

HANDBOOK



STRING INSTRUMENTS

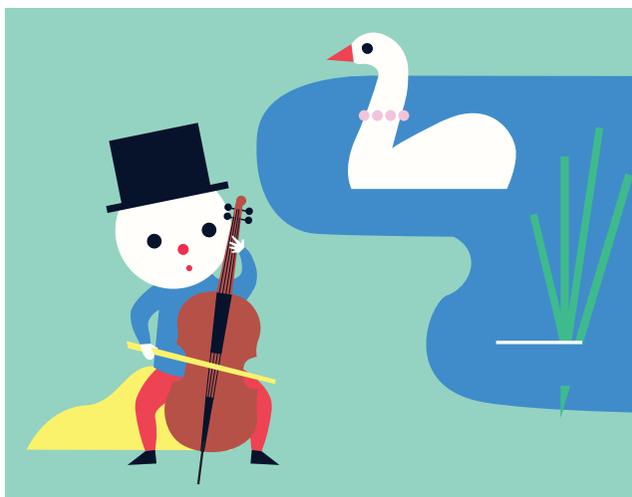
The **violin** has a beautifully shaped body made of wood and strung with four strings. The bow is held in the right hand. Drawing the bow over the strings creates the sounds.

The violin produces bright, high tones.



The **cello** has a similar shape, but it is much larger than the violin. You sit to play it, placing it between your legs. The cello has a deep, warm, sound.

The left hand presses the strings along the neck of the cello. You can make higher or lower sounds by pressing down on the string along the neck of the cello. Pressing closer to the body of the cello shortens the part of the string that vibrates and makes a higher sound; farther away makes a lower sound.



The **double bass** is the largest musical instrument in the string family. You must stand or sit on a stool to play it. The double bass produces really deep, dark, and droning sounds.

You can also play it without the bow and pluck the strings with your right hand. This is called pizzicato.



The **bow** is strung with approximately 200 strands of horse hair. Horse hair is long, rough, and firm. It works best for stroking over the strings to make them vibrate.

The “Carnival of the Animals” was composed in 1886 by French composer **Camille Saint-Saëns**. The music represents several animals in this work. Most of the pieces are very funny. In the app you can hear the swan, the elephant, the donkey (for us a monkey!), and the fish from Camille Saint-Saëns’ fantastic zoo.

WIND INSTRUMENTS

The **flute**, also called the transverse flute, is held across the mouth with both hands. In order to produce sound, you must blow air exactly across the edge of the hole so that half of the air goes into the flute while the other half flows over it.

The flute is usually made of silver. It has a beautifully bright and brilliant sound.



Pyotr Ilyich Tchaikovsky is one of the most beloved Russian composers. He lived from 1840 to 1893. Among other works, he is known for his Piano Concerto No. 1 and his ballets “Swan Lake,” “Sleeping Beauty,” and “The Nutcracker.” The piece you hear here is from “The Nutcracker.” Three flutes are playing in the foreground of an entire orchestra—a beautiful melody, isn’t it?

The body of the **clarinet** is made of a long hardwood tube with metal valves. Like the flute, the holes in the clarinet are not covered with your fingers. When you play, they are covered by the valve flaps, which are connected to each other in a complicated fashion.

The clarinet sounds soft and warm.



Nikolai Rimsky-Korsakov was another Russian composer. This beautiful melody for the clarinet comes from his pen, from his work “Scheherazade.” Maybe you already know about clever Princess Scheherazade, who told the sultan a story every night to escape her death.

The **trumpet** is made from one long, narrow, cylindrical tube formed in a loop. The sound travels through a long horn, which makes it bright and radiant.

The trumpet has three valves used to play different notes. These are pressed with the fingers of the right hand while you blow firmly (with pursed lips!) into the mouthpiece.



French composer **Marc-Antoine Charpentier** composed this music showing the trumpet’s high notes over 300 years ago. It is the first measures of his work “Te Deum.”

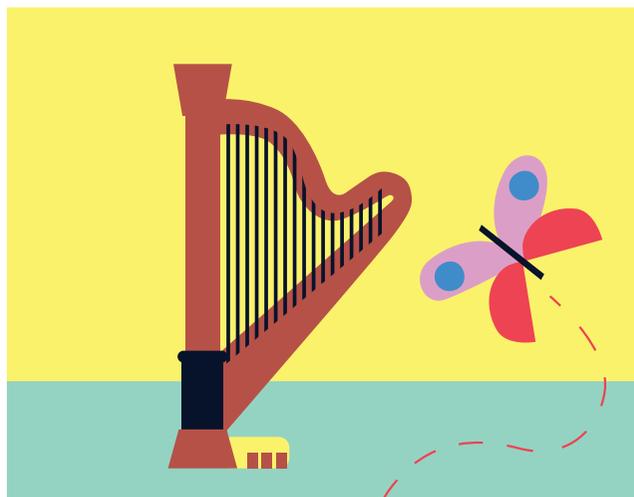
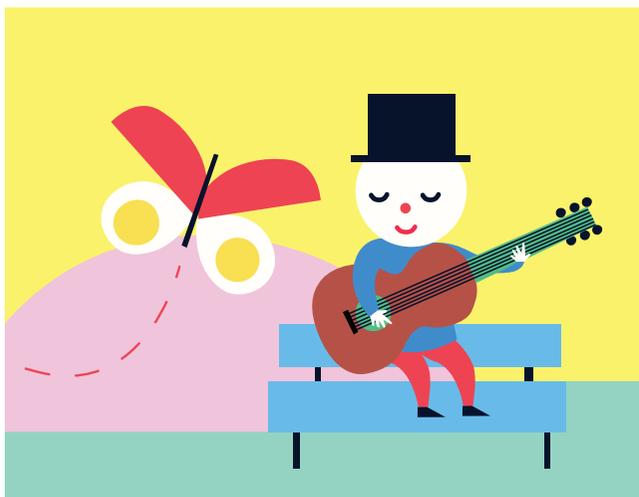
PLUCKED INSTRUMENTS

The **guitar** has six strings. Unlike the string instruments, they are not played with a bow, but instead plucked or strummed with the fingers. When plucking, you play the notes one at a time and each finger plucks one or two strings. When strumming, you move your hand up and down in rhythm so that several or all of the strings are struck at once.

The pitch of the tones is changed with the left hand. You make lower tones with longer vibrating strings, higher by pressing down on the string closer to the body of the guitar.

Have you discovered the **harp** yet? Any time you press something that moves in the app (for instance, an animal), you hear the sound of the harp.

The harp is a very large musical instrument. It has a decorated triangular wood frame and 47 strings. Harpists pluck these strings up and down very quickly. The harp also has seven foot pedals for changing the pitch.

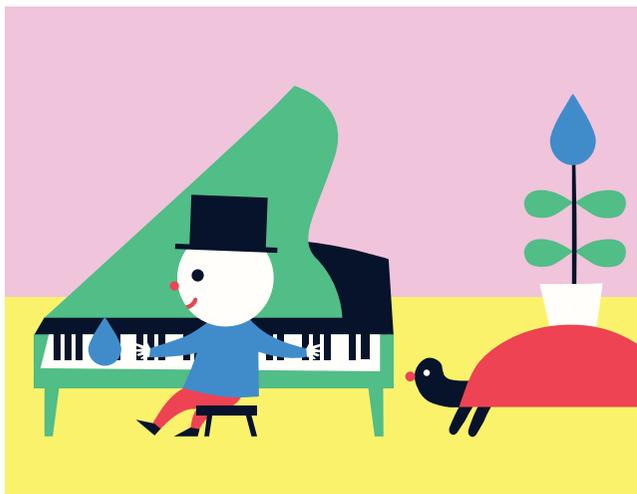


Francisco de Tárrega (1852-1909) was a Spanish guitar player and composer. This little work by him is called “The Butterfly.” Can you hear the colorful and fragile wings of the butterfly in the delicate sounds of the guitar?

PIANO

More than 200 strings hide in the large sound box of the **piano**. When a key is pressed, a small hammer strikes the string, creating the sound. It sounds simple, but the mechanics in the piano are very complex.

The piano has a wide keyboard with white and black keys, usually 88. The white keys are long and lined up next to each other. The black keys are shorter and form small groups called twins (2 keys) and triplets (3 keys). The note “C” is always immediately to the left of the first of each twin group.



Franz Liszt (1811-1886) was from Hungary and was one of the greatest piano virtuosos of all time. But in the middle of his life he turned to composing and conducting. Here you can hear the beginning of his étude for piano known as “La Campanella.”

Here we’ll play from three works of major composers who were also great piano virtuosos themselves. (By the way, a great musician is also known as a virtuoso.)

Frédéric Chopin (1810-1849) was a Polish pianist and composer. Chopin lived in Paris for most of his short life. He composed many works for his favorite instrument, the piano. Here you can hear his Waltz Opus 54, No. 1, also known as the “Minute Waltz”.

Wolfgang Amadeus Mozart (1756-1791) is probably the most famous composer of all time. He was from Austria. Unfortunately, Mozart did not live very long, but still he composed a huge number of important works which people still enjoy hearing today. Here is the “Turkish March” (Rondo alla turca) from his Piano Sonata No. 11.

Robert Schumann (1810-1856) also wanted to be a piano virtuoso, but that didn’t quite work out, so he devoted himself entirely to composing. By the way, he was married to the great pianist Clara Schumann (née Wieck). Robert Schumann composed many works for piano. His “Album for the Young” is devoted entirely to younger piano players. From it comes this piece, “The Merry Peasant Returning From Work,” also known as “The Happy Farmer.”

PIPE ORGAN

There is one more musical instrument in the app, which is played with a keyboard and is even larger than the piano. Have you discovered it yet? The **pipe organ** is the largest musical instrument. You will usually find it in a church or a special concert hall.

The sounds of the pipe organ are made by the pipes and there can be several thousand pipes in a large one. It is not easy to play. The organist plays on several keyboards, and there is even a keyboard played with the feet, known as the “pedal”.

You can hear the heavenly sounds of the pipe organ by pressing the star in the landscape on the app.

Johann Sebastian Bach (1685-1750) was, among other things, an organ virtuoso. Today he is also known as one of the greatest composers of all time. Particularly famous are his six Brandenburg Concertos, his suites for cello, his preludes and fugues, and the “Goldberg Variations” for piano.

In addition to his “secular” music, Bach loved composing music for the church. While cantor at the Thomaskirche in Leipzig, Germany, he composed his masterworks of sacred music: the “St. John Passion,” the “Mass in B Minor,” the “Christmas Oratorio”.

And, of course, many organ sonatas. Through the app’s starry sky, you can hear the slow movement from Sonata No. 2.



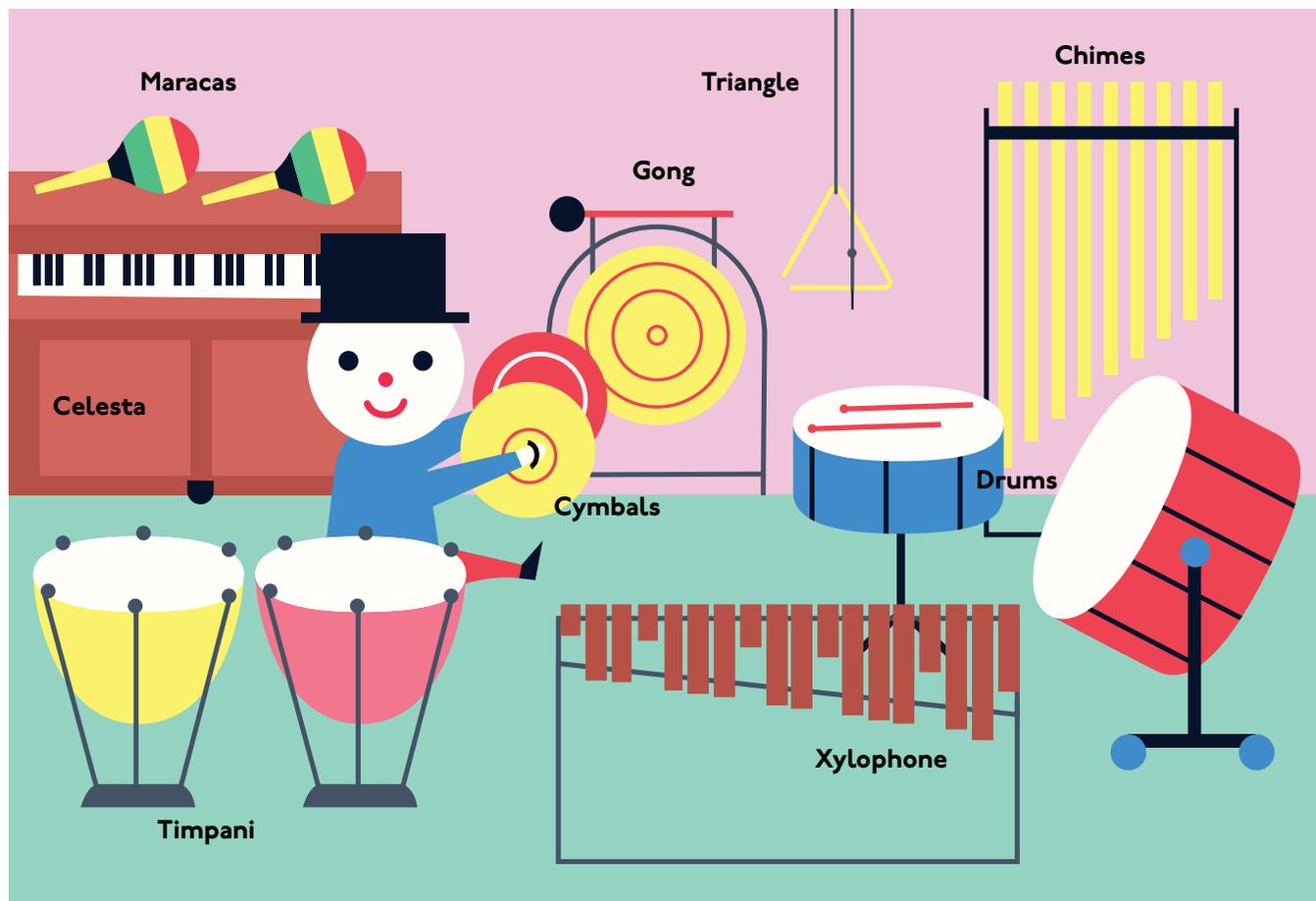
PERCUSSION INSTRUMENTS

Percussion instruments can sound so colorful and varied. Some of them make sounds and others actually produce true tones. Have you discovered that yet? You can try it for yourself in the app.

What is the difference? A tone can be sung or played on the corresponding piano key. So the xylophone, the celeste, or the large chimes produce different tones. The timpani also produces tones.

Try it once in the app. You'll see that it has two different ones.

The rattles, cymbals, and drums, however, make sounds.



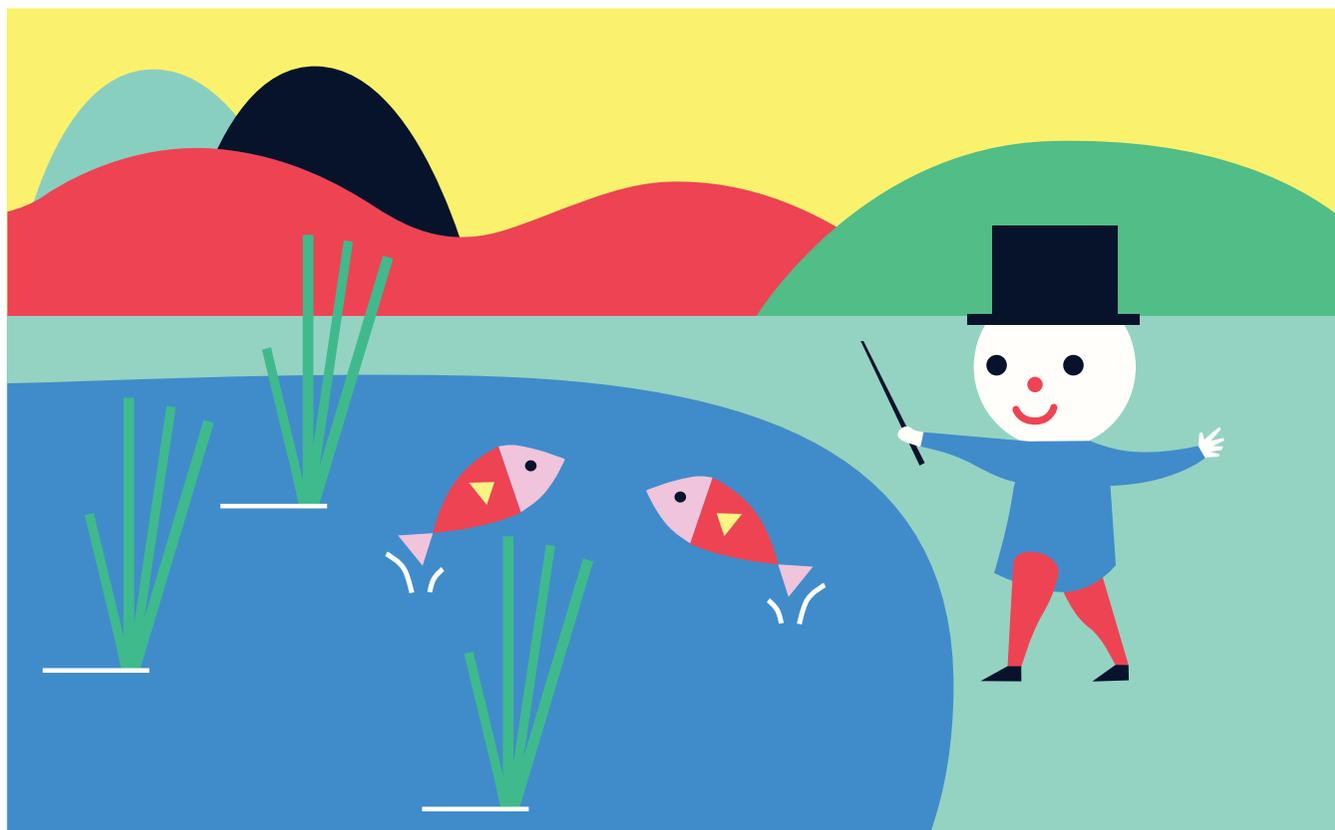
CONDUCTOR

When several musicians play together, we call that an **orchestra**.

For them all to play together well, you need a **conductor**, who leads the orchestra.

The conductor stands in the front, right in the middle, so that all the musicians can see him properly. He cues them using body language: with different hand movements, with his eyes, facial expressions, and movements with his whole body.

He usually holds a **baton** in his right hand. He uses this to signal entrances, set the tempo (pace), changes of tempo, and also the time signature.



VOICE

Our body is also a musical instrument, because we can sing.
How, though, does this extraordinary musical instrument, our **voice**, function?

Inside your neck are two small vocal cords. When we exhale, the air coming out of our lungs causes these vocal cords to vibrate as it goes by. These vibrations become stronger in your resonating space (mainly your mouth), creating your voice. This lets us talk with each other and sing beautiful songs



Several people sing together in a **choir or chorus**. Like an orchestra, a **choir director** or **chorus director** is needed to keep everyone together. You will find the following vocal ranges:

- High female range - called Soprano
- Low female range - called Alto
- High male range - called Tenor
- Low male range - called Bass

TREBLE CLEF AND BASS CLEF

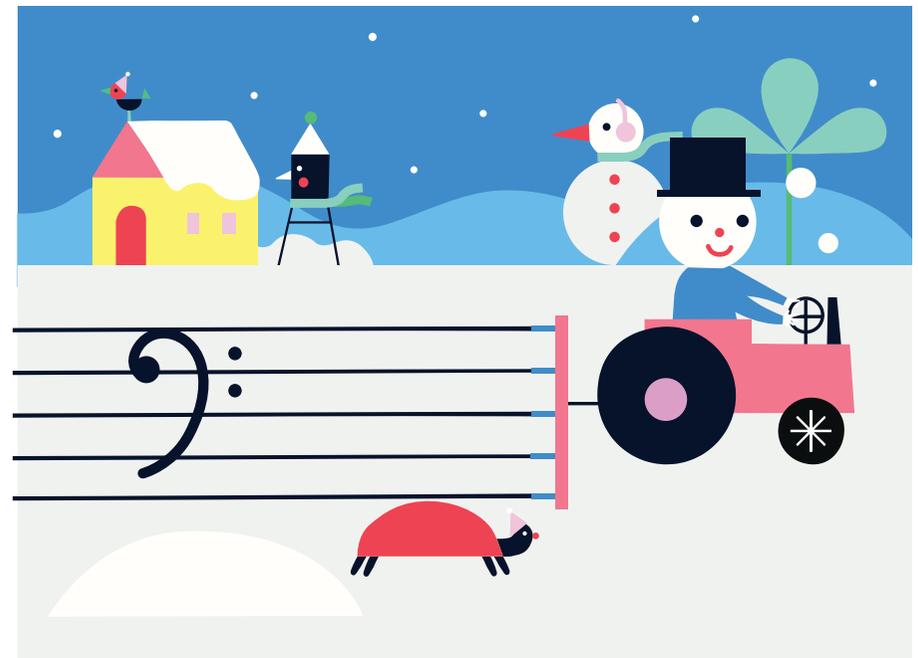
Music is written using **staves**, made of 5 lines and 4 spaces. Lower notes are closer to the bottom, with higher notes towards the top. A clef symbol comes first on the extreme left.

This sweeping thing is a **treble clef**. It encompasses the second line from the bottom, the G note. High notes are presented using the treble clef, so it is used to write music for instruments like the violin, trumpet and flute.



Italian composer **Luigi Boccherini** lived from 1743 to 1805 and was himself a brilliant cello player. This elegant minuet is from his famous String Quartet in E-flat Major Opus II. You can hear the high tones of a violin in the foreground.

This is a **bass clef**. The bass clef encompasses the fourth line from the bottom, the F note. The bass clef is used to present deeper tones. It is used for music for cello or double bass.



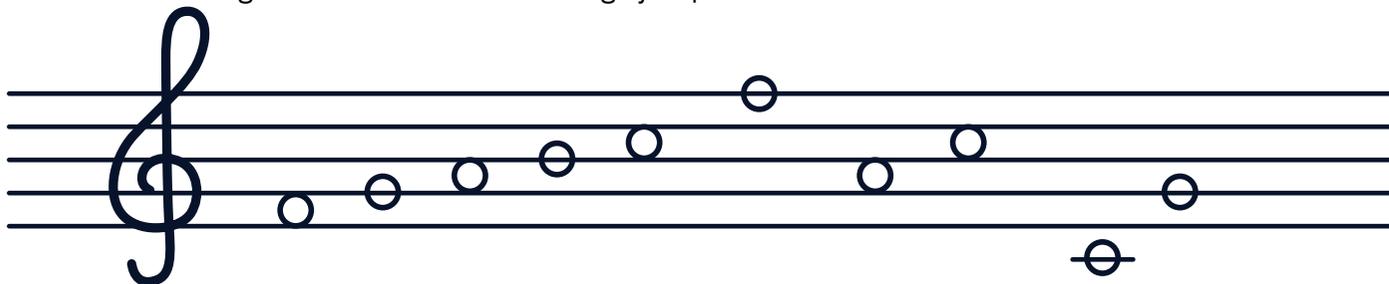
This Rondo Opus 94 for Cello and Piano comes from the pen of Czech composer **Antonín Dvorák** (1841-1904). Dvorák is most famous for his Symphony No. 9, "From the New World", which he composed while visiting the United States. Do you have any idea why he chose this title?

NOTES

We use small beads, called **Notes**, to write music. Each sound you sing or play on a musical instrument has its own **Note** on the score or sheet music, which is where all of the notes of a piece are written.

The notes move along the staff in small steps, either on the lines or between the lines.

Sometimes, though, the notes also make large jumps:

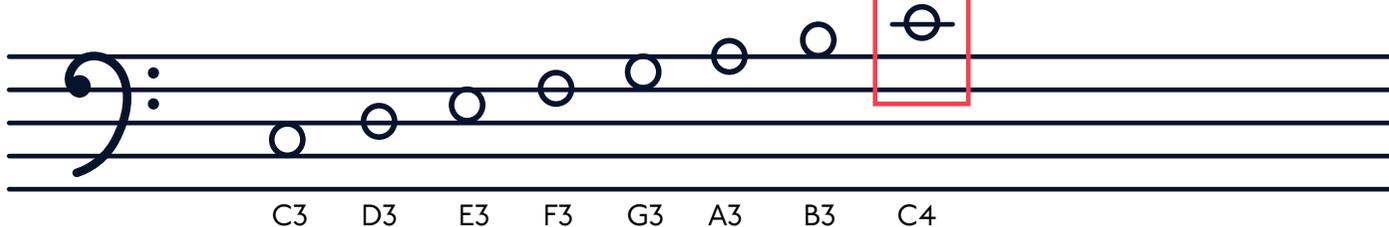


These small beads also have names! There are seven, which are easy to remember: C - D - E - F - G - A - B.

The high notes are written in the treble clef:



And the low notes in bass clef:



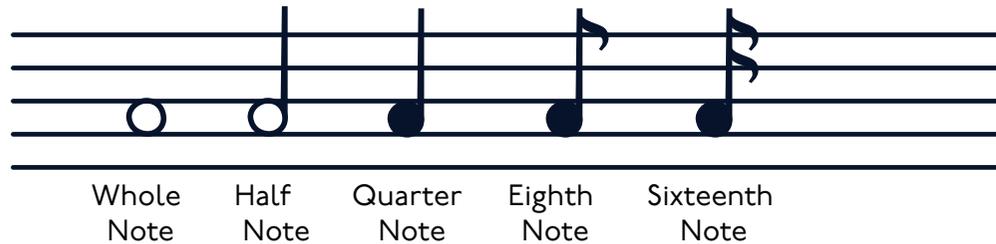
C3 D3 E3 F3 G3 A3 B3 C4

C4 D4 E4 F4 G4 A4 B4 C5

NOTE VALUES

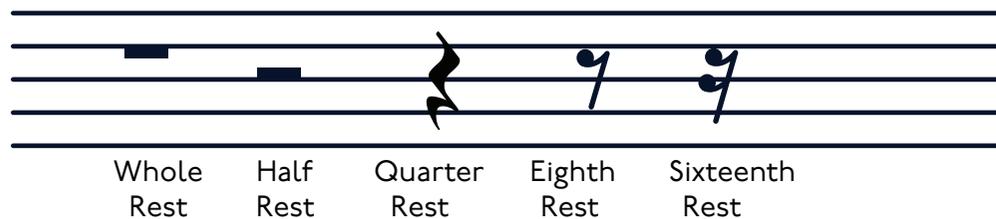
Notes can also be longer or shorter. You can see this in their colors and patterns. Some notes are solid others are hollow. Some have a shaft and one or more flags.

Here are the **note values** in order from very long to very short:



Sometimes there's a moment in the music where you shouldn't hear anything. This silence is also music—just a silent part, a so-called **rest**.

Rests can also have different lengths, just like notes. This is how we write the rests on the staff lines:



Listen to this piano piece from “Forest Scenes”, Opus 82, by **Robert Schumann**. A short rest (a quarter rest) occurs every so often. This is the deer coming out of the woods for a short time; which is how you can recognize the rests.