

Description: Clip 7 of 7: Erik and Alan compare two third and three fourth Parent Tape: Continuing to Explore Fraction Comparisons Date: 1993-10-06 Location: Colts Neck Elementary School Researcher: Carolyn Maher	Transcriber(s): Yankelewitz, Dina Verifier(s): Yedman, Madeline Date Transcribed: Spring 2009 Page: 1 of 7
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8.2.157 T/R 2: Is I want you to compare two thirds and three fourths, I want you to think about which is bigger and by how much. Ok?

8.2.187 Alan: Never mind. Ok, two thirds, [hums]

8.2.188 Erik: One brown,

8.2.189 Alan: Ah hah. [Hums]. Ok. The two thirds, oh, three fourths is bigger. Two thirds, [makes noise, takes a white rod from the next table.

8.2.190 Danielle: Alan!

8.2.191 Alan: I need it. I don't have another case. [inaudible]

8.2.212 Erik: Alan, Alan should I do this one, too? recording

8.2.213 Alan: Yeah

8.2.214 Parish: Yeah?

8.2.215 Erik: Ok. Two thirds,

8.2.216 Alan: One model got wacky.

8.2.217 Erik: Well, wait

8.2.218 Parish: He's straightening up his models, right? [Erik sighs] Now can you build, now that you've done that, can you build another model for that?

8.2.219 Erik: Wait, Alan! I actually think that you can use the same model you did for this problem as for, as for this problem. Because see, all y- yeah, really all you need is, cuz you're only comparing the thirds and the fourths, but all you really need is divide it into fourths, thirds and then you can use the same model. Because look, that is

8.2.220 Parish: Well, you used this model, right, I mean you made the whole the same both times.

8.2.221 Erik: But you can also, I think that you can tell, you can tell the answer, that all you have to do is draw it with the thirds and then you can tell the answer with the same models.

8.2.222 Alan: Yeah, you just have to put the thirds in there, and it would be the same answer as that, then you'd have to draw the twelfths, twelfths

8.2.223 Erik: No, you wouldn't have to draw the twelfth rod, what for?

8.2.224 Alan: For the

8.2.225 Erik: What for?

8.2.226 Alan: These are how many? Look, those are two thirds and those are three fourths. That fits there so two thirds is smaller than three fourths

8.2.227 Erik: Hold on, hold on. Hold on, hold on.

8.2.228 Parish: That's your whole too?

8.2.229 Erik: Yeah, let me just take some of these. Ok.

8.2.230 Alan: Exactly

8.2.231 Erik: Ok, exactly.

8.2.232 Parish: Ok, you guys, where are your whole rods?

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- 8.2.233 Erik: The whole, right there.
- 8.2.234 Parish: Ok.
- 8.2.235 Erik: And then it says two thirds and three fourths.
- 8.2.236 Parish: Ok.
- 8.2.237 Erik: Two thirds, three fourths.
- 8.2.238 Parish: Which one's bigger?
- 8.2.239 Erik: Three fourths.
- 8.2.240 Parish: Three fourths yeah
- 8.2.241 Erik: By, one white one which would probably have to place
- 8.2.242 Parish: Well, how do you know it's one white one bigger, because Alan told you?
- 8.2.243 Erik: Well, because, no, one two three [giggles] and then two and then all you have to do is go like that, add that onto the thirds.
- 8.2.244 Parish: I see, fair enough, I buy it.
- 8.2.245 Erik: And then, you have to
- 8.2.246 Parish: Find out how much those little white ones are?
- 8.2.247 Erik: Yeah, just place it, now you need
- 8.2.248 Parish: We can always get more.
- 8.2.249 Erik: Now you need twelve. And now I only need three or four.
- 8.2.250 Alan: I did, I was going to borrow three but I had to give back to them.
[Parish hands Erik more white rods]
- 8.2.251 Erik: Ok, there we go!
- 8.2.252 Parish: So how much is one white one?
- 8.2.253 Erik: .Two.. three four five six seven eight nine ten eleven twelve. One twelfth.
- 8.2.254 Parish: One twelfth. So which one is bigger?
- 8.2.255 Erik: Uh, three fourths.
- 8.2.256 Parish: And how much bigger?
- 8.2.257 Erik: One twelfth.
- 8.2.258 Parish: Ok, so why don't you draw that model and we'll try to do another model.
- 8.2.404 Erik: The halves, but we didn't use the halves really, we didn't diagram the halves.
- 8.2.405 Alan: And then those were the thirds, the light greens
- 8.2.406 Erik: No, the purples were the thirds, the purples were the thirds, the light greens
- 8.2.407 Alan: The light greens were the fourths
- 8.2.408 Erik: were the fourths
- 8.2.409 Both: And the whites were the twelfths.

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- 8.2.410 Erik: We did the, we did the twelfths because what we did is, let's see, Alan can I use your model for a second? Well, because we said that the question was two thirds or three fourths.
- 8.2.411 T/R 2: Mmm hmm
- 8.2.412 Erik: The three fourths, three fourths.
- 8.2.413 Alan: Now
- 8.2.414 Erik: Three fourths would be larger than the two thirds by one twelfth.
- 8.2.415 Alan: Whoops!
- 8.2.416 Erik: Because, wait, wait, wait, well, because the three and then the two if you put this at the end of it, that would equal [intercom interrupts] Second grade? And then we just, and then I just can't think of another diagram.
- 8.2.417 T/R 2: Ok, and the difference was how much?
- 8.2.418 Erik: One twelfth.
- 8.2.419 T/R 2: One twelfth, ok.
- 8.2.420 Alan: We've spent a lifetime on this.
- 8.2.421 T/R 2: And you haven't come up with another one.
- 8.2.422 Erik: No, I can't think of one.
- 8.2.423 T/R 2: I'm going to make one suggestion. Think big.
- 8.2.424 Erik: Oh, two browns.
- 8.2.425 Alan: Two oranges.
- 8.2.426 Erik: Yeah, the yellows fourth it. Remember we did that?
- 8.2.427 T/R 2: I'll give you your rods back, think big.
- 8.2.428 Erik: Alan, remember we did that?
- 8.2.429 T/R 2: See if you can come up with another one before we have to leave today.
- 8.2.430 Alan: Where are the yellows?
- 8.2.431 Erik: One two, three, I have the half and I, no I have the fourths, all we need is the thirds.
- 8.2.432 Alan: I'll keep this model, you make the other one.
- 8.2.433 Erik: Third it.
- 8.2.434 Alan: Bingo, dark greens.
- 8.2.435 Erik: Bingo, browns third it, I mean blacks
- 8.2.436 Alan: Uh, right, blacks blacks blacks.
- 8.2.437 Erik: No
- 8.2.438 Alan: I told you dark greens third it
- 8.2.439 Erik: Browns maybe.
- 8.2.440 Alan: Look, see this?
- 8.2.441 Erik: Yeah, it's the dark greens, I bet.
- 8.2.442 Alan: I know what it is.
- 8.2.443 Erik: What is it?

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- 8.2.444 Alan: It's third two oranges, would mean you'd have to use the blacks.
- 8.2.445 Erik: No, the blacks don't work.
- 8.2.446 Alan: What we should do is another problem.
- 8.2.447 Erik: No it's the same problem. The blacks don't work, Alan.
- 8.2.448 Alan: You're right, but what can third? Make a train out of the orange again, look, add a
- 8.2.449 Erik: Add a white! No, because then we have to train the whole, these uh, yellows. One bigger than the yellows would be dark greens, wouldn't it? Yeah. Dark greens. So, we add a white onto the oranges, change those to dark greens, two three,
- 8.2.450 Alan: Imagine that.
- 8.2.451 Erik: No,
- 8.2.452 Parish: Well, you can make the oranges bigger.
- 8.2.453 Erik: Yeah, but then we can't divide it into thirds. I know the half for this, I know how to halve this, nana, and I know how to fourth this, I just don't know how to third it.
- 8.2.454 Alan: Make another train, look.
- 8.2.455 Parish: Well, maybe you can make it even bigger.
- 8.2.456 Alan: Add a yellow onto the two oranges and then fourth it using one up from the yellows.
- 8.2.457 Parish: Oh, that's a good idea.
- 8.2.458 Alan: One up from the yellows
- 8.2.459 Erik: Is a dark green.
- 8.2.460 Alan: Using the yellow you can fourth it.
- 8.2.461 Erik: Fourth it using these, one two three, another dark green
- 8.2.462 Parish: Does it work?
- 8.2.463 Alan: Yes it does
- 8.2.464 Erik: No it doesn't
- 8.2.465 Alan: A light green! Make the light green train! Put a light green there and then third it.
- 8.2.466 Erik: Purple purple
- 8.2.467 Alan: Purple, right, put in a purple.
- 8.2.468 Parish: Ok.
- 8.2.469 Erik: Got it. There's the fourths.
- 8.2.470 Parish: So now you've got quarters, now you need to get what?
- 8.2.471 Alan: Fourth it! Third it!
- 8.2.472 Erik: Third it!
- 8.2.473 Alan: Third it! Black it!
- 8.2.474 Erik: Black it! Yeah.
- 8.2.475 Parish: [laughs] Black it.
- 8.2.476 Erik: Whatever.

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8.2.477 Alan: Green it! Blue it, yellow it, red

8.2.478 Erik: No, these don't third it.

8.2.479 Alan: Blue

8.2.480 Erik: Blue, yes blue it.

8.2.481 Alan: The blue might be able to third it.

8.2.482 Erik: Probably will. Yup. No.

8.2.483 Alan: Brown.

8.2.484 Erik: Yep, hold on let me just get this straight, the browns.

8.2.485 Alan: The browns will do it, I can tell.

8.2.486 Parish: You can tell, without even touching it you can tell, that's an amazing visual ability, very impressive.

8.2.487 Erik: Perfect! It'll work.

8.2.488 Parish: Alright, so show me which one's bigger, three quarters or two thirds.

8.2.489 Erik: Oh, no we have to do the twelfths. Reds. I think.

8.2.490 Parish: You think reds this time?

8.2.491 Erik: Yep.

8.2.492 Alan: Mmm hmm.

8.2.493 Erik: One, two.

8.2.494 Alan: You've got plenty of reds up there

8.2.495 Erik: I know, one two three four,

8.2.496 Parish: You need some reds from them?

8.2.497 Erik: Five, six, seven, eight, nine,

8.2.498 Parish: You're making him do all the work.

8.2.499 Erik: Ten, your visual talent did not work

8.2.500 Alan: Here.

8.2.501 Erik: One two three four five six seven eight nine ten

8.2.502 Alan: Eleven twelve

8.2.503 Erik: Eleven twelve. Perfect

8.2.504 Alan: Perfecto perfecto

8.2.505 Erik: Now, the what is it? Three fourths or two thirds?

8.2.506 Parish: You show me three fourths

8.2.507 Erik: One two three and then of course by

8.2.508 Alan: By a twelfth. Yup. That's another model.

8.2.509 Parish: Sounds pretty good, now wait a minute, I'm going to ask you another question, keep that other model.

8.2.510 Erik: But how are we going to fit this on the paper? It's going to be way too big!

8.2.511 Parish: Turn the paper sideways.

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- 8.2.512 Erik: Ahhh, never thought of it! Never thought of it that way. [bangs on desk] Thank you, Uh oh, I don't think it still fits, unless we go from there. And add a purple.
- 8.2.513 Alan: Well, it just fits.
- 8.2.514 Erik: It's huge.
- 8.2.515 T/R 2: Did thinking big help?
- 8.2.516 Erik: Uh, yeah, we thought real big
- 8.2.517 T/R 2: Ok, so you're calling one two oranges and a purple?
- 8.2.518 Alan: Hey, maybe we can use three oranges!
- 8.2.519 T/R 2: Does this one work? Oh, here it is, oh here it is, here it is.
- 8.2.520 Parish: I wanted to ask them, what if you line up the whites!
- 8.2.521 Erik: Uh yah yah yah yah yah
- 8.2.522 Alan: No, that would be one twenty-fourths, because it takes two to make a red
- 8.2.523 Erik: One twenty-fourth?
- 8.2.524 Alan: Yeah.
- 8.2.525 Erik: One twenty-fourth. I gotta see, wait, hold on, I just got a brain-something just popped into my brain.
- 8.2.526 Alan: Yeah
- 8.2.527 Erik: Two twenty-fourths
- 8.2.528 Alan: Yeah, two twenty-fourths makes one twelfth and one twelfth is these.
- 8.2.529 Erik: They gave me a brain buster here but I can figure it out.
- 8.2.530 T/R 2: Alan, while he's lining those up, so which was bigger, which fraction was bigger and by how much
- 8.2.531 Alan: Three fourths
- 8.2.532 T/R 2: By?
- 8.2.533 Alan: One twelfth. Or two twenty-fourths.
- 8.2.534 T/R 2: Are two twenty-fourths and one twelfth the same length of the Cuisenaire rods?
- 8.2.535 Alan: Mmm hmm. But wait, you couldn't make the twenty-fourths with anything else!
- 8.2.536 Erik: I know, exactly, but hey, it's the same answer.
- 8.2.537 T/R 2: Interesting
- 8.2.538 Alan: If you used three, you could still do the same answer as that, but you couldn't do it unless you had half of each of the little whites. what does this mean?
- 8.2.539 Erik: One two three four five six seven eight nine ten eleven twelve thirteen fourteen fifteen sixteen seventeen eighteen nineteen twenty twenty-one twenty-two twenty-three twenty-four. So it's either, ok, it's either one two three, one two, one two, it's either two twenty-fourths, it's either two twenty-fourths or one twelfth.
- 8.2.540 Alan: Why did you just do that, Erik?

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- 8.2.541 Erik: Why, look at this. Yeah, two twenty-fourths.
- 8.2.542 T/R 2: Without building, because it's getting to be a lot with the rods, can you think of any other model with the rods, in other words, something that you might call one that might work?
- 8.2.543 Alan: Another? Well, four oranges rod
- 8.2.544 Erik: How many did we have before, well, we have one whole, fourths, thirds, twelfths, and twenty-fourths.
- 8.2.545 Alan: Twenty-fourths
- 8.2.546 Erik: Twenty-fourth
- 8.2.547 Alan: Right, Twenty-fourths are the little whites.
- 8.2.548 Erik: Twenty-fourths, twelfths, thirds, fourths, whole. Now the problem is fitting it on our paper.