

Description: Clip 3 of 5: Brian challenges the girls' argument Parent Tape: Comparing Fractions - A Whole Class Debate Date: 1993-09-29 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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- 5.0.91 T/R 1: Tell me what you did the last time Dr. Martino was here. What was the problem you were working on? [Michael raises his hand] Anybody want to tell me and tell Dr. Davis? You were working on a problem I think in class together I think you were in groups, weren't you? Do you all want to think for a moment and maybe discuss with your partner to help you remember what you were working on? [Michael's hand is still up] Michael?
- 5.0.92 Michael: We were working on the candy bar problem. Like, with like which is bigger a half or one third and we were using candy bars to show that.
- 5.0.93 T/R 1: Ok, so you were working on which is bigger, one half or one third. Andrew?
- 5.0.94 Andrew: Yeah, we were working on, we had to write about um and we had to do an example on it, and um to see if which is bigger, one half or one third.
- 5.0.95 T/R 1: How many of you worked out which is bigger? One half or one third? [several hands go up] How many of you think they are the same? [all hands go down] How many of you think one is bigger? [several hands go up again] Which is bigger? One half or one third. Laura.
- 5.0.96 Laura: One half.
- 5.0.97 T/R 1: You say one half is bigger. What do the rest of you think? Do you think one half is bigger? [several students provide affirmation] Do you think you can convince Dr. Davis that that's the case? [several hands go up] Can you convince Dr. Davis that one half is bigger than one third. By the way, do you know how much bigger? How many of you think you know how much bigger it is? Ok, that's the second question. Ok, I really would like someone to come up. Jessica maybe and Laura can come up to the overhead and show Dr. Davis how you decided which is bigger. And see if you can convince us of your result. [Jessica and Laura come to overhead].
- 5.0.98 Jessica: Well, um, one third would be just this piece here [she points to the purple rod] and one half of that would be [she sets up two dark green rods] and one half would be this [one dark green rod] and one third is bigger than one half cause this [purple rod] would be one third and then this bigger piece [dark green rod] would be one half of that. And-
- 5.0.99 T/R 1: Can you tell me what number name you're calling the orange and the red rod?
- 5.0.100 Jessica Um, one.

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- 5.0.101 T/R 1 You're calling the orange and red rod one? Can you say that again, what number names gave to each of those rods so I can hear from back here?
- 5.0.102 Jessica [whispers to Laura] You say. Um, this would be, this, we're counting this as one whole [orange and red train] and I think this [dark green rod] has two and this [purple rod] has, wait, um. Um [giggling], um I can't we called it, yeah, [Laura helps her out] I think this one was one-
- 5.0.103 Laura: That was one third
- 5.0.104 Jessica: this was one third, and this was one half.
- 5.0.105 Laura: One half.
- 5.0.106 T/R 1: What do the rest of you think? What do you think? Audra what do you think of what... the two young ladies built up there?
- 5.0.107 Audra: I agree because-
- 5.0.108 T/R 1: Want to speak to the class [asking her to go up front]
- 5.0.109 Audra: [comes to overhead] I agree because if you saw what the, um half, was here and then you saw what, no, what the half was here and then you saw what the third was there, and you saw that the half was bigger than the third.
- 5.0.110 T/R 1: How many of you agree with the argument that a half is bigger than a third with the argument that was made here? Ok, did you figure out how much bigger?
- 5.0.111 Audra It's two, two [places two white rods next to purple rod]
- 5.0.112 Jessica: It's a red bigger, but
- 5.0.113 T/R 1: Ok, you're saying it's a red rod bigger or two white ones but that's what I see you have built there, but I would like you to tell me what number name you have for how much bigger it is.
- 5.0.114 Audra: Um, wait, it's one third bigger, I think [organizing the dark green and red blocks together].
- 5.0.115 Jessica : I think it's one third bigger too because if you put the red to the green
- 5.0.116 Audra: You'd see that there's three
- 5.0.117 Jessica: You need three and if you put the purple one to it also and then it takes one third of them. [Showing the purple differs from the dark green by one red block]
- 5.0.118 T/R 1: Okay so these young ladies have proved that one half is bigger than one third and it's- one half is one third bigger than one third. What do you think? That one half is one third bigger than one third. What do you think about what they just proved? Now you were all watching their argument up there and have they convinced you? [Child in front row has his hand up] I don't know if they have convinced Dr. Davis. Um, but I am wondering if they have

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- convinced you? Kelly. What do you think, do you agree with this?
[Kelly stands up, and comes to the front of class]
- 5.0.119 Kelly: Um, yes.
- 5.0.120 T/R 1: You agree with them.
- 5.0.121 Kelly: Well, if you have, um, a red, if you hold, um, well, if you have, um, well we used these and we went like, and then we like held reds up and we showed that um, that um, one half is bigger by, because this part is smaller, and this is supposed to be one, one third so that's how we did it.
- 5.0.122 T/R 1: Brian you are making a face, what do you think? Do you agree with them?
- 5.0.123 Brian: Not really.
- 5.0.124 T/R 1: Brian doesn't agree with you
- 5.0.125 Audra or Jessica I think that's like changing the problem because we are using the dark greens and she [Kelly] is using the light greens.
- 5.0.126 T/R 1: Oh, hmm.
- 5.0.127 Jessica: If you take this and it has three thirds [Brian builds the model on his desk]
- 5.0.128 T/R 1: Let me make sure I understand this. You're calling this one, right? And you're calling this one third,
- 5.0.129 Jessica: And we're calling this
- 5.0.130 T/R 1: And you're calling this one third
- 5.0.131 Jessica: One third
- 5.0.132 T/R 1: Right? And you're calling this one half? And you're saying one half is bigger than one third by one third? [Girls agreeing with her as she demonstrates what they said]
- 5.0.133 Jessica and Audra: Yeah, you can put three of these, three reds up to one green and then it would take one, one third of the red to make um, to go there, like.
- 5.0.134 T/R 1: Ok, I would like all of you—How many of you agree? How many of you disagree? Now if you disagree you have to say why you disagree because they are saying that one third is smaller than a half, one half is bigger than a third, it's one third bigger than a third, that's what they are saying. Now either you have to agree, or disagree or not know. How many of you aren't sure? [several hands go up] A few of you aren't sure, but some of you disagree. And if you disagree we have to say what's wrong with their argument. There must be something wrong with their argument if you disagree. Or maybe their argument is right because I'm very confused. Brian what do you think?
- 5.0.135 Brian: Well, when they said one third is bigger than one half by one third. I think they said, is that what they said? Well, I don't really agree,

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because well if you split, if you split one of the thirds in half which would make [counting the blocks], which would make a sixth. I think it's a sixth bigger. Like, well, [holds his rods], um should I go up there?

- 5.0.136 T/R 1: Sure, ladies can you make a little space here for Brian. Maybe you need to have a little conference here, we have some disagreement.
- 5.0.137 Brian: [He goes to the overhead.] Well, see for um, when they said it was one half bigger, if you split a third in half it'd make a sixth, like one, two, three, four, five six. Like, like pretending they were, like pretending they were split in half. If you split one of these in half and you have three of them up there they'd make, they'd make six and any way, and when you split them in half right in the middle over there it's kind of like that, it's kind of like this, there was this was, that was the one third [points to a purple rod] and that was the one half [points to the dark green rod] on the bottom and so it's just like this and the red I'm pretending is like, is like, is a half of one of the purples and you see when I split it in half it's, it's one sixth and, and it equals, and it equals up to a green.
- 5.0.138 T/R 1: I'm hearing you say Brian that the number name for red is one sixth and the reason why is—
- 5.0.139 Brian: Well, I mean a red, I'm considering a red one sixth [Dr Maher: yeah] because two of these [red rods] equals, see they're two, they're two sixths, two halves of one purple and the purple is a third and the half of one third is sixth, there's sixths.