Kim’s Class Explores Batteries

Video 1

Kim: I'm curious about something. I might have missed something Ashton said. He said something earlier about positive and the negative energy don't like to mix.

Ashton: Because like they're probably forced together, and like make that light bulb light. Because if they would go together, why does one wire have to go on the curly and why does one have to go on the bottom? Because they go in two different entrances.

(Break)

Kalos: You said that the negative and positive energy don't go together. But you know how negative and positive energy go together to make the light bulb (work) ...

Ashton: But if they did go together, then why is the one, why do they have to be separated in the battery? Like it has one positive side and one negative.

Kalos: Yeah, but they both end up at ... the same thing.

Nick: If they went in together, it makes electricity.

Kalos: The battery would light up. Exactly!

Ashton: But they were separated in the battery probably because they don't mix, and when they go in (to the light), they're forced together.

Kalos: No, probably because the battery was--

Nick: If they don't mix, (Kalos: Yeah!) then why would you separate them?

Kalos: Yeah, but if look, it's like this --

Ashton: Because if they mix, they can make like ... what's in the light ...

Kalos: Electricity.
Ashton: Yeah! Make it light up in there...

Kalos: In the battery, they're split, right? They're separated. (Ashton: Yeah.) They're probably separated because if they mix together they'd create electricity and when you touch the battery, you would be shocked.

Ashton: Yeah. And there's a lot of juice in there ...

Kalos: And so they could mix together, it's just that if they mix together inside the battery, they would create electricity before entering the thing that you would want to create electricity. So you add wires to the light bulb, and they go, they end up in the same thing and they mix together and go ahead and create electricity. (Nick begins speaking.)

Kim: Hold on a minute, Nick. I know you want to talk about your idea, but I want to explore something. This group has brought up another idea that we haven't really looked at yet. (Student: Sock!) Oh, we'll get back to the sock too.

Kim: Now they're saying that inside the battery, the battery is separated? Is that what, Kalos and Ashton, I'm hearing from you?

Kalos: Yeah, the battery is separated. Ashton: They're probably forced together. (speaking over each other)

Kim: Something that separates positive and negative energy in the battery?

Kalos: That's why there's a positive side and a negative side!

(Break)

Kim: Bryce, and then Erica.

Bryce: Well, I don't think they're all just combining there and then it knows which to light up. I think there's like a small, little metal plate in the middle of the battery.

Kalos: Yeah, that's what I think.
Bryce: And then the negative energy is on one side, and then there's the metal plate, and then the positive energy is on the other side.

Nick: I disagree. (crosstalk)

Ian: If you actually see inside to a battery, you'd know that it's not true.

Kalos: We should cut apart a battery and find out!

Nick: Why would it be metal? 'Cause it goes through metal. It'd be plastic.

Bryce: Oh yeah! It would be plastic. (crosstalk) Andrew, others: Rubber!

Video 2

Kalos: I think it's that the negative energy from this side has gone in here, and the positive energy on this side has gone there. And then the wire takes the positive energy, like she pointed, and the negative energy goes over here, and the positive energy goes over here. And so you need positive and negative energy to make electricity to make that thing light.

(Break)

Kalos: You.

Anthony: How is the negative and positive energy separated?

Kalos: I'm not really sure. Okay. All I know is that the negative energy goes through here, and the positive energy goes through here.

Anthony: But what if the positive goes through the other side, and the negative goes where you think the positive goes?

Kalos: Well, still the energy is going through and the wire is still transferring the energy. So either way it would--

(Break)

Ian: I've seen inside a real battery.
Doubtful students: Yeah, right. Sure.

Ian: Yeah I have. It was littered on the street. Ashton: Yeah. All the acid went out.

Kim: So, Ian, since you've seen the inside of a battery, do you want to add more to this conversation? 'Cause what I think me and the rest of the class are still thinking about is we're still trying to figure out what's going on with this ... We keep hearing it over and over again. This negative energy, this positive energy... We're still trying to figure out what's going on to make the light bulb light with these. What happens when -- I've heard mixed, and some other things. So let's hear from Ian first and then some other ideas coming.

Ian: Well, actually like, inside there's a very thin piece of metal just going across, but you can, like, curl your finger around it. So I'm not saying that it's like blocking a whole side. It's just a little (?) metal--

Kalos: Well, it might have been cut off, since it was like ... You said the battery was like in half or something?

Ian: Yeah.

Kalos: And so maybe that part just got rusted or fell out because it has, there was no protection for it.

Anthony: I have a question for Ian. What kind of battery was it?

Ian: It was a, I think like a double-A.

Kim: So, Ian, based on your seeing the inside of a battery, what do you think, do you think that their theory is correct, their idea that negative energy and positive energy combine, and that's what makes the light?

Ian: Mm ... Kalos, you're making me nervous doing that. ...

Kim: Other people could talk about this, too, because I'm still confused. They say negative energy goes here, positive energy goes here, and then, to use Ashton's phrasing once, it's like magic. It comes on. I'm not sure what's ... I'd like to hear more about what other people think, not just Kalos's group, about why it lights up.
Ian: I think it's just like energy inside and then like, it's being used, the amount of energy that goes through one side just like goes through a chemical reaction and becomes positive energy.

Kalos: Hey! Wait, but --

Kim: So Ian's saying that there's some, you're thinking that there's some sort of chemical reaction.. What's causing the -- (Ian: Right.) What's the reaction between?

Ian: Like once it goes to the side of the battery, and it's like a ... Once the battery is being used, it goes to the side of the battery, I think it goes through a chemical reaction and goes through the battery into the wire. It goes through (inaud)

Kim: So you're thinking there's some sort of reaction that happens as it leaves the battery.

Ian: Yeah. And it becomes the energy ...

Ashton: I'm sort of thinking now that there probably can't be a chemical reaction, because like if there's a chemical reaction, in chemical reactions, doesn't like something explode inside or like ... you got to get a sign of the chemical reaction. Well, um, now I'm starting thinking Ian's way because, when you were holding the wires, if you were holding the metal, then it would get really hot, and then it would burn your fingers for a second. Well, I think that would be the positive and negative energy mixing.

Kalos: That's a kind of (inaud) reaction, I think. (Ashton: Yeah.) It doesn't really heat it.