Line		Speaker	Transcript	Code
1		T/R 2	It looks like you're using the light greens and reds, David?	
2		David	What I did was, light greens were one half, and the reds are one third and the dark green was one whole.	
3		T/R 2	Ok so this is, we're calling one [dark green, you'r calling those [light green] each a half and you're calling this [red] a third. So when you go to compare them how do you do that?	
4		David	Well, I made a balance to see which was bigger.	
5		T/R 2	Ok, do you want me to let you get your balance together and then I'll come back?	
6		David	I'll get it together soon.	
7		T/R 2	Ok.	
8			[T moves back to Sarah and Beth.]	
9		Beth	[Mid sentence.] …dark green. You'd use two light [green] cubes to make one half of it and then you take three reds and you'd have one third of it.	
10		T/R 2	Interesting. Ok, so…	
11		Beth	And then we found a different way if you balance it and you put two greens on one side and three reds on the other side and they balance.	
12		Sarah	It's hard to make it balance.	
13		T/R 2	So you're making it balance sort of like David's doing, but it's a little different.	
14			[They attempt to make similar balancing structures, but they keep falling down.]	
15		Beth	Oh I know how to do this. I know. One half would be this big [holds up light green] and one third would be this big [holds red next to light green.]	
16		T/R 2	So you're comparing them. How much bigger is – by how much?	
17		Beth	I'd say one unit [She holds up a white rod.]	
18		T/R 2	Ok, I have tougher question for you to think about. … Let me ask you something now. Ok, Beth says that she's calling this one half [light green] and that's a third [red]. And I asked her what the difference between the two was. What number name are we going to give to this [white]? You gave this a number name of half and this one the number name of a third, what number name are you going to give to this little guy [the white rod]? And can we prove it? Is there a way you could prove it?	
19		Beth	It is one half of one third.	
20		T/R 2	It is one half of one third? Hmm, okay. Well, what number name can we give this if we had to give it actual fraction names, well how did you find that this is a third and this is a half?	
21		Beth	First we say how many equal one third of the green and that was two so we knew that was a half. And then, and then it might not work unless there is something of three that first on the dark	

			green and that would be the red, cause you can fit three.	
22		T/R 2	Can I ask you something then, can we do the same thing for the white rods? To find out what the number name might be? Would that work?	
23		Beth	Yeah	
24		T/R 2	What would we have – where would we have to place them in order to know what the number name might be? [Beth adds six white rods to her model of dark green, two light greens, and three redsreds]	
25		T/R 2	So what number name would we give to the white? If you know that, you're calling this one, you told me, this is a half, this is a third. What might you call the white rod? Go ahead, Sarah.	
26		Sarah	One sixth, one sixth.	
27		T/R 2	Ok you say that very uncertainly, but why do you think that?	
28		Sarah	1, 2, 3, 4, 5, 6 [she points to the six white rods and counts.]	
29		Beth	It is six and it makes up to the green block.	
30		T/R 2	Sure, right? And we are calling this one, right? Ok, so what is the difference between a half and a third?	
31		Sarah	A half is much larger than a third	
32		T/R 2	By how much?	
33		Sarah	By, uh, by this! [holding up a white cube]	
34		T/R 2	Which is how much? Which is what number name?	
35		Sarah	One sixth!	
36		T/R 2	Ok, do you think you can write that up for me and trace your rods and explain it? Okay, I am going to give you pens and paper. This is great. Don't worry if you need more sheets of paper, it is up there. Put your names on it and the date.	
37		Sarah	Let's draw pictures.	
38		T/R 2	Put your names on this, too. And the date.	
39		Beth	First we can draw this balance, then this… first draw this because this is the thing that she wants us to do.	
40		Sarah	I'm not going to be exact. It is not a perfect fit. It is just an inch away.	
41		T/R 2	Ok, that is a good point, is there another solution to this?	
42		David	I'll do a see-saw.	
43		T/R 2	Ok, while you are working on that Meredith, David will show me this.	
44		David	This is what I did on Friday and the dark green will be the whole thing and the light green with be the half.	
45		T/R 2	The whole thing, what number name is that?	
46		David	Umm, that'd be one.	
47		T/R 2	Ok.	
48		David	And the red would be one third. What I did before, when I was ready, I took off two of the red and one of the, the light green.	
49		T/R 2	Well, why did you take off two of these off [pointing to the	

Description: Finding the number name for the difference between one half and one third	Transcriber(s): Yankelewitz, Dina
Parent Tape: Introducing Fraction Equivalence and an Exploration of Fraction Comparison	Verifier(s): Reid, Adrienne, Farhat, Marcelle
Date: 1993-09-27	Date Transcribed: Spring 2009
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			reds]?	
50		David	Well because then there is only one piece. I thought it would fall to the right. And on Friday, that's what happened.	
51		T/R 2	You predicted that would happen. Did you want to try it?	
52		David	I am not sure if it will because of these two pieces.	
53		T/R 2	Because of the double support?	
54		T/R 2	Why do you think it didn't fall this time? I remember when you did this on Friday	
55		David	Because I have more support and you probably need it a little wobbly to fall.	
56		T/R 2	So then can I ask you which is bigger a half or a third?	
57		David	A half.	
58		T/R 2	Can I ask you another question? Meredith I want you to think about this also. David showed me the model and he has said that a half is bigger than a third. And I am asking by how much. How much bigger is it?	
59		Meredith	Well, it's bigger by…	
60		T/R 2	Can you use the rods to show me?	
61		Meredith	[Explaining but recording is difficult to hear. She is balancing 3 red and 2 light green on an orange see-saw.]	
62		T/R 2	Ok, there is a difference there. How much bigger do you think that half is than that third? If we had to give a number name for, for what's missing there. In other words, you are getting a smaller piece if I give you a third of that candy bar rather than if I give you a half. I don't understand, can you explain that.	
63		T/R 2	David, are you listening to this too, cause I really want to understand this. Maybe you can help me.	
64		Meredith	If you but another rod there's going to be cutting it there and another rod there and cutting this one in half and taking this off, breaking this in half, and put one on this, it would be the same. But since we but it here and here, it's not the same.	
65		T/R 2	Interesting. Rather than break one of these red ones in half, what else could we put there to make them the same length	
66		Meredith	[Places a white rod in the missing area.]	
67		T/R 2	So a half is this much bigger?	
68		T/R 2	Ok, David what do you think now? We're looking at this, we are comparing the half and the third and we see if we put a white rod up here it makes the third the same size as the half. You see that? Could we come up with a name for that? What the difference is between the two? One is bigger than the other, obviously. What would be a good number name for that?	
69		David	Um, maybe…	
70		T/R 2	Or could we go back and figure out what the number name would be for that?	
71		David	If this was the whole think, like one [light green] then this [red] could be three fourths.	

72		T/R 2	Ok, but is this the whole thing? Remember this is how much of the bar?	
73		David	This is a half [green.]	
74		T/R 2	And this was established was a third [red]. You showed me that, right here. Ok. The question is, can we come up with a number name for the difference between a half and a third.	
75		David	Let's see, maybe… we could do something like uh…	
76		T/R 2	It really is something to think about it, because it must have a number name.	
77		David	Like 1.5 or something [starts talking about balance again]	
78		T/R 2	Ok, well I want you to think about this question again, about what we would call this difference between the two. Ok? Think about that, maybe you two can think about that.	
79		T/R 2	[to Brian, Jessica, and Laura.] Ok, I want to get to the both of you, we are running out of time. Why don't the three of you come over here, pull your chair over here Brian.	
80		Jessica	Well we got two answers.	
81		T/R 2	Ok, I want to hear about this.	
82		Jessica	Well, she didn't have enough	
83		T/R 2	Who would like to share?	
84		Jessica	Well, first we got this one. This would be one half and this would be one third and that would be one third.	
85		T/R 2	Ok, show me, show me. Hold up one half and one third.	
86		Jessica	One half and one third.	
87		T/R 2	And how do you know that?	
88		Jessica	Cause you take , cause this, these two, that is one half if that green [dark] ad so is that. So, and then that would be one of the half's and this is all one thirds of it. And this would be one of the thirds.	
89		T/R 2	Ok, and Brian, you worked on both of these two, can you explain this model to me?	
90		Brian	Well, this is… I have to put this together… this was the whole candy bar.	
91		T/R 2	You guys made a train. That is neat. Ok.	
92		Brian	And this would be the half, and this would be the third. And uh, the third is smaller and the half is bigger. The third is smaller because if, you have to make three of them, you ah veto make, to make it a third you have to have three of them in one, you have to have three of them in one whole, but there is less room for three of them so you, and you have more room for a half so half would be bigger.	
93		T/R 2	Oh, ok.	
94		Jessica	Yeah, that's what we got two, this would be the whole and that would be the half and that would be the third.	
95		T/R 2	I wanted you to all write these solutions. Do you think you could remember them because we are probably going to have to	

			turn in an assignment?	
96		Jessica	Could we just draw something?	
97		T/R 2	Yes. [Brings paper.] We are just about out of time but if you want to maybe start it, if you want to jot down an idea.	
98		Jessica	Could we trace them and color it?	
99		T/R 2	Yeah if you want to trace them, that's fine. [Talk to Danielle and Gregory about their drawings.]	
100		Meredith	I have another model, I have another model to show which one is bigger. If you put one red one there and a green one there and then you put an orange rod. It goes up because this is larger.	
101		T/R 2	But my next question to both of you to think about, because I think you both really understand this, is what's the difference between those two? What would be the number difference between those two, between the half and the third?	
102		Meredith	If you take off the one, it would be a difference of two ones. But when you take, but if you take this one off… two of these and one of these off.	
103		T/R 2	There is definitely a difference there, you can see it.	
104		Meredith	And then, it's a difference of two.	
105		T/R 2	Two what? What are we calling these ones? I am confused; I thought you were calling this [dark green] one?	
106		David	And then probably we would call this, we would call that sixths. One sixth.	
107		T/R 2	What would we call that?	
108		Meredith	A difference of two sixths.	
109		T/R 2	There is a difference of two sixths between a half and a third? What do you think David? I heard one sixth and I heard two sixts and I want to know before I go, then, what it is.	
110		Meredith	[Meredith is moving pieces around.] Like I said if you would separate 'em. And you gave one of these [red], one of these [puts one red rod in front of David, one if front of T/R 2, and keeps one] and two more kids [places two green rods in separate palces on her desk] then you'd have more.	
111		David	You sure would.	
112		T/R 2	And how much more? But you were starting to build a model there. What do you think David? Meredith thinks two sixths. This difference between a red and a… because she told me if I put two of them here it should balance? Is that what you are telling me Meredith? If you put two little white ones in there.	
113		CT	Boys and girls, continue this as homework…	
114		T/R 2	Ok.	
115		Meredith	[Inaudible.]	
116		T/R 2	So what's the difference here? Between the red and the green? Right, but if, now I took it away again then what would be the number name for the difference.	
117		Meredith	One in each handful, one in each third.	

118		T/R 2	Okay, one of those white blocks. What is the number name for that, I forgot, what are we calling the white block?	
119		David	Um, one sixth.	
120		Meredith	Because there's two one sixths.	
121		David	I was calling this one sixth because six of these add up to one, one whole.	
122		Meredith	And if you only had one sixth, if you said it was only sixth then you wouldn't have one for that. So it has to be two sixths.	
123		T/R 2	What if the question is through that instead of asking you to look at the whole candy bar then I am just asking you to compare the amounts of a half and a third of the candy bar?	
124		Meredith	One half? Then the difference would be one sixth for each half.	
125		T/R 2	I understand. That is very nice. Thank you. Ok, we're going to be writing about this. Try to remember this for tomorrow when we will be writing about this okay?	