

Description: Meredith's challenge: Does the model work? 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 4
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- 6.0.207 T/R 1: Now do we have another way, I'd like to hear from that team in that corner, Jackie and Amy and James. Thank you gentlemen. [Some more talk about jury and audience]. Come on Amy.
- 6.0.208 Amy: Okay, um, we decided, we tried the orange and we couldn't, we just , we didn't want to make a train. We wanted to use one color and we couldn't find any thing to make a quarter of that so we went down to the blue we couldn't find a half of that, then we went down to the black, I mean brown, and then we found a half of that and a quarter for that and so we used brown and we took two purples and we put those underneath the brown, then we took, then we found red were half of purples so we put the reds underneath the purples and then we had to see how many whites would equal up to all the, would equal up to a brown so we kept putting them on and so we found eight.
- 6.0.209 T/R 1: So what did you decide? What is bigger and by how much?
- 6.0.210 Amy: James figured that out
- 6.0.211 James: One eighth
- 6.0.212 T/R 1: Are you convinced what James did?
- 6.0.213 Amy: Yes
- 6.0.214 James: It's one eighth, yeah, we think its one eighth
- 6.0.215 T/R 1: Okay so James says that in this model one half is bigger than a quarter or one quarter is bigger than a half?
- 6.0.216 James: No, one half is bigger than one quarter
- 6.0.217 T/R 1: By one eighth.
- 6.0.218 James: Yeah
- 6.0.219 T/R 1: Okay class. Do you agree? Oh, we have some disagreement what's your disagreement? Let's start, Kelly, and I am going to hear from Gregory in just a minute. Kelly, you disagree?
- 6.0.220 Kelly: Well, me and Jackie have another one.
- 6.0.221 T/R 1: I'm talking about this one.
- 6.0.222 Kelly: Oh.
- 6.0.223 T/R 1: They're claiming that, the team before just showed that one half was bigger than a quarter by a quarter. Isn't that right? I think that's what Graham did and his team, right? Now a new team claims that one half is bigger than a quarter by an eighth! Is it possible that different models can give you different, different answers? Some of you think different models can give you different answers? That's interesting- Alan says no. Okay let's hear from Meredith she hasn't talked in a while. Then we'll hear from some others.

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- 6.0.224 Meredith: Well you said its bigger by an eighth, are you calling this an eighth? [mmmm hmm] Ok. Take these two. This is an eighth; it is not bigger by an eighth because there is still negative space. You're calling that an eighth, it's not equal. But if you take another one, it could be bigger by two eighths and, or it could be bigger by one quarter. One quarter or one, um two eighths. It's the only way it could be bigger by. [some of them laugh]
- 6.0.225 T/R 1: What do you think up front? Amy, James, Jacquelyn? What do you think about what Meredith is saying?
- 6.0.226 Amy: Um
- 6.0.227 Jacquelyn: Well, I think we meant that all these put all together are one eighth. I think that's what we meant.
- 6.0.228 James: Yeah [Jacquelyn laughs]
- 6.0.229 Meredith: Both these put together are one eighth?
- 6.0.230 James: No. We thought, uh, all of these whites put together were one eighth. That's what we thought
- 6.0.231 Meredith: But the question was: Is one half bigger, is one half bigger than one quarter?
- 6.0.232 Jacquelyn: And we said one half.
- 6.0.233 Meredith: So you think all these are one eighth? And that is bigger than 1/8? The um, because that's the question. The question is, is one half bigger than one quarter, right?
- 6.0.234 Jacquelyn: Right
- 6.0.235 Meredith: You think its bigger than one eighth and all these are one eighth? So that's how much you think its bigger by?
- 6.0.236 Jacquelyn: No, we, I think we got the question wrong.
- 6.0.237 T/R 1: What question do you think you were answering, uh, Miss Jackie, you think you were answering a different question I'm hearing you say
- 6.0.238 Jacquelyn: Yeah
- 6.0.239 T/R 1: That's what I am hearing you say, Okay. Let's think about the question we asked before that lets go to Meredith. What do you think about what Meredith said. Given Meredith said the question was which is bigger and by how much? What do you think of Meredith's question, have you changed your mind now to the answer given Meredith's question. one half bigger than one quarter?
- 6.0.240 Jacquelyn: That is what we said
- 6.0.241 T/R 1: By how much?
- 6.0.242 Jacquelyn: I think that is where we got a little wolbby (sic)
- 6.0.243 T/R 1: Okay, so you see it's bigger by how much

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- 6.0.244 Jacquelyn: Two
 6.0.245 T/R 1: Two what?
 6.0.246 Jacquelyn: Two eighths
 6.0.247 T/R 1: Two eighths? Or Meredith suggested another name for that would be
 6.0.248 Meredith: One quarter
 6.0.249 T/R 1: One quarter and you see how she got the other name for that?
 [Jacquelyn nods.] How did she get the other name for that? Tell the rest of the class who may not have- who may have missed it.
 6.0.250 Jacquelyn: Well, this was one quarter and all these were one quarter and these two together make up a quarter.
 6.0.251 T/R 1: Ok, so you are changing your answer to one quarter or two eighths.
 6.0.252 Jacquelyn, James: Yeah
 6.0.253 T/R 1: Okay well you did add something to this we said that one half is bigger than one quarter by one quarter and for the rest of the class who might not of though about this very interesting discussion is that one half is bigger than a quarter by two eighths. So we are sort of happy you introduced the eighths because it gave us another way to think about how much bigger one is than the other. That was very helpful to us and I have to thank you for that and Meredith. But now I wonder what could someone in the audience tell me what question you think that team was answering. Because Jacquelyn suggested she thought they were answering a different question. And Jessica whispered something, her hand was up because she thought she knew what question they were answering. Do you think you know Jessica or not?
 6.0.254 Jessica: Umm I am not sure, well, for that problem?
 6.0.255 T/R 1: Yes
 6.0.256 Jessica: What they mean?
 6.0.257 T/R 1: Yes
 6.0.258 Jessica: Umm well I don't get first they changed, first they had an answer, then they changed it and well, they didn't, yeah they did, they changed it. And, well, I'm not really sure.
 6.0.259 T/R 1: You're not really sure what the other question was, anybody? See I can tell you what I think it might have been but I may be wrong. I think what we're so used to ah what we decide what one is we begin to get number names for the other rods like one half in this case, like one quarter in this case, right? And, and usually people like to know what other number names they can make once they called something one. So I think you said "oh gee there's the white I can also give that a number name – that's an one eighth" Maybe that's the question

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you answered: What's a number name for white? But that wasn't the question that was asked. You see the difference here?