

Description: Early Algebra Ideas Involving Two Variables: Clip 4 of 18, Scientists and the Nature of Secrets Parent Tape: Early Algebra Ideas Involving Two Variables Date: 1993-10-01 Location: Harding Elementary School Researcher: Robert B. Davis	Transcriber(s): Spang, Kathleen Verifier(s): Yedman, Madeline Date Transcribed: Fall 2010 Page: 1 of 2
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1 RBD OK I guess we're ready to start. Hi.

2 Student Hello.

3 RBD Um, I wanted to talk a little bit some more about that question of

4 secrets because I think that's an interesting part of what we do.

5 Um, what sort of things do scientists do?

6 Jeff Discover, invent.

7 RBD Yeah, that's right. Um, are there any problems you hope scientists

8 will solve in the next few years?

9 Jeff Cure certain diseases.

10 Amy Lynn AIDS.

11 RBD Yeah, that would be on the top of my list. Yeah I think that's right.

12 Student Solar powered cars.

13 Student 2 Yeah, like solar powered cars.

14 RBD Now, now there's a sense the sort of a two sided ah thing about ah

15 secrets. When people, obviously since you don't know, people

16 don't know how to deal with certain kinds of cancer and things like

17 that, there are secrets, it's not because somebody is keeping the

18 secret, it is because nobody knows, right, and people are trying to

19 find out what it is. Um, now, I think it's clear that the people who

20 make some of these discoveries are very proud of it and they like

21 their name attached to it. Do you know the names of any

22 scientists?

23 Jeff Do I think the people now or famous people?

24 RBD Famous people.

25 Student Or people dead.

26 Jeff Thomas Edison

27 Student Alex Graham Bell.

28 RBD Alexander Graham Bell. What did he do?

29 Student He invented the phone.

30 RBD Yeah.

31 Student Thomas Edison.

32 Student Einstein, I guess

33 RBD Einstein would probably be the first thing that would occur to me

34 Student He's a scientist

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RBD OK...OK. So you have some idea of that and people really are very proud the theory of relativity, which is the thing Einstein, thought about and worked out. Yeah, I'm sure he's very proud that it's attached to his name. And so there's a sense in which people um... clearly there are secrets because nobody knows what to do until somebody figures it out or finds it. Uh, and then when they do they like to get credit for it. So, I mean that's the sense in which OK there are secrets... but do scientists also share this information?

Jeff Sometimes.

RBD Yeah, I think that Jeff got it probably exactly right, sometimes. They have to, they have to actually because in the long-run...uh in the long-run no single person could do it all by themselves, so they have to share. Matt.

Matt I was wondering what does the mean anyway, e equals $m c$ squared?

RBD Well that's interesting...

Matt How do you use that?

Student Energy equals...

RBD Yeah that's right e stands for energy do you know what the m stands for?

Student $m c$ squared.

RBD What does the m stand for? E equals $m c$ squared.

Bobby Mechanical.

Student We could look it up.

RBD Well, we could talk about that, but probably not today. Why don't you see if you can find out and we can talk about that, but I think maybe I propose not to do that today?

Student Maybe a dictionary.

RBD So the main thing is uh we need we need to do both of these things. I think that you do want to try to find secrets occasionally because that's, that's sort of fun and that's what you do in science and, and in mathematics, but we also want to share them too, and so we have to work out which we're doing. Maybe the first time you find a secret you keep it a secret for little bit so other people can think about it too and see if they can find it. And then at some point, probably, we want to share it. Um