

LEGO® EDUCATION SPIKE™ PRIME VIRTUAL **SUMMER CAMP** BETA



Movies sound great thanks to **PRODUCTION SOUND MIXERS**. They record dialogue, sound effects, and ambient noises and combine them so that they sound clear and natural together.

CHALLENGE 2: MUSIC MAKER!



Challenge yourself to create a music maker! Have you ever tried to make sounds with a glass of water or a box and a rubber band? Think about all the different types of sound you can create. What types of sounds do you like most? Maybe you like percussive sounds like drums. Or maybe you like melodies. The beat could be really fast or really slow or you could mix it up. Your instrument could sound funny or suspenseful or however you're feeling today.

DID YOU KNOW?

ELECTRONIC MUSIC may seem new, but it has been around for over 100 years! J.B. DELABORDE invented the first electric harpsichord way back in 1761. Today a single computer can produce the sound of an entire orchestra.

Once you get your sound the way you like it, you can sync up lights to go with it. Don't be afraid to try different variations of your instrument and see how your sounds change over time. Brainstorm and test new ideas, iterate your model design. And finally, what is your new instrument called? How would you teach someone else to play it?

Let's Rock

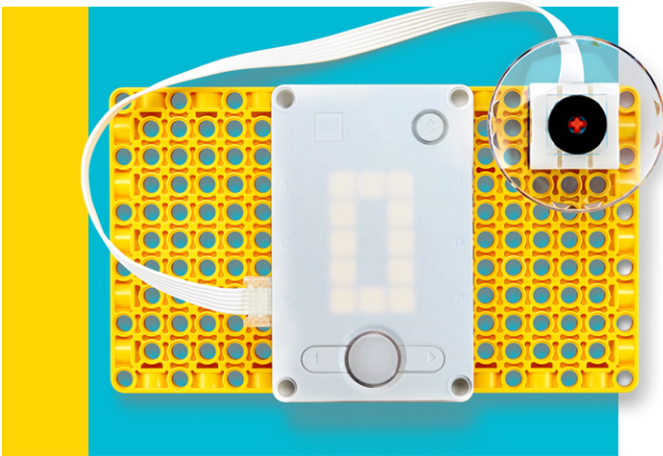
CHECK OUT MASTER TIPS!



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Inspiration 1: DRUM KIT

- Create a snare drum with the music bricks.
- Try adding lights to sound.



Code Sample 1 Beginner Inspiration: SNARE DRUM

```
when E pressed  
play drum (1) Snare Drum for 0 beats  
turn on [LED] for .1 seconds
```

If you feel stuck, get inspired by these fun ideas from our Master Builders. You can play around with these bits of code, add them to your creation, and end up with something totally unexpected!



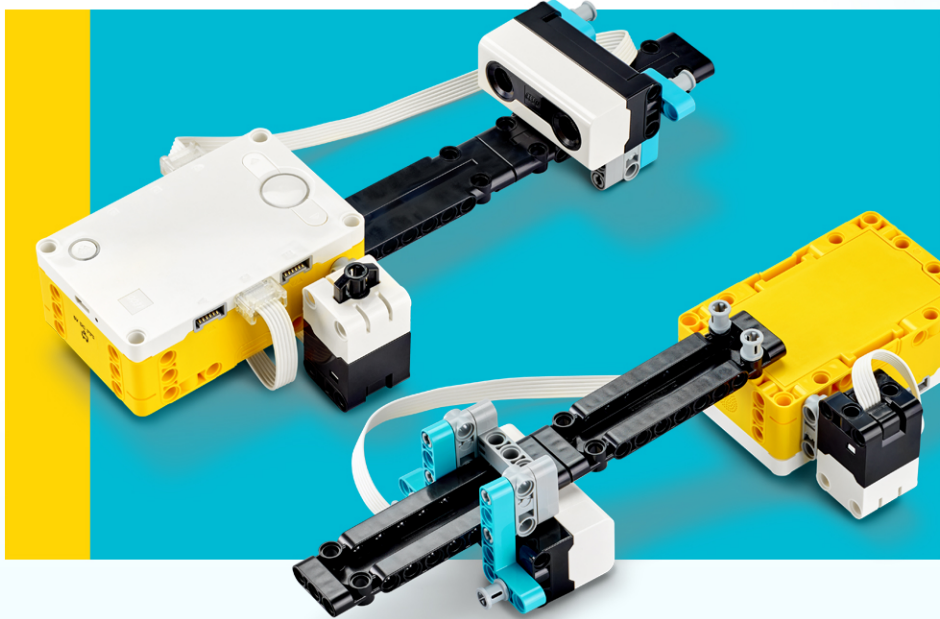
We can't wait to see your awesome solution to this week's project! Ask a grown-up to share your build, tag LEGO® Education on Twitter (@LEGO_Education) or Instagram (@LEGOeducation) with the hashtag #LEGOeduSPIKEprime for a chance to be featured as Build of the Week!

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Inspiration 2: GUITAR

- Make a guitar with two sensors.
- Code a range of sounds with a little bit of math.



Code Sample 2

Intermediate Inspiration:

SOUND IT OUT

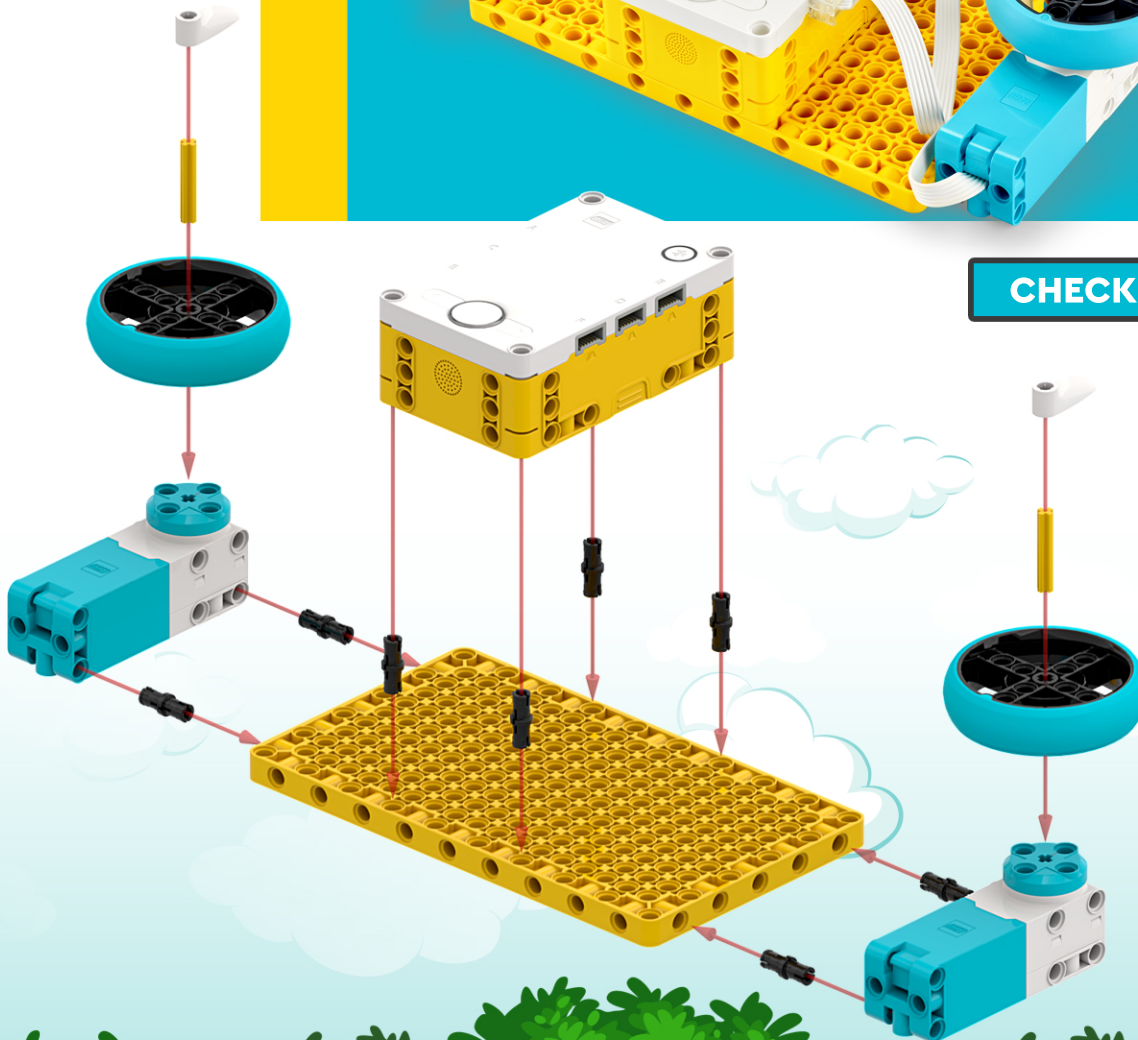
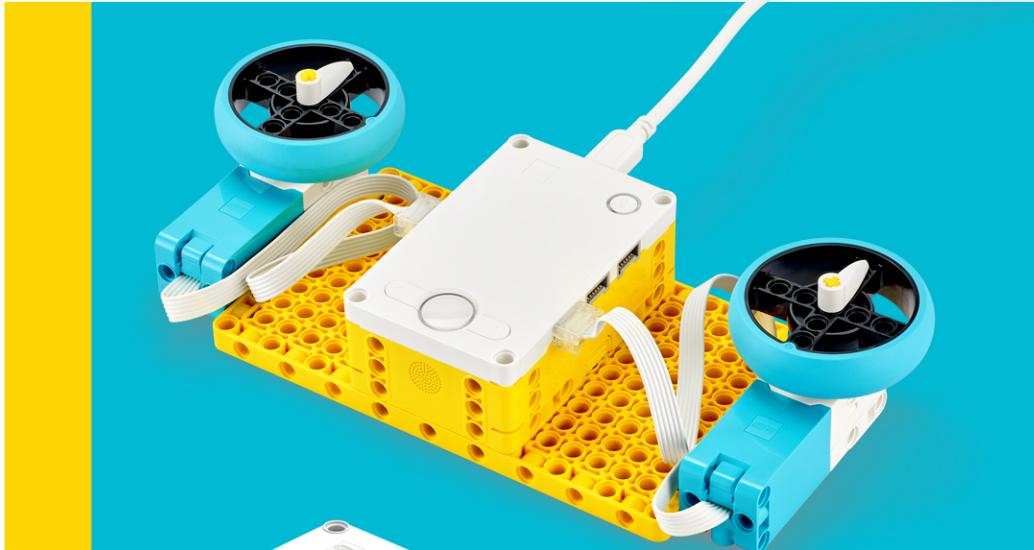
```
when C pressed  
play note 50 + 1.5 * F distance in cm for 0.1 beats
```



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Inspiration 3: **TURNTABLE**

- Use the motors as inputs for your turntable.
- The real fun starts when you create your own samples.

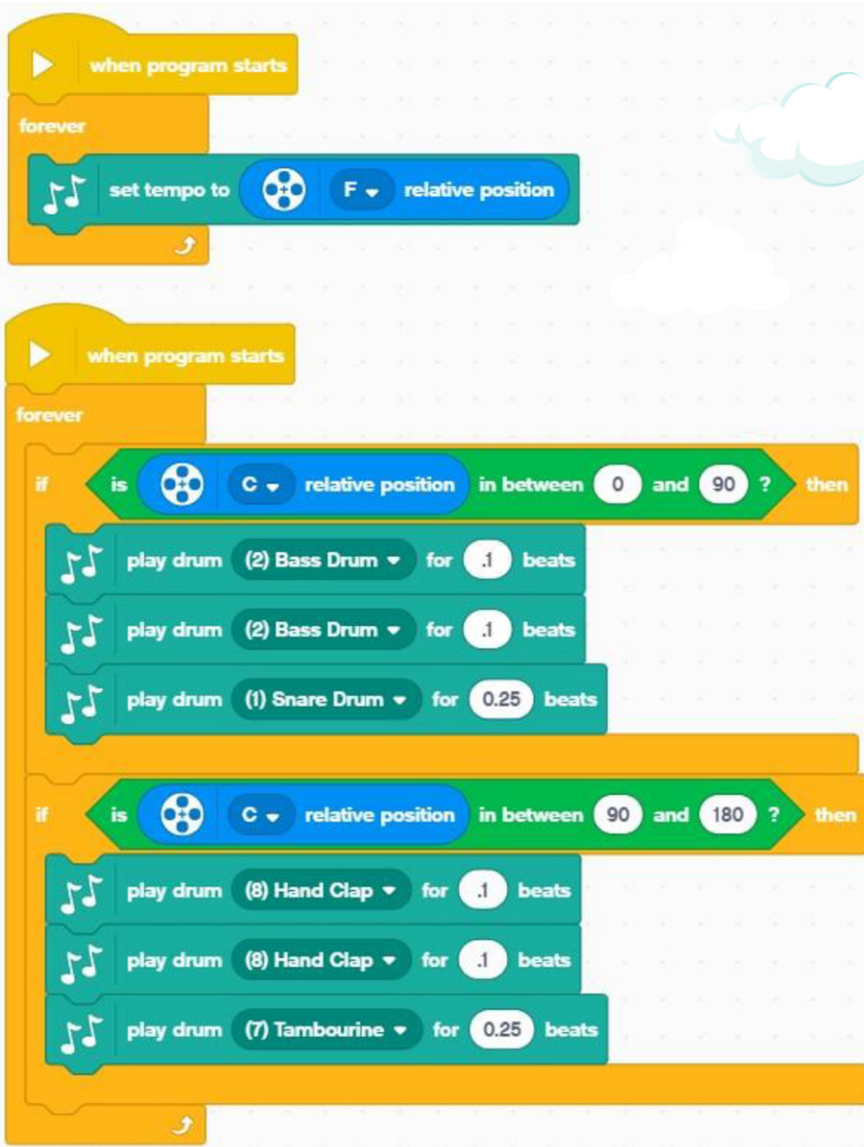


[CHECK OUT THE CODE](#)

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Inspiration 3: TURNTABLE Cont'd

Code Sample 3
Advanced Inspiration: MAKE IT YOURS



```
when program starts
  forever
    set tempo to F relative position

when program starts
  forever
    if is C relative position in between 0 and 90 ? then
      play drum (2) Bass Drum for .1 beats
      play drum (2) Bass Drum for .1 beats
      play drum (1) Snare Drum for .25 beats
    if is C relative position in between 90 and 180 ? then
      play drum (8) Hand Clap for .1 beats
      play drum (8) Hand Clap for .1 beats
      play drum (7) Tambourine for .25 beats
```

