

Description: Comparing one half and one fourth: Multiple models Parent Tape: Comparing Fractions: Number Names and a Preliminary Method of Generating Models Date: 1993-10-01 Location: Colts Neck Elementary School Researcher: Professor Carolyn Maher	Transcriber(s): Yankelewitz, Dina Verifier(s): Yedman, Madeline Date Transcribed: Spring 2009 Page: 1 of 3
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- 6.0.259 T/R 1: Ok, I would like to hear Gregory and Danielle's solution because it's a little bit different and then I want to hear the comment about, we have two different models we ended up with the same answer but some of you seem to think that you could build a different model and not necessarily have the same answer that's **a very** important question. If we don't get to talk about that today I want everyone to think about that this weekend. A very important question. Is it possible to get one answer with one model and a different answer with another model. That's a very important question. Now, we have two models, we did end up with the same answer or another name to call, another number name for a quarter. Did anyone do the model that Danielle and Gregory are building? This is one I didn't see, I walked around it's a different one than I had seen. Did anyone else build Danielle and Gregory's model. See how we think about these things differently? Brian did you have that one? Brian had that one too, ok, he was the only other person who had that one. Okay, Danielle, Gregory let's hear your thinking.
- 6.0.260 Danielle: Well, we think that the, um the half which is the brown, um, was bigger than the fourth because if you take the brown, the half and the fourth you could see that the half is bigger.
- 6.0.261 T/R 1: How much bigger?
- 6.0.262 Danielle: By a purple.
- 6.0.263 T/R 1: And what number name is that?
- 6.0.264 Danielle: A fourth .
- 6.0.265 T/R 1: What do you think class? Does that model, does it give you that same answer? The new model? [Yeah, mm hmm.] Okay. We have some other models we have some other models but I'd like to know, umm, Andrew you want to go give model? This one I've seen a lot. I don't seem to see it up there.
- 6.0.266 T/R 1: How many of you built this one? Raise your hand if you've built this model. If you haven't built it you may want to build it while Gregory is building it- Andrew is building it. Ok lets all listen to Andrew's, um, solution now and see if you agree.
- 6.0.267 Andrew: It's bigger by um one fourth because, there and, put that there. I think they're all if you have the fourths on your um, your problem and I think that it would always be one fourth would be as much as, more. The half would be more than it by one fourth if you always have a fourth.
- 6.0.268 T/R 1: Why do you think that?

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- 6.0.269 Andrew: Well, because out of all the people that came up here, they always had the room for one more fourth, and I think that because usually the fourths, or two of 'em are equal up to the half, so then it would be a fourths.
- 6.0.270 T/R 1: Okay, what is that the rest of you are saying? I hear, uh, some of you whispering that before Alan had a theory and Erik had a theory what do you think of Andrew's theory? Erik?
- 6.0.271 Erik: Well, I think that, we think that you could divide- I think that you could take, you could take rods and divide them equally into fourths I think six times. Well, and we also came to a theory that if, if you uh, yeah we also came to a theory that
- 6.0.272 Alan: If you take an orange rod, go down two it would be a brown rod
- 6.0.273 Erik: if you take an orange rod and go down two it will be the brown rod
- 6.0.274 Alan: And you can make it into quarters, and then-
- 6.0.275 Erik: Yeah you just divide two from each rod like you start with the orange rod divide by two and then the brown rod and you divide by two from the brown rod
- 6.0.276 Alan: From the brown rod .
- 6.0.277 Erik: And then whatever rod you get, divide two from that .and keep going down.
- 6.0.278 T/R 1: Alan, did you want to add something?
- 6.0.279 Alan: [takes their models up to the board] We have a lot of them we need to remember
- 6.0.280 T/R 1 : You might not have enough time to build them all I would like if you just talk about them, I don't think you'll have time to get them all up there. David? Will your answer change when you change your model?
- 6.0.281 David: Um I don't think so cause it might just be in a different size but it might be the same thing but they kind of changed it around a little bit.
- 6.0.282 T/R 1: Ok, I want you to think and write about why you think the model won't change. Those of you who might think differently. Ok, so I want to hear generally what you're learning about the models you're building when your comparing a half and a quarter. And I'd like really everyone to think about it from the few models. I'd like you to think of more than one. If you thought about the problems for one or two think about three or four. I really am pleased at what I see. One, two, three, four, five, six models Meredith has here.
- 6.0.283 Erik: That's what we have too

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- 6.0.284 T/R 1: And you have six models and you have six models, Brian and Michael. Of course my question then is could there be more than six? Why or why not, can you prove it with the rods you have. That's my next question. Can there be more than six. Why or why not? Okay, what do you think Andrew?
- 6.0.285 Andrew: Well, you really can't tell, if um, you can't tell if the half is bigger than the fourth, cause right on their problems that they have they don't have a half.
- 6.0.286 Erik: Well, we didn't do the halves we just did the fourths. Because all you really had to do was the fourths.
- 6.0.287 Andrew : But the question was is one half bigger than a fourth, by how much?
- 6.0.288 Erik: But we think before we went up we heard other people go up and they explained that they thought one half was bigger than one third by one fourth so we just figured that we'd just do the problem just to show and even if we had to do the fourths or the halves half of that would be actually, would probably, I'm not sure but we didn't really have them because we thought that people answered the question. That they'd be bigger by one fourth [Erik and Alan's work on the OHP].
- 6.0.289 T/R 1: Okay, well I'd like to thank you all for such a wonderful job. I saw every single person in this room thinking very very hard today .and really explaining I want you to think about one more question, especially those of you who have built six of these, right? Especially those of you who built six models. The question I want you all to think about it is it possible to make more than six models? Because I'm wondering if you had to explain this to a younger child, let's say in the third grade and they came up with a model would it be one that you would be familiar with? Is it possible for a third grader to come up with a model with these particular rods that you haven't seen? You understand? And why or why not? Because you may have to be helping some of your third graders later in the year. Third grade fellow students. I want you to imagine all possible things they can build, ok? This was superb thinking and I want to thank all of you. I hope you have a wonderful weekend and I'm going to see you on Monday, I think I have a really good problem for you on Monday.