

MUSIC + CODE = BFFS

The duo that you may not know about...

People have been creatively programming computers to make music for over 70 years!

You can use computers to create sounds that don't exist yet.
AKA new music styles!

Musicians, producers, artists, and students use software and coding to make music.

If you have a computer, you have an instrument!

***What will
you do with
music and code?***



Lauryn Hill



Björk



Jay-Z



Pharrell

MUSICAL COMPUTERS COMPUTERS

They're everywhere!

- ▶ Tablets and laptops are computers that can be programmed to make music.
- ▶ But computers that help us make music come in many shapes and sizes.
- ▶ The GrooveMachine is a computer that you can program to make beats!

*How is **GrooveMachine**
a music computer?*

MUSIC & CODE

More similar than you think

Much of the music that you listen to has a structure that it follows. When you make music with GrooveMachine, you're using code, which also has its own structure!

Music

Intro

In music, the intro is our first impression of a song

Verse

The verse is the song's details, its usually long

Hook

The hook is the catchy, repeated part of a song

Code

Main

In code, the "main" method is the intro to the program

Function

The details of the code that carry out its main action

Loop

Loops can be inside functions; they repeat just like hooks

*How are **music** and **code** alike?*

COMPUTER LANGUAGES

What messages are you sending?

GrooveMachine is a computer that takes your instructions and turns them into beats.

These instructions are like messages you send to the computer so it knows which sounds to play and how to play them.

The messages are written in special languages, kind of like French or Spanish. These languages look similar to the ones that we're familiar with, but they have their own **special style** and meanings.

**Translating the
computer language:**

Your function:

TangibleConnected (tangible):

GrooveMachine Translation:

```
def TangibleConnected (tangible):  
    if (color of tangible == purple):  
        play Beat  
    else:  
        if (color of tangible == yellow):  
            reverse Beat  
            play Beat  
        else:  
            speedUp Beat  
            play Beat
```

Try This!

Program the Groove Machine to make a pop-style beat, then reverse it!