

## 12: 6th\_Science\_Atoms\_StudentView

Teacher: Do this. This is tiny, let's make this be your first energy level. This and this big circle here can represent your nucleus.

Student 1: Got it.

Student 2: That's smart.

Teacher: Okay, what are you putting in the nucleus?

Student 3: He's going to ...

Teacher: What are you going to put "student"?

Student: 14 neutrons.

Teacher: 14 neutrons and what are you going to put?

Student 3: 14 ... Oh it's not 14. 13 protons.

Teacher: 13 protons. How did you get 14 "student"?

Student: 27 minus 13 equals 14.

Teacher: Good. How many electrons did you put?

Student 4: 13.

Teacher: 13 why?

Student 4: It's the same number as the [inaudible 00:00:48] I didn't mean to do that.

Student: I finished. She say's it's okay.

Teacher: What do you have in there? In that blob of a nucleus.

Student: We have 13. 13 [inaudible 00:01:02]

Teacher: How many? Okay, what are you trying to in there?

Student 6: 14.

Teacher: 14 neutrons? Okay. How many electrons you guys have now?

Student 7: 13.

Teacher: 13? Why did you have to put three electrons out here? Why can't you shove them on this second energy level? Okay so the nucleus has a lot more protons than neutrons in it. When you look at it, does it look bigger?

Student 3: Yeah.

Teacher: Yeah it's fatter.

Student 4: It's stacked.

Teacher: It's stacked like my body. [00:02:00] Okay. What if I told you to make Radon 86? Don't do it but what if I told you to?

Student 1: It be like this high.

Student 2: Okay.

Teacher: Yes you would actually need 222 pieces of play doe trying to shove on to that ... that would be a lot of neutrons for you to make. Okay as you go up in atomic number, what happens them? It doesn't have to be a hill. It can be like a blob all together.

Student 6: Yeah but they were trying to fit it in here until I told them that we could fit in there.

Teacher: Oh okay.

Student 6: That's why we did it on purposely. That's why it was a mountain hill creation.

Teacher: Okay now you get what you can do?

Student 6: Yes.

Student: We need 20.

Teacher: Oh, you're going to ...

Student 7: Yeah but we have 12 right here so ...

Teacher: How many do you need? How many do you need? What are those protons or neutrons?

Student: I need 19, 13.

Teacher: How many protons do you need "student"?

Student: I need 20.

Teacher: Why? 15 gives you the neutrons. How do you find the protons? Hey guys. Help out "student". How we find the protons?

Student : You find the protons by looking at the atomic number.

Teacher: Okay where's the atomic number? Okay. How many protons do we need?

Student: 19.

Teacher: Yeah.

Student: Oh.

Teacher: Okay. I think you're doing neutrons, right? Can you tell "student" how many neutrons he better make sure he has?

Student: 20.

Teacher: Okay you got 20 "student"? No. How many do you need?

Student: I need 19.

Teacher: You put them on already? You waiting for the boys? Typical, right?

Student : That's how it rocks.

Teacher: That's how it rocks.

Student: 25 more. What? 5 more.

Teacher: Okay keep going. Then you might want to start to stack the neutrons and stuff in there that they have. Just gather them as you go. Did you get it? Ah, I like it. [00:04:00]

Student: Wait, mix them up in colors.

Student: That's [inaudible 00:04:05]. We need one more.

Student: Looks a little messy. Would it care? Would they care?

Speaker: 39 minus 19, 20.

Teacher: Okay you're trying to squeeze 20 neutrons in there. How many protons are in there?

Speaker: 19.

Teacher: 19. How many electrons?

Speaker: 19.

Teacher: Do you have enough? You just got to figure out how to get it in there? Okay.

Student 4: 14, 16, 18, 19 okay.