Male Speaker: Now that we've learned about strings, beatStrings, and the makeBeat() function, let's go ahead and write an EarSketch script that uses all of this. It starts in the usual way—From EarSketch import \* and then init() function, setTempo() function. And now let's go ahead and define the sounds that we're going to use in the script as variables.

I'm going to use two different sounds with two different makeBeat() function calls. The first one, I'm going to define my variable as “synth” and we’ll search for a synth sound the same way I would always search for in EarSketch Sound Browser. We’ll look for a filter chord here.

[electronic chords playing]

And I can go ahead and paste that in. And the second one, I'm going to look for a slightly different kind of sound in the EarSketch sound library—something called a “one-shot” sound. So, so far we've always been working with loops that last for one, or two, or three, or four measures. One-shot sounds are a single hit—a single hit of a drum or something like that.

And because they are just one shot—one hit—they’re very good for using with the makeBeat() function where we're trying to build up drum beats and rhythms. And so I can actually go into the filters here in the Sound Browser, go to Artists and pick MAKEBEAT. And if I pick that, it shows me just the one-shot sound files.

And so when I preview the clap, I just hear one clap.

[clap sound with reverb]

When I preview the closed hi-hat I hear just one hi-hat.

[closed hi hat strike]

And I'll go ahead and paste that one in. So those are two sounds I want to use. But I can also define beatStrings as variables. So I'll go ahead and do that as well. I’ll have beat1 and I'll define a string here. Remember, most beatStrings have 16 characters in them. That's 16 sixteenth notes which makes up one measure of music.

And if you don't know how to start, you can always just kind of start kind of randomly with 0's and minuses and pluses, and listen to how it sounds and then figure out how to change it and make it into something you like from there.

But right now I'll type in one that I've already come up with.

[typing on keyboard]

So this is. ♪ ta-ta tu-taaa tu-ta ta ta ♫

And here's another one that I came up with.

[typing on keyboard]

So this is. ♪ ta ta ta-ta-ta ta-ta ta ♫

So now that I've defined my sounds and my beatStrings all as variables, I can go ahead and make my makeBeat() function calls. The first argument to the makeBeat() function call is always going to be the sound that we use. So in this case I'll use synth. The next argument is the track, so track 1. The next argument—the measure I want to put it on—so measure 1. And then the beatString, so beat1. So do that and I hit run.

And there we go.

[staccato synth chords]

Now if I want this to repeat for more than one measure, well then, I have to do something to make this repeat more than just this one time. And the easiest way to do that is to use a for loop, just like we learned about back in Chapter 8.

So I can put in a for loop here for measure in range(1,4): and then tab that into indented underneath. And so this time this means that this loop is going to execute for measure = 1, and measure = 2, and measure = 3, and then when it gets to 4 it will stop.

And so here, we have makeBeat()—My sound, synth. My track, 1. My measure—well, right now it's always going to be 1. But if I change that to measure, then the first time it runs it’ll put this on measure 1, the second time on measure 2, the third time on measure 3. And then we'll always use this beat1 sound.

So now if I run that, you can see that we've repeated this same beatString to happen at measure 1, measure 2, and at measure 3.

[rhythmic staccato synth chords]

And now if I want to add a second track with my second sound and my second beatString, I can just put another makeBeat() function call inside of the same for loop. So my sound this time would be cymbal, my track would be 2, the starting measure would still be measure, and the beat would be beat2.

I can run that again. Now we can see we have a second track here, my second makeBeat() call, the cymbal sound is repeating each time starting on a new measure and it's using a different beatString—beat2.

[rhythmic staccato synth chords with hi hat]