	Because this color and this color is different from this color and this color and this color, and this color and this color.
27	4:27	**T**	Okay, those are really different from each other. And that's a different pattern. Okay, now, how about this one and this one?
28	4:37	**Student (boy)**	These two… they match and match and they don't match. These, they don't match here and each one doesn't match.
29	4:57	**T**	So some of yours are completely opposites and some are not Okay, were there any other patterns that you used that are opposites? (Calls on a student.)
30	5:12	**Student 2 (boy)**	Red and blue.
31	5:15	**T**	Yeah, those are the two colors that you used. Jeff and Brian, you had fours over there but you haven't put your things up because you have all of your boxes and answers over there. How did you figure out there are sixteen? Or did you think there might be seventeen?
32	5:39	**Brian**	First, we thought there might be seventeen because we made one more that was seventeenth but when we were checking, it was the same as another that we had. So we gave up at sixteen.
33	5:55	**T**	Gave up at sixteen. Could have there been nineteen?
34	6:06	**Jeff**	It's possible. Maybe.

35	6:11	**T**	Oh, could you find one?	
36	6:12	**Jeff and Brian**	No.	
37	6:13	**T**	Okay, so you really think that sixteen is right?	
38	6:15	**Jeff and Brian**	Yeah.	
39	6:17	**T**	Does anybody else (inaudible) what an even number is and what an odd number is?	
40	6:24	**Student (girl)**	Even number is when you have two numbers that are the same and (inaudible) that if you have two friends, and you have four piece of candy, you can each have two. And odd is if you have two friends and three candies, it wouldn't be fair.	
41	6:44	**T**	Okay. So three candies would be an odd number of candies. Suppose you have seventeenth tower, would that be an odd number of towers or an even number of towers? (A student answers odd). An odd numbered tower? Well, did you all have even number of towers or odd number of towers? (A student answers even). Is there any that was (inaudible)? Was it important that you have even number of towers? How did you (inaudible)?	
42	7:20	**Student (girl)**	Well, you just think of patterns and like (inaudible) opposites so like…	
43	7:30	**T**	So does it always happen in opposites?	
44	7:33	**Student (girl)**	Well, if you didn't have opposites, (takes away opposite towers) we only have eight.	
45	7:56	**T**	So the opposites is what made the sixteen? If you didn't	

			have opposites, you would have only had eight?	
46	8:01	**Student (girl)**	Yeah.	