

Create a Hand Clapping Foot Stomping Symphony

Grade level: 3-8

Subject: Math/Fractions

Objectives: Students will

1. Understand how musical notes relate to fractions
2. Identify a variety of musical notes (for example, whole, half, and quarter notes)
3. Read and clap a measure of music, assigning appropriate values to notes
4. Solve fraction math problems that use musical notes in place of the fractions

Materials:

1. Note Values Chart.pdf (see OTI School Curriculum disc)
2. Music Math work sheet.doc (Grades 5-up only; optional, see OTI School Curriculum disc)

Description

Students read simple music to create a symphony of clapping (all grades). *Plus* fraction math for grades 5-up. Work sheet included on disc.

Vocabulary:

1. **fraction** – an amount or quantity that is written with a numerator and a denominator
2. **music** – the art of putting tones together in various melodies, rhythms and harmonies in a pleasing or meaningful way
3. **notes** – a musical tone
4. **value** – the amount of a note

Procedures:

Introduce to students, or present a refresher course in, the value of musical notes. Each note represents a specific value. In this lesson, students in grades 3 and up will read note values/simple music to create a symphony of clapping.

Note: The extension activity in this lesson is for students in grades 5 and up; it assumes students know how to add fractions.

Start the lesson by sharing the Note Values Chart.pdf. Print out the chart, photocopy it onto a sheet of transparency film, and use an overhead projector to display the chart for

students. If you do not intend to introduce the value of different musical rests to students, cover the RESTS column with a piece of paper.

Alternate idea: Recreate the chart on a large sheet of poster board; display the poster so all students can see it clearly.

Discuss the value of different notes (and rests, if appropriate). To help students "hear" the value of those notes, tap your foot to a 4-beat measure -- *tap, tap, tap, tap* -- and have students join in. Then...

- Introduce the whole note. The whole note is an oval (it looks like an egg on its side) with no color inside and no vertical line attached. Introduce the concept of the whole note by clapping its value. Clap once for each 4-beat measure you tap: *clap, tap, tap, tap*. As you clap, hum the note and hold it over all four beats (*hum-mm-mm-mm*). Have students clap, tap, and hum with you.
- Introduce the half note. The half note looks like a whole note, but it has a vertical line attached. Draw a half note for students to see, and write the fraction $\frac{1}{2}$ next to it. Clap (*clap, tap, clap, tap*) and hum (*hum-mm, hum-mm*) to represent the half note for students as you tap your foot to the four beats of the measure. Have students clap, tap, and hum with you.
- Introduce the quarter note. The quarter note looks like a half note, but the oval is filled in with solid black. Draw a quarter note for students, and write the fraction $\frac{1}{4}$ next to it. Clap (*clap, clap, clap, clap*) to represent the quarter note as you tap your foot to a four-beat measure. Have students clap and tap with you.
- Introduce the eighth note. The eighth note looks like a quarter note, except it has a curly line (like a flag blowing in the wind) at the end of the vertical line. Draw an eighth note for students, and write the fraction $\frac{1}{8}$ next to it. Clap twice for each beat (*clap-clap, clap-clap, clap-clap, clap-clap*) to represent the eighth note to students as you tap your foot to the four-beat measure. Have students clap and tap with you.
- Introduce the sixteenth note. The sixteenth note looks like a quarter note, except it has *two* curly lines at the top (or bottom) of the vertical line. Draw a sixteenth note for students, and write the fraction $\frac{1}{16}$ next to it. Clap four times for each beat (*clap-clap-clap-clap, clap-clap-clap-clap, clap-clap-clap-clap, clap-clap-clap-clap*) as you tap your foot to the four beats of the measure. Have students clap and tap with you.

Next, clap a measure of different types of notes at random and have students identify whether you have clapped whole, half, quarter, eighth, or sixteenth notes.

This is a good time to review the idea that each note is represented by a fraction.

- A four-beat measure represents 1 whole. A whole note is held for the entire four beats.

- That same four-beat measure might include 2 half notes. Each half note is held for 1/2 of the measure, or two beats.
- That same four-beat measure might include 4 quarter notes. Each note is held for 1/4 of the measure, or one beat.
- That same four-beat measure might include 8 eighth notes. Each note is held for 1/8 of the measure. Students clap two quick claps for each tap of the foot (each beat).
- That same four-beat measure can include 16 sixteenth notes. Each note is held for 1/16 of the measure. Students clap four rapid-fire claps for each tap of the foot (each beat).

Next, arrange students into two groups. Have one side clap on the whole note (*clap, tap, tap, tap*) while the other side claps on the half note (*clap, tap, clap, tap*). Then continue by arranging the class into three groups; have one group clap the whole note, the second group clap the half notes, and the third group clap the quarter notes. Continue by arranging the class into smaller groups and introducing the eighth and sixteenth notes.

Take the activity one more step: Arrange the class into two or more groups. Present each group with a four-beat measure that includes a combination of notes (and rests, if appropriate). Start by having the first group clap out their measure in repetitive fashion. Then practice with the other group. Finally, start the first group off and -- once they are comfortably performing their rhythm -- add in the other group(s) to create a symphony of clapping.

Extension Activity: Music and Fraction Math (for Grades 5-up only)

Review again the concept of each note representing a fraction of a measure. Then provide students with some sample math problems using notes to represent fractions. For example,

- [an eight note] + [an eighth note] = _____ (*Answer: 2/8 or 1/4*)
- [an eighth note] + [a quarter note] = _____ (*Answer: 3/8*)
- [a quarter note] - [an eighth note] = _____ (*Answer: 1/8*)
- [4 eighth notes] + [2 eighth notes] = _____ (*Answer: 6/8 or 3/4*)
- [3 sixteenth notes] + [1 sixteenth note] = _____ (*Answer: 4/16 or 2/8 or 1/4*)

Finally, hand out the Music Math work sheet (on OTI School Curriculum disc) and have students solve the music math (fraction) problems.

Evaluation:

Test students' knowledge of the value of notes. Present a board work or work sheet assignment that presents different types of notes in random order. Students will identify those notes as whole, half, quarter, eighth, or sixteenth notes.

Given a measure of notes, students will be able to clap out the measure.

Extension Activity: Music Math Worksheet answer key:

1. $1\frac{3}{4}$; 2. $\frac{1}{2}$; 3. $\frac{3}{4}$ or $\frac{6}{8}$; 4. $2\frac{1}{2}$; 5. $\frac{3}{8}$; 6. $\frac{1}{2}$ or $\frac{2}{4}$ or $\frac{4}{8}$; 7. $\frac{13}{16}$; 8. 0; 9. $1\frac{5}{8}$; 10. $\frac{1}{4}$ or $\frac{2}{8}$.