

Module 2: Advanced Module on the Science Seminar
Activity: Analysis of Classroom Transcript, Science Seminar on Glowing Cats

[11:03] Teacher: Yeah, that's totally fine. The other thing I was gonna say is—the next evidence we might wanna discuss—remember study two about the jellyfish that had all the kids? I'm wondering what people thought about that. What kind of sense can we make of that?

[11:15] Student C: Um, I thought it might have to do with the female cats, uh, the moms, because maybe they're carriers of the trait, but, um, they're not directly affected by it, so they don't glow, but they might pass the trait onto their offspring.

[11:32] Student H: Well, I thought it said that they bred four hundred um...oh that's the jellyfish, actually. Never mind. Well, there were the jellyfish that, um, didn't glow, and they bred like four hundred offspring. But none of their offsprings glow. So that could be, um...that could be...

[11:55] Student F: So you're saying that the things that do have the carrier produce ones that don't have a carrier?

[12:04] Student H: Well, I'm not saying that, but I'm saying, um, that we could assume that they would pass it down, but there also might be that chance that they wouldn't.

[12:13] Student J: That's true. It's very unlikely that there'd be all these generations, and not one of them would glow.

[12:21] Student H: Well, it happened with the jellyfish, so I don't know.

[12:24] Student F: Well, I guess they're different than cats, right?

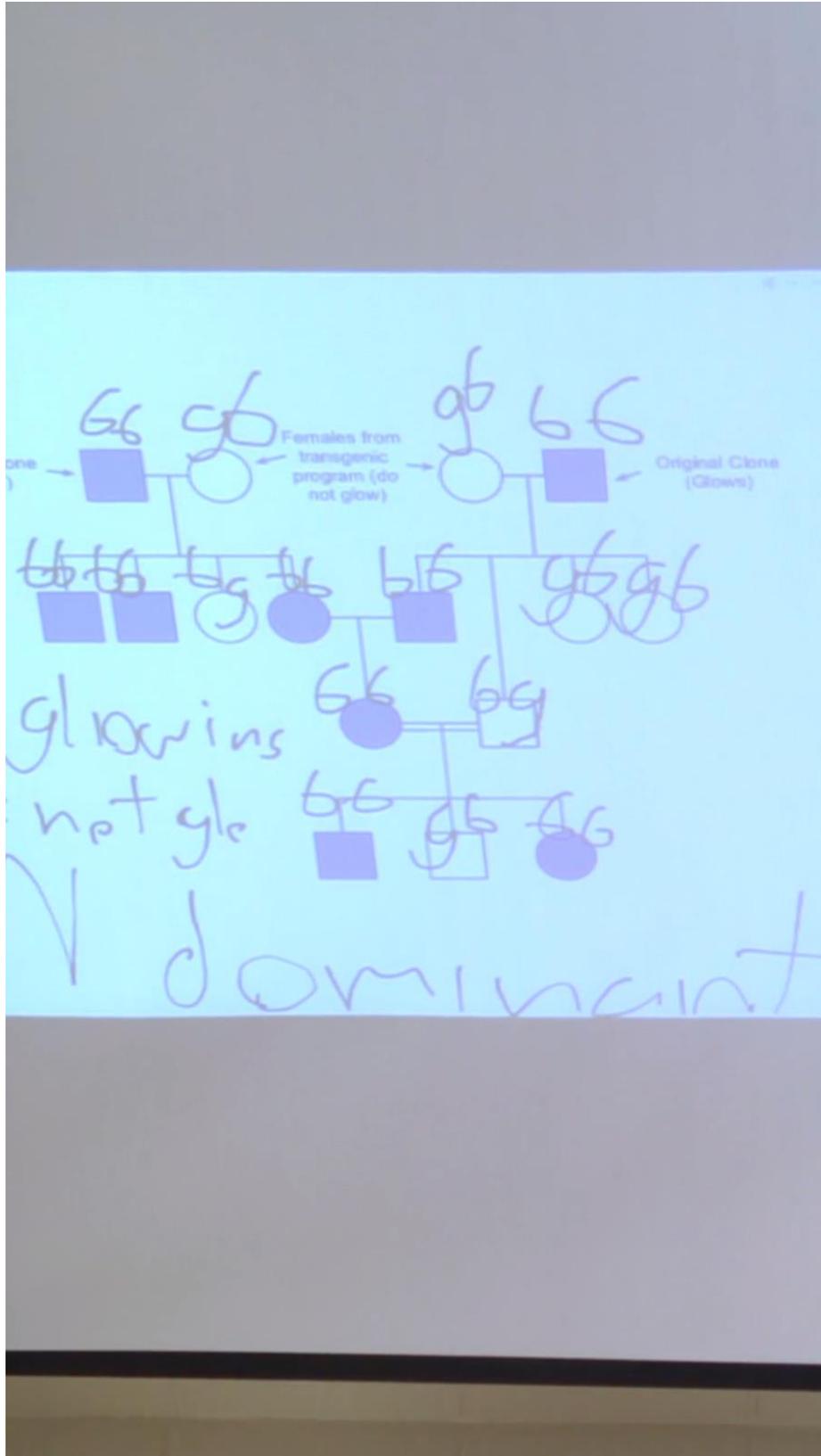
[12:28] Student J: Yeah, they're different from cats, but at the same time if there's all those generations it's not—if they—if all of those generations have—they don't have it, then there's gotta be something wrong [*murmured agreement*]. Because eventually, um, recessive traits, like, even in flowers, the recessive traits, eventually there's one plant that had it, so it makes no sense that even after all of those generations, there wouldn't be jellyfish that glowed right?

[13:02] Student F: Yeah. Mmhmm.

[13:03] Student H: So there must be something wrong with those specific jellyfish, or—

[13:07] Unknown Student: Mutations!

[13:09] Teacher: Okay, Max, you wanna try to talk us through this? Everybody, crane your head sideways.



[13:14] Student I: So, turn sideways and—

[13:16] Unknown Student: I found out if you, like, do the, uh, if you rotate your iPad...

[13:25] Student I: You can kinda see that G is the allele for glowing, and um, lowercase g is the allele for not glowing, and I did non-dominant, which means there has to be two uppercase G's to have a glowing cat. And if there's, uh, any lowercase g in the allele combination, then it will not glow. So, um, I figured out, if you go down, you have to take pretty much one route, so it's not likely but I thought that it was more likely than, um, having incomplete dominance and—but less likely than having dominance, 'cause, um, for one area—for the top area, there's about a fifty percent chance for each—um, there's a fifty percent chance that the cats would be glowing and a fifty percent chance that they wouldn't, so it does work, but not as well.

[14:33] Student H: It looks like there's, um, there's more glowing cats than not in this diagram.

[14:39] Student I: Yeah, that's one thing that makes it unlikely, 'cause, um, you'd think that if it was recessive, usually you would think of recessive as something that happens, like, once in a while in a lucky chance, but, so that was another reason why I thought that it was unlikely.

[14:58] Teacher: Okay, cool. Thanks, Max.

[15:01] Student D: Yeah, and I think it was—there was nine...there was nine cats that had glowing and six that—

[15:09] Unknown Student: Seven.

[15:09] Student D: Oh, seven that weren't glowing. So the, so the, um, the glowing trait came up a lot more than it didn't.

[15:21] Unknown Student: Yeah.