

Description: Towers Group Sharing, Clip 2 of 6: Guessing how many towers can be built three cubes high 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
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Line	Time	Speaker	Transcript
1	00:00	T	Okay, I'm going to ask all of you to think for a minute. I want you to think really hard and see if you can imagine. Suppose instead of towers that had four cubes, you could only have three cubes in each tower. Do you think there would be more towers or do you think there would be fewer towers? What do you think? This means, if you have only three box in each tower, you think there would be more towers than sixteen or do you think there would be fewer towers than sixteen? What do you think?
2	00:49	Student (boy)	There would be more towers.
3	00:50	T	You think there would be more towers than sixteen with just three cubes? How many do you think there would be?
4	00:59	Student (boy)	Nineteen.
5	00:59	T	Nineteen? Why do you think there would be more?
6	1:06	Student (boy)	(inaudible)
7	1:09	T	That would be more? What do you think Brian?
8	1:10	Brian	Because there are fewer numbers of blocks.
9	1:16	T	So you think there would be more than sixteen or fewer than sixteen?
10	1:21	Brian	More.
11	1:22	T	You think there would be more, also. What do you think?
12	1:26	Student 2 (girl)	I think it would be less towers.

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13	1:28	T	Why?
14	1:30	Student 2 (girl)	Well, because if you have sixteen now, you won't get (inaudible) and you would need more because...(interrupted by T)
15	1:49	T	Do you think there would be exactly same stuff or do you think there would be fewer? Or do you think there would be more?
16	1:55	Student 2 (girl)	Uhm... Exactly the same.
17	1:56	T	You think there would be (inaudible), is that what you are saying? (The student nods her head yes.) Okay, because you said fewer a minute ago. What do you think?
18	2:06	Student 3 (boy)	I think higher.
19	2:07	T	You think there would be more than sixteen. Why?
20	2:12	Student 3 (boy)	Because if you get (inaudible) and you start making with that one and that one, you keep on (inaudible) and you could make more than sixteen.
21	2:30	T	Oh, you mean, you would have more blocks than towers out of. But you have the same rule. You could add any two that are the same. But because there are more blocks you think there might be more towers.
22	2:47	Student 4 (boy)	I think there might be less.
23	2:48	T	Why?
24	2:49	Student 4 (boy)	Because three is less than four. You would have the same kind of patterns so there might be less than sixteen.
25	3:02	T	You think there would be fewer patterns if you had only three.. (interrupted by Student 4)

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26	3:06	Student 4 (boy)	But at the same kind of patterns but fewer numbers.
27	3:13	T	Why do you think the same kind of patterns?
28	3:15	Student 4 (boy)	Because same kind of patterns we have there at four but ...
29	3:28	T	What do you mean by the same kind of patterns?
30	3:31	Jamie	Because, well, there are four here. Because these are all red, and if you take one away, and it's the same pattern and it only has three blocks.
31	3:44	T	That's another way of doing just three. Can anybody think of another way? We add one from (inaudible). Let's keep that one (inaudible). A red, okay, and one red and three. Can anybody come up with another one that is just three and different from that? Stephanie and Dana what would be one that is different from what Jamie has?
32	4:17	Stephanie	Well, this one.
33	4:24	T	What is it? What does it look like?
34	4:25	Stephanie	Well, let's see. It's got red blue and red.
35	4:30	T	Okay, so this one is all red and that one is red blue and red. Can you come up with one that is different from these?
36	4:42	Jeff	Like that.
37	4:44	T	Okay, a red, a blue, and a blue. What about you?
38	4:51	Student 5 (boy)	Blue, blue and red?
39	4:54	T	So there are some of them. How many do you think there is going to be? I will let you think for a little bit. This is just a guess and I want it to be a good guess. I want you and your partner to talk to each other for a minute. And every single group has to come up with a guess. Okay? So I can write on

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			the board what your guesses are. Okay, you have to ask your partner (inaudible). Some people said there would be more than sixteen and some people thought there might be less, and some people thought there might be exactly sixteen and now some people might just change their minds. If you and your partner decided on a guess (inaudible). Okay, Jamie and Michael said less. Okay. I want you to guess exactly how many there would be. Okay, you can draw it here. What about you two? You think it'll be twenty one?
40	6:31	Michael	I found more combinations.
41	6:34	T	Michael, and all? Maybe more? How many? You think it's twenty? Why? *student says something but it's inaudible* Because there is less blocks so you think you can have more towers. And your name is? Michael. And remember, we are doing it for your partner too. So, you have to make a really good guess because you are doing it for two people.
42	7:09	Student 6 (girl)	I think the same. Same as sixteen. You have four and you take the top off and you have three. If you try to make some three (inaudible) you would get the same.
43	7:25	T	That's what you were saying a while ago, Michael. Is that when you take off the top, there are extra blocks to work around with. I understand now, that's really interesting. Okay, Brian and Jeff?
44	7:37	Jeff	We think it's the same.
45	7:42	T	Okay, Brian and Jeff think they would be the same. Okay, (name) what do you think?
46	7:49	Jamie	Well, we think it's the same.
47	7:51	T	You changed your mind? You thought it was less when I asked you a while ago.

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48	Another teacher talks about what Michael did.
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