

Matatalab Musician Add-On Overview and Introduction



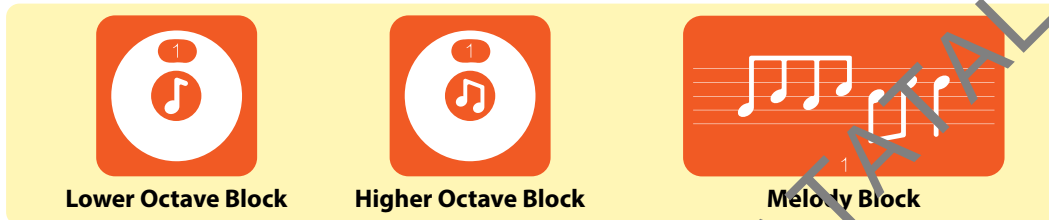
Musician Add-On

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Overview and Introduction

The Matatalab Musician Add-On Set utilizes 32 Music blocks, 10 Melody blocks and 3 Music warm-up cards. The student will be able to create melodies and musical patterns using the music blocks in combination. This set of lessons will allow students to compose melodies, create musical patterns alone and with others, sing and identify scale degrees (solfege), sing composed patterns with and without lyrics, and identify music notes and notation.



Essential Objective

Understanding the use of music notation with Matatalab music blocks coding to create melodic melodies.

Learning Objectives

- Identify Staff Notes and Pitches
- Identify Music Notation
- Count and Identify Rhythm Patterns
- Identify and Create Musical Patterns
- Sing and Identify Musical Intervals
- Compose Melodic Melodies (with and without lyrics)

Standards
NAfME, CSTA

Aligned Standards

NAfME - The National Association for Music Education (formerly MENC):

Creating

Imagine

K-2

MU:Cr1.1.Ka With guidance, explore and experience music concepts (such as beat and melodic contour).

MU:Cr1.1.1a With limited guidance, create musical ideas (such as answering a musical question) for a specific purpose).

MU:Cr1.1.2.a Improvise rhythmic and melodic patterns and musical ideas for a specific purpose.

3-5

MU:Cr1.1.3a Improvise rhythmic and melodic ideas, and describe connection to specific purpose and context (such as personal and social).

MU:Cr1.1.4a Improvise rhythmic, melodic, and harmonic ideas, and explain connection to specific purpose and context (such as social and cultural).

MU:Cr1.1.5a Improvise rhythmic, melodic, and harmonic ideas, and explain connection to specific purpose and context (such as social, cultural, and historical).

CSTA (Computer Science Teacher Association)

K-2

1A-CS-01 - Select and operate the appropriate software to perform a variety of tasks, and recognize that the users have different needs and preferences for the technology they use.

1A-CS-02 - Use appropriate terminology in identifying and describing the function of common physical components of computing systems (hardware).

1A-AP-11 - Decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.

1A-AP-12 - Develop plans that describe a program's sequence of events, goals, and expected outcomes.

1A-AP-14 - Debug (identify and fix) errors in an algorithm or program that includes sequences and simple loops.

1A-AP-15 - Using correct terminology, describe steps taken and choices made during the iterative process of program development.

3-5

1B-CS-03 - Determine potential solutions to solve simple hardware and software problems using common troubleshooting strategies.

1B-AP-08 - Compare and refine multiple algorithms for the same task and determine which is the most appropriate.

1B-AP-10 - Create programs that include sequences, events, loops, and conditionals.

1B-AP-11 - Decompose (break down) problems into smaller, manageable subproblems to facilitate the program development process.

1B-AP-13 - Use an iterative process to plan the development of a program by including others' perspectives and considering user preferences.

1B-AP-15 - Test and debug (identify and fix errors) a program or algorithm to ensure it runs as intended.

1B-AP-16 - Take on varying roles, with teacher guidance, when collaborating with peers during the design, implementation, and review stages of program development

Time

12 Lessons - 60 minutes each

Materials

- Staff Notes and Pitches Worksheets
- Note Values Worksheets
- Rhythm Pattern Worksheets
- Staff Worksheets
- Pencils
- Matatalab Coding Set
 - Command Tower
 - Control Board
 - Matatabot
 - Matatalab Musician Set
- Copy Worksheets
- Charge Matatalab Command Tower and Matatabot

Vocabulary

- **Staff** - a set of five horizontal lines and four spaces that each represents a different musical pitch or, in the case of a percussion staff, different percussion instruments.
- **Pitch** - the highness or lowness of a sound.
- **Scale** - a set of musical notes ordered by a fundamental pitch.
- **Interval** - the distance between two pitches.
- **Sequence** - the restatement of a melodic passage.
- **Solfège** - powerful framework to recognize notes by ear, which lets you improvise and play by ear easily.
- View this video to learn more - https://youtu.be/OkW4v_MJEUg

Lessons Overview

These lessons provide a sequential, meaningful curriculum with fundamental learning experiences for all children. The lessons are sequenced by level of difficulty for each project. Difficulty is reflected in the learning progression and the use of complex problem-solving and creation with music notes. In a standard primary music class, activities change multiple times to maximize the attention span and learning capabilities of the student. Time to play and practice with the Matatalab Musician Add-On set should be integrated into each lesson. In addition, teachers should include time for singing, moving, listening, and performing with each lesson.

LESSON 1: Staff Notes and Pitches

OBJECTIVE: Students will identify the construction of a musical staff and identify high and low pitch sounds.

LESSON 2: Staff Note Names

OBJECTIVE: Students will identify the letter name and pitch location of notes on a musical staff.

LESSON 3: Creating Rhythm Patterns

OBJECTIVE: Students will identify, count, clap and create musical notation.

LESSON 4: Time Signatures

OBJECTIVE: Students will identify how time signatures are used in music and create rhythm patterns with 4/4 and 3/4 time signatures.

LESSON 5: Ear Training

OBJECTIVE: Students will identify Solfege (Do, Re, Mi, Fa, Sol, La and Ti) pitches with the use of the Matatalab music blocks.

LESSON 6: Musical Hands

OBJECTIVE: Students will identify Solfege with the use of hand signs.

LESSON 7: Musical Intervals

OBJECTIVE: Students will identify an interval (the distance between two notes) and the sound and location on the staff.

LESSON 8: Musical Dictation

OBJECTIVE: Students will identify aurally pitch patterns with Solfege and Matatalab music blocks.

LESSON 9: Identify Matatalab Music Kit

OBJECTIVE: Students will identify the music blocks, music pattern blocks and song examples with the Matatalab kit.

LESSON 10: Identify Matatalab Block Pitches

OBJECTIVE: Students will identify the relationship of the pitch on the Matatalab music block with the staff.

LESSON 11: Compose and Play Matatalab Intervals

OBJECTIVE: Students will review intervals and compose intervals to identify aurally with a partner.

LESSON 12: Compose Matatalab Melodies with Lyrics

OBJECTIVE: Students will compose an original melody with lyrics with the music blocks.

Matatalab

Lesson 1

Staff Notes and Pitches



Overview and Introduction

Where do you hear music? What types of music (genre) do you like? How do we write music? Orchestras, choirs and bands use sheet music to play the music we hear. Today we will identify the musical staff and identify high and low pitches.

Learning Objectives

- Identify the five lines and four spaces that create the staff.
- Identify higher and lower pitches on the staff.

Standards

K-2: MU:Cr1. 1.Ka, MU:Cr1. 1.1a, MU:Cr1. 1.2a
3-5: MU:Cr1. 1.3a, MU:Cr1. 1.4a, MU:Cr1. 1.5a

Time

60 minutes

Materials

- Staff Notes and Worksheets
- Pencils
- Matatalab Coding Set
 - Command Tower
 - Control Board
 - Matatabot
 - Matatalab Music Blocks

Teacher Set-Up and Preparation

- Copy “*The Staff, Notes and Pitches*” worksheet
- Matatalab Music Coding Set pieces
- Charge Matatalab Command Tower and Matatabot

Activity

Students will identify note location and pitch name on the musical treble staff. Students will create and identify high and low pitches.

- Distribute “The Staff, Notes and Pitches” worksheet.
- Students will read and identify the five lines and four spaces that create the staff.
- Use one Matatalab music block and turn the dial to “1” and place on the Control Board. Press the play button.
- Dial 1 -7 and play each pitch on the Control Board and inform the students that the notes are the first seven pitches of a major scale.
- Use two music Matatalab blocks. Dial one block to number “3”; dial one block to number “5”. Students will identify which block is higher and lower in pitch.

Students will

- Students will identify high and low pitches on the staff.
- Students will complete exercises 1, 2, 3 and 4.
- Students will be given one Matatalab Block and form pairs. Students will turn block dials and identify who has the higher and lower sound by placing their block on the Control Board.

Closing

Assessment

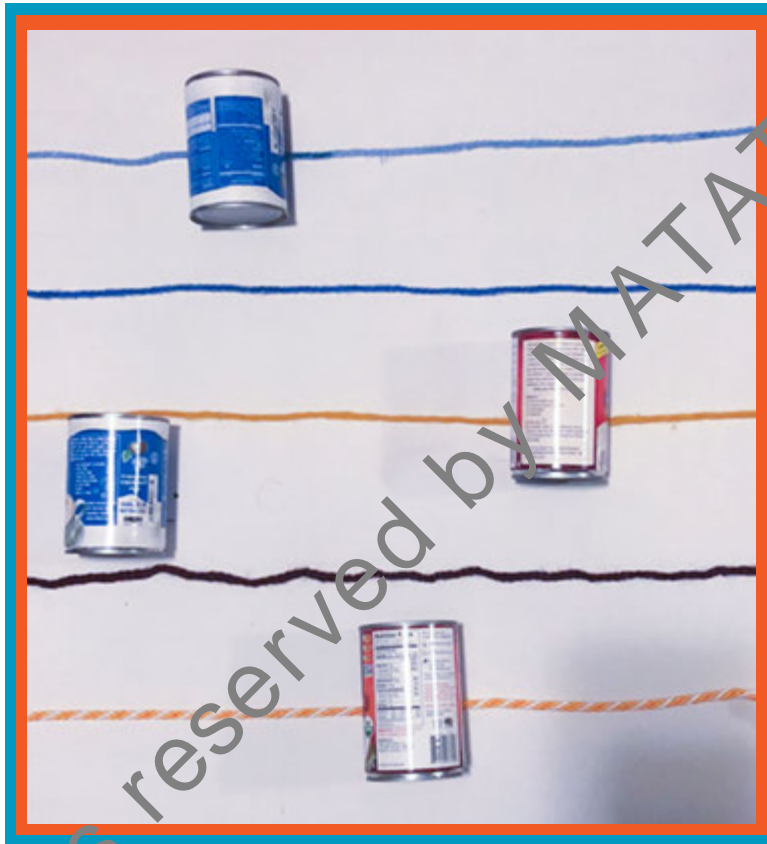
We have identified and compared high and low pitches and how they look on the staff.

Have the students answer the following questions:

- How many lines are on a staff?
- How many spaces are on a staff?
- How many notes are on a major scale?

Extensions

Music staves are located on paper. How can we create and construct a music staff using other materials? One idea would be to use five different colors of yarn. The notes could be items in your house like cans, cups, etc. These items can be placed on the staff.



We all like different types of music. Create a music game that involves recordings of male and female vocalists singing the same song and determine the comparison and differences in high and low sounds. Your audience can vote on the best vocalist.

Real World Connections

Music can be viewed and heard. How would someone write music without playing an instrument? How long will it take someone to learn how to read music? Is music on the staff written the same as music in other countries?

Have you ever played an instrument? How many instruments can a person learn proficiently?

The Staff, Notes and Pitches

Music is written on a STAFF of five lines and the four spaces between.

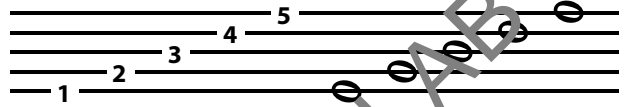


The STAFF

Music NOTES are oval-shaped symbols that are placed on the lines and *in* the spaces. They represent musical sounds, called PITCHES.



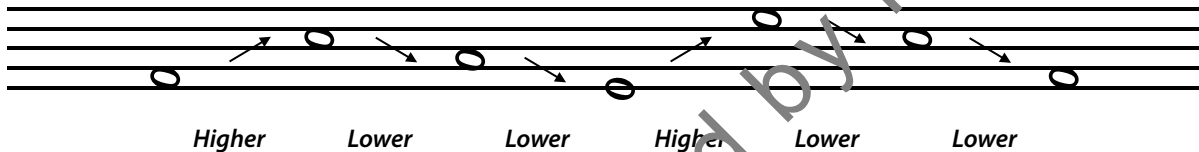
The lines of the staff are numbered from bottom to top.



The spaces between the lines are also numbered from bottom top.



If the notes appear *higher* on the staff, they sound *higher* in pitch.
If the notes appear *lower* on the staff, they *lower* in pitch.

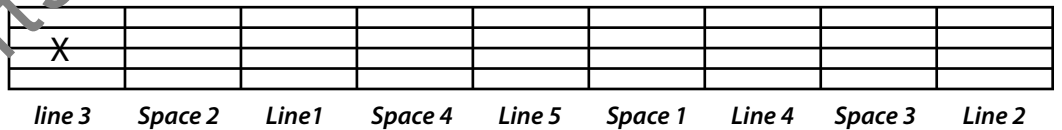



Exercises

- 1** Draw a staff by connecting the dots. Use a ruler or straight edge. Number the lines, then the spaces from low to high.



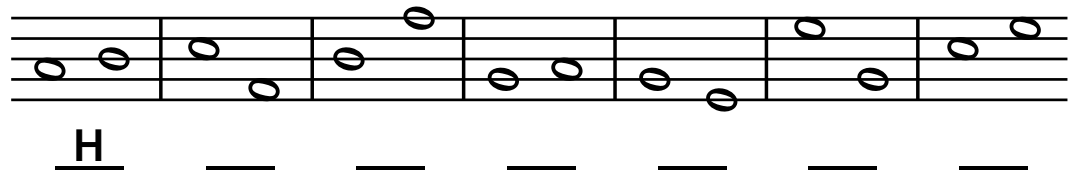
- 2** On the staff, mark an X in the following locations:



- 3** Write notes like this  on the following lines and spaces:



- 4** Indicate whether the 2nd note is higher or lower than the 1st note by using an H (higher) or L (lower)



Matatalab

Lesson 2

Staff Note Names



Overview and Introduction

Just like reading a book, music has a language. The language of music is placed on a staff. These are called notes and each note on the staff has a letter name. Some notes are also identified above and below the staff. In this lesson you will identify note names on the staff.

Learning Objectives

- Review the five lines and four spaces that create the staff.
- Identify the treble clef line and space note names.

Standards

K-2: MU:Cr1. 1.Ka, MU:Cr1. 1.1a, MU:Cr1. 1.2a.
3-5: MU:Cr1. 1.3a, MU:Cr1. 1.4a, MU:Cr1. 1.5a

Time

60 minutes

Materials

- Staff Notes and Worksheets
- Pencils
- Matatalab Coding Set
 - Command Tower
 - Control Board
 - Matatabot
 - Matatalab Music Blocks

Teacher Set-Up and Preparation

- Copy “Treble Clef and Staff” worksheet
- Staff paper
- Matatalab Music Coding Set pieces
- Charge Matatalab Command Tower and Matatabot

Activity

- Distribute “*Treble Clef and Staff*” worksheet.
- Students will review the five lines and four spaces that create the staff.
- Students will identify the treble clef line note names and identify the phrases that work to help identify the names of the notes on the staff (Every Good Boy Does Fine and FACE)
- Identify the line notes E, G, B, D, F and the line the note is located on the staff (E 1st line, G 2nd line, etc.)
- Identify the space notes F, A, C, E and the space the note is located on the staff (F 1st space, A 2nd space, etc.)
- Use one Matatalab music block on the Control Board and turn the dial to “3” and press the play button.
- The sound that is heard is the note “E” on the 1st line of the staff.
- Use two music Matatalab blocks. Dial one block to number “3”; dial one block to number “4”. Students will identify which block is “E” on the line and “F” on the space.

Students will

- Students will complete exercises 1, 2, and 3.
- Students will be given Matatalab music blocks and form pairs. Students will use the staff paper and draw the notes on the lines and spaces and create and write their own phrases to identify the notes. Example: Lined notes: Every Good Burger Deserves Fries; Space Notes: Find And Cook Eggs.

Closing

Assessment

We have identified the letter names for notes on the treble clef staff.

Have the students answer the following questions:

- What are the letter line names for notes on the lines?
- What are the letter line names for notes on the spaces?
- What type of pitch is located in the Treble Clef?
- How many letters are used to identify music notes?

Extensions

Create a template to identify notes on the lines and spaces by color. Are notes limited to the staff or should other colors be used to show notes above and below the staff?

Template

The image shows a musical staff template with two staves. The first staff has notes E, F, G, D, F on lines and spaces, with a legend below it. The second staff has notes F, A, C, E on lines and spaces, with a legend below it.

Legend:

- Lines
- Spaces

You may want to create a staff that is designed like your favorite food. How would you identify the notes in the lines and spaces?

Real World Connections

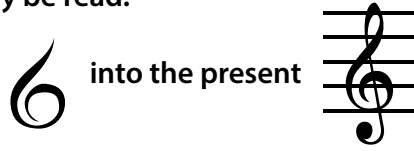
Have you ever been to an orchestra or performance? Did the musicians use music? Did everyone play the same thing? Did different musicians play different parts? Were the musicians limited to 9 notes? How do you think the music is created for an orchestra or band?

Treble Clef and Staff

Music notes are named after the first seven letters of the alphabet, from A to G. By their position on the staff, they can represent the entire range of musical sound.

CLEF signs help to organize the staff so notes can easily be read.

The TREBLE CLEF is used for notes in the higher pitch ranges. The treble (or G) clef has evolved from a stylized letter G:

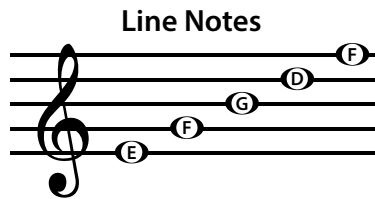


The curl of the treble clef circles the line on which the note G is placed. This G is above MIDDLE C (the C nearest the middle of the keyboard).

The TREBLE STAFF

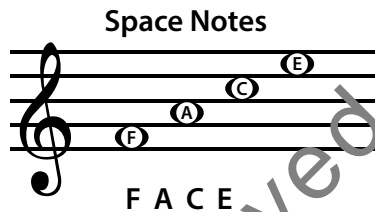


In the treble staff, the names of the notes on the lines from bottom to top are E, G, B, D, F.



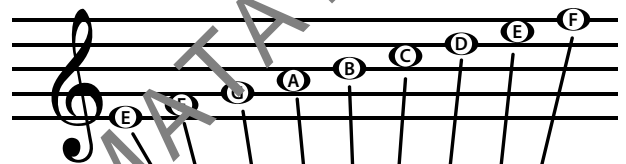
Evert Good Boy Does Fine

The names of the notes in the spaces from bottom to top spell FACE.



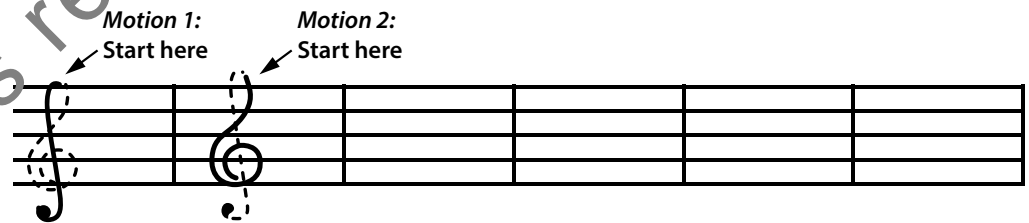
F A C E

All the notes of the TREBLE STAFF:

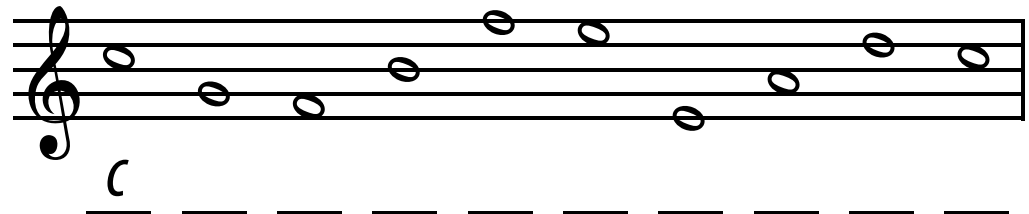


Exercises

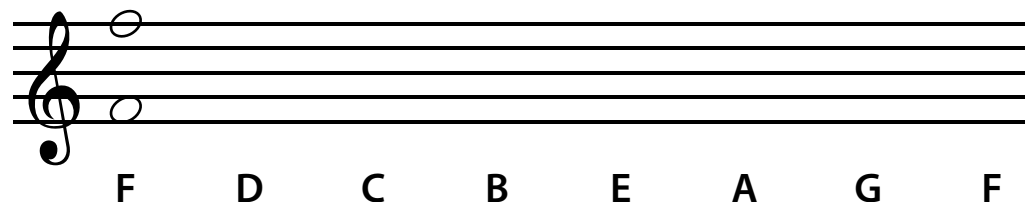
- The treble clef is written in two motions. Trace along the dotted lines as indicated then draw four more



- Write the letter names of the following notes. Use capital letters.



- Write the notes on the staff indicated by the letters. If the notes can be written in two places, write one above the other.



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Lesson 3

Creating Rhythm Patterns



Overview and Introduction

Letters are used to create words. Words are used to identify a language or story. Music notes and rhythm patterns are the language of music. Today we will identify the whole, half and quarter note.

Learning Objectives

- Students will identify, count, clap and create musical notation.
- Students will identify the whole, half and quarter note.

Standards

K-2: MU:Cr1. 1.Ka, MU:Cr1. 1.1a, MU:Cr1. 1.2a.
3-5: MU:Cr1. 1.3a, MU:Cr1. 1.4a, MU:Cr1. 1.5a

Time

60 minutes

Materials


- Staff Notes and Worksheets
- Pencils
- Matatalab Coding Set
 - Command Tower
 - Control Board
 - Matatabot
 - Matatalab Music Blocks

Teacher Set-Up and Preparation

- Copy "Note Values" worksheet
- Matatalab Music Coding Set pieces
- Charge Matatalab Command Tower and Matatabot

Activity


- Review the staff; identify the five lines and four spaces.
- Identify the whole, half and quarter note.



Whole Note
4 Beats: Count "1 2 3 4"



Half Note
2 Beats: Count "1 2"



Quarter Note
1 Beat: Count "1"

Students will

- ▶ Students will clap and count "1-2-3-4" (clap once and count "1-2-3-4"). This is how we identify the Whole Note.
- ▶ Students will clap and count "1-2" (clap once and count "1-2"). This is how we identify the Half Note.
- ▶ Students will clap and count "1" (clap once and count "1"). This is how we identify the Quarter Note.
- ▶ Distribute **Note Values Worksheet**. (Located at end of lesson)
- ▶ Read and identify the Whole, Half and Quarter Note durations and construction (Stem and Notehead).
- ▶ Identify the Stem direction, extension and the location on the staff.
- ▶ Identify that 1 Whole = 2 Half Notes; 2 Half Notes = 4 Quarter Notes
- ▶ Review staff note names from Lesson 2.
- ▶ Students will complete exercises 1, 2, and 3.
- ▶ Students will be given one Matatalab music block and form pairs. Students will create quarter note patterns with the music blocks on any pitch and clap with the audio pitch.



Use one block to identify one beat; the quarter note.



Use blocks to identify two beats; the half note.

2



Use blocks to identify four beats; the whole note.

4

Rhythm Game

Select a 4 or 8 beat phrase from a folk song that the children know (Twinkle, Twinkle Little Star). Choose the appropriate number of students to represent each beat. These students stand up and make a line across the front of the classroom. The class claps the rhythm of the phrase while the teacher moves from child to child. That child or a volunteer from the class should determine whether they hear one or two sounds on each successive beat. If one sound is heard, the child who is representing the beat can hold up one finger (or one hand) or if two sounds are heard, two fingers (or hands). The class can clap the rhythm once again to check answers. If correct, the volunteers can sit down. The exercise can be repeated or the rhythm could be transferred to the board in stick notation.

Closing

We have identified the whole, half and quarter note with their beat values. We have completed a Note Value worksheet to help increase our understanding of beat values.

Have the students answer the following questions:

- How many beats are in a whole note?
- How many beats are in a half note?
- How many beats are in a quarter note?
- How many quarter notes are in a whole note?
- How many half notes are in a whole note?
- How many quarter notes are in a half note?

Extensions

People love to clap to the beat when they hear good music. Some people clap on beats “2” and “4”. Some people clap on beats “1”, “2”, “3” and “4”. You could create a clapping game. You could set up index cards with note values and tell your participants to clap that beat value.

You can design an instrument that is used for clapping on beats “2” and “4” and “1”, “2”, “3” and “4”. This can be made with soft and loud objects like plastic spoons, cans, etc.

Real World Connections

Some bands have a drummer, guitarist and bassist. Which musician has the job to keep the beat? Can another musician keep the beat? Is it possible for a song to have multiple beat patterns?

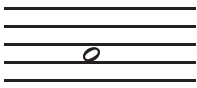
Find a recording of an orchestra, band and choir. Can all three ensembles perform together and keep a steady beat? Who is responsible for keeping the beat? If you started a performance group what instruments would you have and why?

Note Values

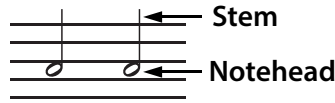
Two HALF NOTES equal the duration of one whole note.

Four QUARTER NOTES equal the duration of one whole note.

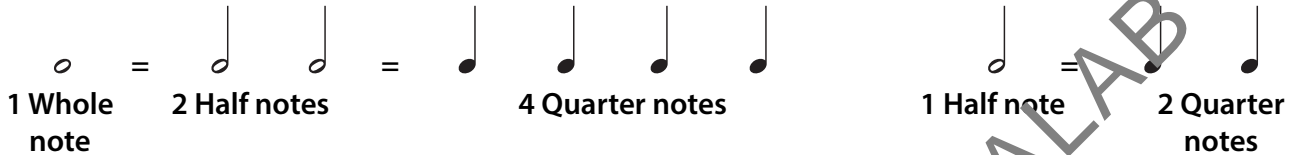
Whole Note



Half Notes



Quarter Notes



Stems extend downward on the left side when the note appears on or above the 3rd line of the staff.

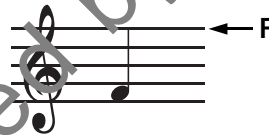


Stems extend upward on the right side when the note appears below the 3rd line of the staff.

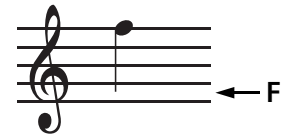


The stem length should continue to the space or line with the same letter name, above or below.

Stem extends to F above.



Stem extends to F below.



Exercises

1 Fill in the blanks with the correct number:

a. 4 =

b. 2 =

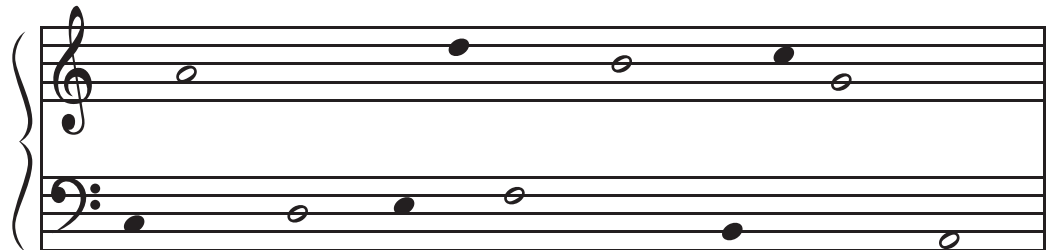
c. 4 =

d. 4 =

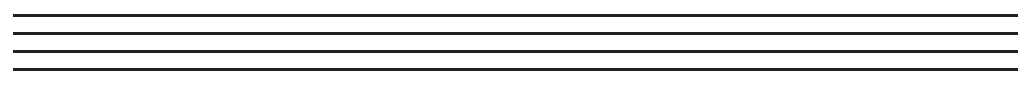
e. 4 =

f. 2 =

2 Draw the stems in the correct direction with the correct length. Write the names of the notes between the staff.



3 Draw the treble clef and write the indicated notes. Use only notes within the staff.



C whole A quarter E half F whole B quarter D quarter G half