Carolyn’s 2nd graders explore toy cars

Video 1

Carolyn: All right. Now I've got this balloon. Okay, all right. I want to hear what Cyaira says.

Cyaira: When, when you put it on the--

Carolyn: Okay. Shhh. Listen, please. I need your attention.

Cyaira: When you put it on the ground, I think, that when you put it on the ground, you let go of it, and it starts to shoot.

Carolyn: Okay. Why do I have to let go of it?

Cyaira: Because ... (break) When you blow it up, like ... if you have a balloon and you like to let go when it's blown up, it starts to shoot all in the air and then it lands to the ground.

Carolyn: Okay. So what is it going to do with this car? Will the car go up in the air and go all over the place?

Cyaira & Class: No!

Carolyn: What's gonna happen?

Cyaira: When you let go, the wheels is going to move when you let go of the balloon.

Carolyn: Anybody else want to make a prediction? Hannah. Hand the microphone to Hannah.

Hannah: I think what Cyaira's trying to say, like if you keep holding it, then you try to not let it move, so if you keep holding it, then it's not going to move, but if you let go of the air, it's gonna push back, and then the wheels can move.

Carolyn: Ohhh. Now, Hannah, you just said something, you said, the air is gonna push back, and the wheels are gonna move. Which way are the wheels gonna move?

Hannah & Class: That way. Forward.
Hannah: That way. And the air, and the air goes that way.
Carolyn: Oh, and the air goes the opposite way? What do you think, Levi?
Levi: I think that since the balloon thing is like down at the back when
you let go of it.
Carolyn: Back here you mean?
Levi: Yeah. And then, if you let go, all the air's gonna go to the back,
and then it's going to push it.
Carolyn: Push it which way?
Levi: Until all of the air ... until all the air is out of the balloon, and
then it's gonna stop.
Carolyn: Okay, Ethan, what do you think?
Ethan: If you let go of the balloon, the air is going to come out, but it
won't go in the air.
Carolyn: It won't go in the air, why won't it go in the air? Why?
Ethan: Because the air, because the car is much more heavier than
the air. (break)
Carolyn: Okay, let's stand and get out of the way, I'm going to blow
it up and ...
Carolyn: Let's see, I don't know, I've not tried this before. We're going
to try and see if we can make it, see what happens. (break)
Carolyn: Give me the countdown.
Class: Ten, nine, eight, seven, six, five, four, three, two, one. Oh!
Sideways.
Video 2

Carolyn: What are you doing? Explain to us what you're doing?

Sierra: I'm spinning this, I'm twist, spinning this little propeller, and if you do it this way, it's going to go, and you let go.

Boy: It didn't move.

Sierra: It will.

Carolyn: Why didn't it move?

Sierra: Because I think if it's on carpet, it won't move. But outside, it does.

Jonathan: Put a ramp under it.

Carolyn: Here's my question: How can we get this toy car to move? What do you think, Brandon? Now it's delicate, very delicate, so what do you think?

Brandon: If you keep on twisting it like this, and you put it on a flat surface that's not bumpy like the carpet.

Break

Jonathan: I think you have to make, just use the cardboard to make it move, because it has a flatter surface.

Carolyn: Oh, so a flat surface is going to make it move? Or do you need more? There's more there if you need. Watch what I'm doing, I'm twisting and twisting it, Isaiah, can you see what it's doing?

Isaiah: It's taking the tension on the string, and what that does, the string is kind of struggling to let go.

Carolyn: Wait, Isaiah, say that again?

Isaiah: The string is kind of struggling to let go of the rubber band, so it starts to get tighter and tighter and tighter and tighter.

Carolyn: So what does that mean?
Isaiah: So that means the propeller will spin fast and it's going to struggle more and more, and the tension is going to be tighter and tighter.

Carolyn: Hold one second, because I want Jonathan, that looks pretty good, guys.

Break

Carolyn: And farther, okay, everybody. Sit away from the track, let's see what happens? (attn). Isaiah said the more I wind it, then Jonathan said (attn). The faster and further it would go. Let's do a countdown?

Class: 10, 9, 8, 7, 6, 5, 4, 3, 2, 1. There it goes.

Video 3

Mason: I think if you wind it up enough, it makes a few, then it makes quite a lot of knots, then it might go.

Break

Mason: If you wind it up and you have quite a lot of knots, then it doesn’t really matter how bit the wheels are. If those are knots, then the faster it goes, then it will just burst into speed, then go up, then skip all over the bumps.

Break

Carolyn: Now I've got the propeller up, let's see what happens? (attn) This is without the ramp, it's got the bumpy surface, and do you think it's going to go?

Break

Class: 10,9,8,7,6,5,4,3,2,1. Oh Mason was right!

Break

Carolyn: Why did it go on the carpet this time and not when Sierra did it, what do you think, Sierra?
Sierra: I think I didn't wind it enough.

Carolyn: What did winding do to it? What does winding do to it, Jonathan?

Jonathan: Winding makes it get more power, because when you're twisting it, it gets power, because when you twist the rubber band, it always goes off like it shoots somewhere.

Carolyn: I have another question: You use the word 'power,' winding gives it power, where is it getting the power, Max?

Max: From the wind, it pushes back, the wind, it pushes the wind back from, in the back of it, so it gives it.

Carolyn: I'm confused, you're saying it's got wind, but I don't see any wind, or hear any wind, or feel any wind, what do you think, Brandon?

Brandon: I think because the rubber band is twisted so much that when you let go, it untwists it, and then it makes that, there is air in here, so if you twisted it and let go, I think it pushes the air back and then it goes.

Carolyn: Oh, it has to push the air back and then it goes forward?

Mason: So it pushes the air and then the propeller, when it turns, when the rubber band turns, it tries to let go, it pushes the air back and that's how it gets power, that's how it goes forward.

Break

Carolyn: It was what, what was that, Adacia, what would you like to add? (attn).

Adacia: Remember when Mariah said that if we put a rocket on a car, I said the wind was in the rocket, so it pushes it, and that's how it goes more faster.