



# DIY Battle of the Bands

## Guidelines

- Teams must create at least 3 instruments
  - at least 1 “pitched” wind instrument capable of producing at least 5 specific notes
    - notes are defined as absolute frequencies(Hertz[hz]) of the keys on a standard piano (example: A = 440 hz, 880 hz, etc, B = 493.88 hz, 987.77 hz, etc)
  - at least 1 percussion instrument (can be pitched or not)
  - Only 1 instrument can be electronic, though not required (power & amplification will be provided)
- Teams can create up to 6 instruments
  - Additional instruments can be anything as long as the minimums are met
- Instruments should be made from “scratch”, but can include the following pre-made components
  - Mouthpieces for wind instruments
  - Strings from guitars, violins, pianos, or other string instruments
  - 3D Printed components
  - Drum heads and skins
  - Reeds
  - CNC milled components
- A live performance is encouraged, but not mandatory
  - A live performance can only add to your overall point total (Up to 15 bonus points)
  - Live performances can be any song, or any interpretation of any song.
  - Visit <http://www.youcanplayit.com/> for song ideas from Beginner to Expert
- Scoring Criteria
  - Intonation Accuracy [25 points] - How accurately can your instrument hit your target pitches?
    - Use a tuner to practice! Free App “Pano Tuner” is a great place to start
    - Accuracy will be determined during “Sound Check”
  - Originality [30 points] - How original/creative is your instrument?
  - Craft [30 points] - How well engineered, built, and designed is your instrument?
  - Performance [15 points]
    - Background tracks are OK as long as the DIY instruments are clearly audible
    - A theme/rehearsed movements are encouraged
    - Performance can feature recognizable songs or can be “jam session” style -- remember, a jam session isn’t just random noise! It should have some patterns/structure
    - A pre-recorded performance is permissible for up to 10 points
- Ideas & Resources:
  - Carrot Clarinet → <https://www.youtube.com/watch?v=BISrGwN-yH4>
  - Makey Makey Piano → <https://www.youtube.com/watch?v=67n0NxIU85w>
  - <http://www.youcanplayit.com/>
  - <http://fullsteamaheadfl.com/category/diy-battle/>
  - <http://www.thingiverse.com/thing:1035794>