(newish)CsFirst Crate Probability_ Lesson 1

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SUMMARY KEYWORDS

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SPEAKERS

Jonathan

Hello, everyone and welcome to your CS First with Google co-taught lesson with Cobblestone. My name is Jonathan and I will be your facilitator today in the lesson. I'm looking forward to our activity number one, which is going to be probability storytelling. So we're going to use CS First with Google and we're going to be using our probability language to create stories about certain words and certain activities. So what exactly are we going to do? So let's, let's take a look. You're going to learn terms such as unlikely, likely, certain, impossible ,50/50. These terms might be familiar with you before, but that's okay. We're going to be using them in a variety of ways. And this allows us to kind of get into probability and reintroduce to the ideas that are happening here. And then while we're coding and see us first, you will create a story that uses those terms to predict various scenarios that are happening, actually, your friends will predict what's happening in the scenarios. And then you're going to code like a pro using movement blocks if and then statements and various sequencing that's going to happen throughout the coding process.

So the first thing though, we're going to want to learn how to find our new project. This is going to be a lot different than what you may have done before. Before you you wanted to see CS First you're like, oh, let's go find a lesson. Now we're just going to use the New Project tab. So what I want you to do is I want you to log in to CS First. And then I want you to come over to your dashboard, right. So before we would probably be in this curriculum page, and you were like, oh, yeah, I remember this, we will review the lessons that are happening. But I want you to go to your dashboard, which is in the top right hand corner of your screen, right next to your name, it says student, and you're gonna go to the dashboard, and it brings you to your class pages that your teacher may have set up, you can see my mine has already been set up for me in you know, tests Mr. So, but we're gonna go to this blue button right here in the top left hand corner under the CS First name, and you're going to click on it, and all you'll see is New Project. And you're going to click on that new project, and it's going to open up a brand new project for you. Okay, so what I want you to do, I'm going to pause here for a bit. And then I want you to go find that and come on back when you have done that.

Okay, so welcome back! I'm glad that you found that you're back here listening to me. And we're going to have some awesome opportunities together. So before we get into the actual coding, let's get our brains thinking about mathematics and thinking about all the fun things that we can do

together. So as a class, what I want you to do, and this is where I'm going to need your teachers help out there. And they're going to be the facilitators of this discussion, you probably want to have some chart paper, or maybe you're going to do it right on the computer. That's totally cool with me! I want you as a class to make a list of probability words that you remember from earlier grades that may be used for whatever you need to have. And then I want you also to think about can you use those words in a sentence? Okay, so I'll give you some time. Pause this video right now. And come on back when you're ready as a class.

Hey, welcome back. I know there's great talking those happening out there. I can totally see it happening in your brains buzzing and I love when you're talking about mathematics and moving through things. So let's take a review of what you may have already heard. So let's see out there. I want to see some hands going some some pop ups, maybe some shout outs if you've heard this word. So did you see the word likely? How many of us that oh, yeah, I can see those hands though. That's a probably a word that you've used a lot likely going to happen and I I protect likely that that was out there. Right? What about the term unlikely? Unlikely How many of you found unlikely? Now I unlikely think that you probably didn't, but I see those hands out there. That's awesome. Great job. Now certain I am I know I am certain that you found at least one probability word and came up with a sentence that went with it. I And I'm probably right. And maybe I'll look at your teacher out there. Yeah, they're nodding as well. So I'm pretty certain that you came up with those words there. And then the last one I was, or two last ones I was thinking about was impossible. And then the last one there, 50/50, or equally likely, right? Those are the two things that were equally likely, or you might have used the word 50/50. Now, I'm hoping that you found those words pretty useful. Because we're going to use those to start thinking about our coding experiences that are going out there, right, so likely something that might likely happen, likely that the sun's gonna rise, or actually, I'm certain the sun's gonna rise this morning, I'm likely going to go outside today, it's unlikely that I will lie in bed all day long. It's impossible for me, at the moment, to go to the moon. And it's 5050 or equally likely that I will finish this video in 5 minutes. I don't like it equally likely is a hard one. Sometimes I think of coin tossing when I think of those ones, or equally likely that I'll put on shoes over slippers today as we go through things, but those are the fun ones that I love using. Okay, so what are we going to do right now, what I want you to do is we're going to start creating our story. So before you do that, though, we have to do some brainstorming. And you are going to want to think of a word. And you're gonna want to pick one probability word for now, I may challenge you later on to add more words, but we're going to do one for now. And I want you to think of something that you could use to describe that word. Okay, so let's pause here. Come on back when the majority of you are ready, and we'll see you there.

Okay, welcome back. So I know for myself, I'm going to choose the word unlikely. I know it's a weird, weird word, some of you might be like, unlikely. And the story in which I want to tell is something that surrounds who I am. I love baseball, it's baseball time at the moment. And actually, every time is baseball time. So I'm loving it anyways. And baseball is all about probability. And I love the statistics that go with it. And I love all the thoughts that that happened. And unlikely though you might be like, unlikely, Jonathan, why are you using that word for baseball, but we'll see what I'm going to show you in a minute. And I have a sentence already a thought about or a scenario or a thing that's going on. Okay, so we're going to move there. Now, we're going to go back to our scratch for CS first. This is the cool part here that we're in, you've opened up that new project. The first thing I want you to do though, is I want you to go up to the top where it says untitled one. And I want you to type in this "probability story." Of course, I spelled probability wrong. And your name, this is going to be so important, you need to title it and put your name so your teacher knows where to find it, when when

they see it. And teachers out there, all of this is into your dashboard, you can see every student's every student's thing when you go through their files. But it helps when they when they titled it, probably, and put a name. So again, we're gonna go to the top, you're going to put probability story and your name attached to it. Awesome.

Okay, so now, we're going to want to pick a character that kind of goes with our story. Now our characters are called sprites, and sprites get to do things, and you can have as many sprites as you want. But for now, we're going to pick one sprite to kind of go with it. It originally starts with her a little cat scratch, but I don't really like I don't think my scratch cat is going to fit with the storytelling that I want to have. So I'm gonna hit the delete button, which is that, that little x right there. And I'm gonna go down to the bottom right hand corner, and I still see that cat in the corner there. And I'm going to click on it, it has the plus sign. And it opens up all variety of characters that we have. There's very animals, people, things like that. You're probably familiar with that. And I'm going to click on for me, because I'm talking about baseball, I want to click on the batter. And there is my batter. And they will come with a variety of costumes that you can see you're like, Oh, look at all those costumes that are working out. And you'll see in the top corner here when this is all highlighted. I can start coding. And so what I'm going to start doing is I'm going to think about the code that I want to have and I want to talk I want to have a story that goes with it. And I'm gonna have some movement that goes with it. Okay, but the very first thing I want you to do is I want you to go to the event below which is the yellow section right here. And you're going to find when flag is clicked, this is the most important block that you need to add. Because if you don't have this one, none of your code is going to work. It won't run, you need to have when the flag is clicked, there's a couple other ones that you can add, but I'm going to add when the flag is clicked, it's very important. Okay, I'm now going to have my character talk. And so I grabbed the say, and it says hello, for two seconds, and I just drag it over, and it comes down. I'm gonna put whatever you need under put, I love baseball. It has so much probability in the game. And two seconds pretty quick. You want to see how fast it is? Let's see. Let's see. So I love baseball, it has so much... Oh, wow, I couldn't even read that it went so quick. So you can change that thing. So I make it about five to seven seconds I fought 52 seconds was too much, five to seven seconds, because that's roughly what it takes for people to read the storylines that go on here. Okay, so I'm going to keep adding to it. I love baseball, so much probability in the game. Did you know that a good hitter only hits 33% of the time.

Know that? A good hitter in baseball only hits 33% of the time. I wonder what word would describe that probability of hitting. Okay, so, right now what I want you to do is I grabbed, I use my same blocks, of course, you can also use your motion blocks, if you want them to move back and forth. Some things that you can do, you can always move and click on that. I always like putting a wait block underneath the movement. If I do that, and I maybe do like 0.5, so that they can they can move and then you may want to repeat that a couple times. Let's put that sometimes he does that. And so when I hit when I hit the flag, and I always like to test with hitting a flag, let's see what happens. I love baseball, there's so much probability in the game. So you notice how it took me a lot longer to find that, did you know that I changed that those those things, and there's that movement.

And there's the movement that you have, now it's moving forward, I may want to move the other way. Because that's just the way it goes, I gotta change these to five. And you have various things that happen. If you want to change the costume, that's another one that you can do. And then you can change the costume in through there. So what I want you to do, is I want you to find a character

for your story. I want you to use movement and or talk blocks tell your story doesn't have to be that long. Mine wasn't that long, it was very quick. You can do whatever you need to do. And don't forget to use the green flag command block to start your story. Once you have a very basic beginning of your story, come on back. And we can take a look at everything that goes on next. Okay, so I'll see you on the other side.

Okay, welcome back. Now, I hope you're all ready for this. I know we've been coding for a while now you've been sitting there having problem solving. So let's take a break. It's break time. And we're going to go back to probability and thinking so let's make a prediction. Using probability language, what is the likelihood of you doing 25 Jumping jacks in two minutes? Now teachers I need your help for this. Have your have your teacher. Have your students out there shout it out or write it down. What is the likelihood of you doing 25 Jumping jacks in two minutes? And then I want you to take a two minute pause and try doing the jumping jacks and seeing how many of you actually got that. Certain. I know for me, it might be certain for me to do it. Maybe some of you might be like Oh, no as impossible, or it's unlikely, maybe it's equally likely I might be able to do it. Who knows? 25 Jumping jacks in two minutes. Okay. So when we pause this, I want you to I want your teachers to go go, and then have it all down. So write that down. Let's see where you are at.

Okay, how many of you did it? I know, it was certainly for me to do it. I am exhausted. Sorry, you probably still see me out of breath. I was doing those 25 Jumping jacks, I actually got to 35 in two minutes. How many of you did more than 35? What some of you did more than 35? It's okay. If you didn't, it's okay. If you didn't. Let's see what's out there. Okay.

So the next thing we're going to do, we're gonna go back to our coding, now that you've had a break, we're going to add a little bit more to our coding that's happening. So right now, what do I have? I have my love of baseball, I have a little bit of movement. Let's see what happens. I love baseball that has so much probability in the game. Did you know that a good hitter only hits 33% of the time? I wonder what word would describe that probability of hitting? I have them actually doing that. Now. I'm going to change some things here. And we're going to actually add in a little bit more complication so our friends can come join us in this conversations. Now, we can make our scratch a little more act interactive. And so you see this question says, I wonder, I wonder what word would describe the probability of hitting. And I still have that in now what I want to do is I want to go to our sensing block, it's this light blue, underneath control. And in here, it says, ask, What's your name? And weight? We're not going to ask what's your name? We're gonna ask a question. My question is above, right? I wonder what word would describe the probability of hitting to you know, what word? Where to use it in the answer. So now when I go through all this, I'm gonna change this to five. So it goes a little bit faster. I'm gonna move this back. I love baseball has so much things. Okay, now let's see what happens when I put that answer block in. It's gonna go through my code again, right, and my character here is going to hit the it's going to do the movement that we had in our story. There's that movement as it goes through. And then it says, Do you know what were you to use? Type that in here. Now, if I type anything in here, right now, I can even type in help. And it does nothing. Because we haven't told the computer what to do. And this is the important part that's going on. So you've had the question. We're going to need this answer this answer thing right here. So I'm going to pull it out, just going to hover it in the corner, because I'm going to need it for later. Okay, now we're going to go back to control. And we're going to use a block called a conditional statement. This is an important key term to learn about coding. Conditional statements allow us to do like, if this happens, then do

this something you're going to want to think about. If this happens, we're going to grab this if with the hexagon then or else. And I'm going to put it in here. Okay. And I'm going to go to operations. Next, I'm going to grab the equal block.

And going to put my answer in that bubble. Okay, now it says equal 50. It doesn't equal 50. We're going to drag that to the if the answer and then what we're going to put and I'm gonna put the word unlikely, because it's unlikely I hit 33% of the time, it's unlikely that I'm going to hit the ball. That's just the way it is. And you're like, wait a minute, Jonathan. I thought baseball is all about hitting balls. It is but it's very unlikely that our batters actually hit a ball. If they only hit 33% of the time. If they hit 50. That's equally likely, anything greater is likely going to happen. But that's just the way it goes. Now, you're like, Okay, Jonathan, I have this down. I have the answer equals and what put whatever word you use, I use unlikely you're probably gonna use different words. So don't just copy my word. And now we need to tell it to do something. So if the answer equals unlikely, then what is my my character going to do? Now this can be anything you want you can have more movement, you can have a ball come through if you wanted to, for me, you can just say, well done. You did it, right, I'm gonna have the well done, I'm gonna have more costumes go through go through here. So that's what I'm going to do.

So it looks like they're going to hit, and then you're going to have the if they don't do that, what's it going to say? And this is probably where you want to put in a hint. So it can be like, nice try. Nice try. Maybe review your word list again, and try one more. Again, we're gonna make it a little longer. Five seconds, the well done, I probably can make like three seconds, maybe four seconds, because it's not that it's it's pretty short one. We don't want to have it. Okay, so remember the steps, we use the f&m block, answers that was in the operators, we use the word unlikely I use the word unlikely I drag the answer from sensing. And it's an oval, so it fits in the Oval. And then I added various things for if this happens, then it's going to do this. If it doesn't do that. I'm going to add one more thing. We want this to repeat. We because I've asked I said try it again. So I grabbed the repeat until and I'm going to put it in over the whole question and the if and then statement. And then I'm going to cheat. I'm going to copy by right clicking, I'm going to duplicate the answer. So that it's going to repeat until that word happens. Okay, so that was a big step. So I went to my controls. I went to repeat until and I hovered that repeat until over the answer block. And now if it doesn't work, you can always take out the stuff and then put it back in. So don't feel like you have to make sure that on you can always move things around to see where it goes. And we're going to repeat until and then it will constantly go until I get the word unlikely in here. So what I want you to do now is you're going to add in a question. Remember, you find that in the sensing sections, you're going to have an if and then statement, which is your conditions, and then have a friend test out your story to see if it works. Okay, I'll see you on the other side.

Okay, welcome back. Okay, we're going to do one more fancy-dancy thing, that's going to have a little bit more to your story, just so that it's not just as basic idea of what's happening. And so I'm gonna give you some more choices to try something, you can either add a background to your story, or add another character to have more dialogue to go back and forth. Or maybe, and then didn't add this. And maybe you want to add more words, you want to keep going and do another story that go with it. So let's go back to our scratch. Now, you'll notice that on the right hand side where our character was, we have these backgrounds. And so you can actually add in different backgrounds to the various things that are happening. Now my story is a baseball. So I think I'm gonna add in like

baseball scene here. And then but of course, there's tons of different scenarios. And if you ever really wanted to, you can also use the paint section right here. And you can draw your own background, and we're going to be doing that later on and other lessons. But you can also make your own background or import different pictures. So if you had a picture of your of your school or your classroom, you can always add that in. But I'm gonna go to choose background, I'm going to pick this one here. Now my players a little off, so I'm going to move them to the batter's box. So that they have I'm not going to have them. I think what I'm going to do is I'm going to have that going to take this out of my story because I don't want them moving around. But I do want them to be batting. And now let's see what happens. I love baseball, it has so much probability in the game. Did you know that a good hitter only hits 33% of the time? I wonder what word would describe that probability of hitting. Well, that was fast. Okay, so I'm gonna put that wait block back in. I like that 0.5, so it looks a little better. Actually, maybe 0.1, there we go. Now I'm gonna type in the word likely. Nice try, maybe reviewed your word list again and try it one more time. Okay, unlikely this time, well done. And then there's that battery's going to take its next costume. Awesome job. Now, if you wanted to add in another character, you can always go to your sprite list and find different characters that go with it. I'm thinking, you know, maybe I'm gonna put I was thinking of an umpire of some sort. But let's see under make it ah let's make Kai. And Kai is a little big right now. So you can always change that size to 50.

Make sure that they are there, you can always add in. So for Kai, you can always add in something like when when it starts, we're going to wait. You can have them wait for a long time. I'm thinking like 15 seconds. And then I'm gonna have them say "strike." And so there's the program that goes with it. So now you can add in various things that are happening. Remember, it's your choice now. Just to make your story a little bit different, a little bit more complicated to fit the things that are going on. So you're going to add your background, add your story, and develop it a little bit more and see where it goes from there. So I'll see you on the other side.

Okay, so welcome. You did an amazing job. And so teachers out there what you may want to do now, I just gave you a little bit of a discussion prompt to kind of finish off the probability part of your coding. I'm so proud of you all students out there. Coding, you know, you're going through a lot of hiccups from probably or you did this amazingly. And you were like superstars, and maybe you added stuff I didn't even think about that's amazing. But teachers, what you may want to do is have a discussion about what types of events best explain various probability words, or are there events that will not work for certain words? Why? So that's always a good prompt to have in there and have a great discussion about probability. Great exit ticket of the door. I'm gonna pause here for a minute before we wrap everything up. It has been a pleasure so far. So I'll see you on the other side.

Okay, welcome back. Hopefully you had an amazing discussion. Or if you're done, you're done. It has been my privilege to be with you all for this first lesson, and I look forward to seeing you on the other lessons that we have in probability. And thank you so much for being here. So have a great day.