

00:00 I got these numbers. I got these numbers, about Joe, Sarah and Alex and I have no idea what they mean. No idea what they mean.

00:12 I need you to tell me. I need you to look at these numbers. They are based on the exact same data from the same experiment and they are rates.

00:25 But it's just not clear. Joe has a rate of one and a half. Sarah has a rate of one and a quarter, Alex has a rate of two.

00:33 Could you put a line under the stuff you just finished, write down those three rates, with the kids names next to them and talk with your group for a minute

00:45 about what these rates could mean.

00:53 One and a half...I mean, for Alex it's two seconds, I mean two beans per second. For Joe it's one and a half beans per two...no.

01:08 Because to find the unit rate you divide how ever many beans they counted in however many seconds they counted in.

01:19 And since Joe counted thirty beans in twenty seconds you divide twenty by thirty and then you get one point five beans per second and that's one and a half.

01:28 And then for Sarah you do thirty and twenty –four and you get one and a fourth.

01:35 And then for Alex you divide thirty by fifteen and you get two and that's...

01:40 Two seconds. It's just how many beans they got per second.

01:43 Yeah, it's beans per second.

01:49 Joe gets one and a half beans per second. Sarah gets one an one fourth. Alex gets two beans.

02:04 When she did her unit rate she got one and a quarter, right?

02:12 So that means Sarah's unit rate was one and a quarter. So then Alex's...

02:22 Sarah is the slowest one...because...she could be faster if it was all...

02:30 Then it's Alex and then Joe then Sarah. For the fastest

02:38 For Alex is it two beans per second or seconds per bean?

02:44 Two beans per second.

02:45 O.K.

02:47 Sarah is not fastest because...

02:50 She's not the fastest?

02:52 She's not because Alex has two beans per one second.

03:03 It's like one fourth bean for one second and two beans for one second.

03:13 So these are beans per second so Sarah is not fastest because Alex could get two beans for one second...

03:25 but Sarah could only get one and one fourth bean per second.

03:33 Joe is not the fastest because he is kind of the middle of both of them and Sarah is not the fastest because she can only get one and a fourth bean in a second.

03:46 But Alex is still the fastest because he can get two beans in one second if you still use the...from problems one and two.

03:56 You're throwing me common denominators here? I like it. O.K. I'm clear so...

04:03 What my problem is you've still got these rates written as just random numbers just floating out there.

04:08 Is there any words you can attach to them so that there is meaning?

04:15 Everybody ready to share?

04:20 I think the fractions are just the decimal answers for beans per one second.

04:33 Let's start with Joe. One and a half. What does it mean? What does it mean? Wesley.

04:41 It means his beans per second.

04:47 One and a half beans per second. Yes? Is that what you mean?

05:01 O.K. Sarah. Molly?

05:05 One and a fourth beans per second.

05:08 All right. And Alex. Crissio.

05:17 Two beans per second.

05:18 O.K.

05:23 Which one is fastest? On the count of three. One, two, three.

05:29 Alex.

05:31 So how did you prove it? How do you know? How do you know? Michael.

05:37 Because if they were going...like, if they are having a race I guess...and it was ten seconds...05:49 O.K.

05:52 Alex would get twenty, if there is ten seconds and two beans per second. He would get the....he would be the fastest.

06:04 So I'm sorry, ten seconds you said, how many beans?

06:08 Twenty.

06:12 O.K.

06:17 Joe's seconds again.

06:18 In ten seconds he could only get fifteen beans.

06:29 O.K. Yeah. You were going to compare...

06:33 Sarah's

06:34 Sarah's yeah.

06:36 Sarah is below Joe so she can't get more than Joe or Alex so she can't win the race.

06:44 How do we know Sarah is below Joe?

06:48 Because...

06:50 Well hold on, let's let somebody else jump in there. I hate to cut you off. Mikey go ahead.

06:59 Because Joe gets one and a half beans per second and Sarah gets one and one fourth beans per second so if you did...

07:13 if you made it so Joe had one and two fourths which is equal to a half Joe would have more than Sarah.

07:24 So you said...I like that. You said one and two fourths and you compared it to one and one fourth. And you said what?

07:40 So Sarah wouldn't be able to win because Joe has two fourths and Sarah has one fourth. If you change Alex's to one and four fourths then...

08:03 Oh I'm sorry. This is beautiful. So Joe's the winner here? Because one and two fourths is greater than one and one fourth.

08:11 So we want to bring Joe down for the next count off. Go ahead.

08:20 So if they had a race Alex would win because if you made that equal, Alex would have two beans per second. Joe would have one and one half beans per second.

08:40 O.K. so you are saying...and I love, you know, the common denominators, you are saying that one and four fourths or two beans per second...

08:50 ...is greater than one and two fourths...one and one half beans per second.

08:54 Alex. Well done buddy. Nice bean counting. You guys ready to get started then? Because that was just the warm up.