

HIT THE NOTE: PLAY MUSIC BY TUNING GLASS CUPS

VOCABULARY

FREQUENCY- The speed of the vibration which determines the pitch of the sound

AMPLITUDE- The size of the vibration that determines how loud the sound is

HERTZ- Unit of frequency

PITCH- How high or low a note is

TUNE- Adjust (a musical instrument) to the correct or uniform pitch

NOTE FREQUENCIES

A	440.00 Hz
B	493.88 Hz
C	523.25 Hz
D	587.33 Hz
E	659.25 Hz
F	698.46 Hz
G	783.99 Hz
A	880.00 Hz

MATERIALS

Eight Glass Cups
A Large Pitcher of Water
A Device with Google's Science Journal (GSJ)
Metal Spoon
Frequency Reference Sheet

PART ONE: EXPLORATION

Experiment with how different amounts of water impact the sound created when you hit the glass with a metal spoon. Try adding and subtracting water to hit a note from the frequency list above. Note that your hertz reading may not match exactly, but try to get it as close as you can. Record your observations and think about the following questions while you work:

What sound does a glass with a lot of water make? What about a glass with a little amount of water?

How does the shape and size of the glass effect the pitch?

Why don't the frequency hertz match up exactly?

PART TWO: PLAY A SONG

Using what you learned in the last activity, try to tune a few glass cups to play a song. You can choose one from the list below, or make up your own song. Happy tuning!

Song choices:

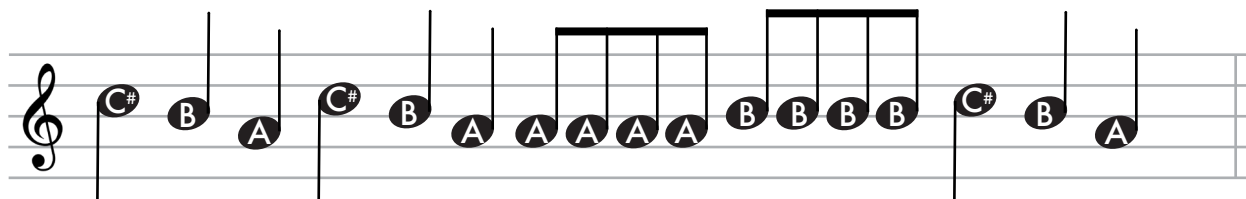
Hot Cross Buns (Easy)

Twinkle Twinkle Little Star (Intermediate)

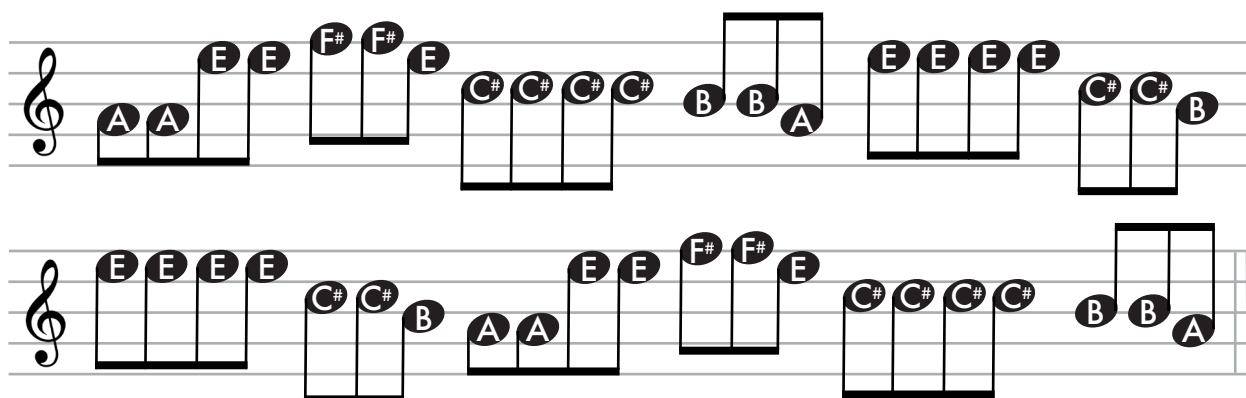
You are my Sunshine (Hard)

This Too Shall Pass (Intermediate)

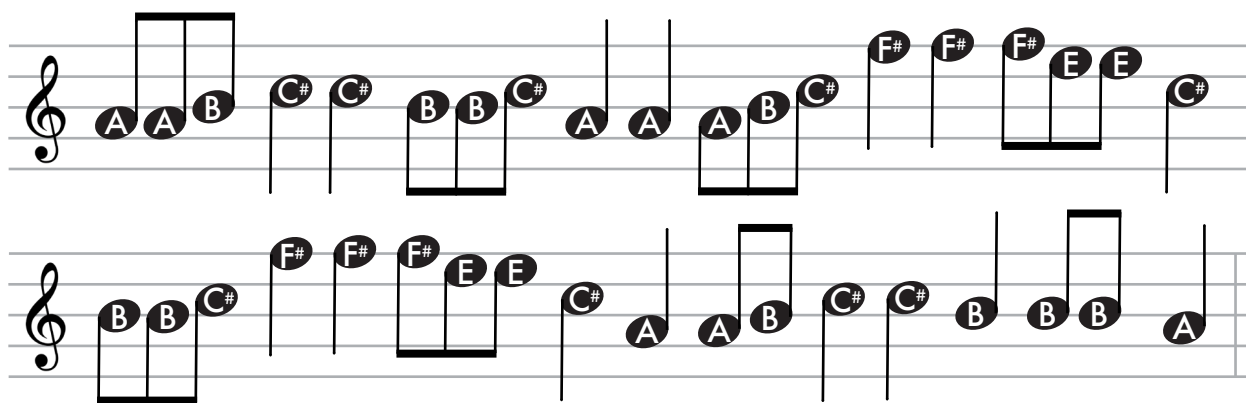
HOT CROSS BUNS



TWINKLE TWINKLE LITTLE STAR



YOU ARE MY SUNSHINE



THIS TOO SHALL PASS

