

Beginners Guide to Gregorian Chant Square Notation

A free starter handbook from Gregorian Chant Academy

“Let the text sing.”

This guide gives you the essentials of square notation and a gentle, practical on-ramp to singing real chant—today. Keep it handy while you practice.

Preface

Before we dive into Gregorian Chant's unique notation, it is important to first realize and remember that musical notation is a *visual* representation - and very limited at that - of the music which actually exists in the realm of *sound*. The music exists first, the notation comes second.

Another thing we can note about Gregorian Chant specifically is its language. It is almost entirely in Latin with some instances of Greek (e.g. Kyrie eleison) and Hebrew (e.g. Hosanna, Amen).

Then of course there is the textual contents of the chant. The vast majority of its text, by far, are from Scripture (a small minority are pious compositions by various religious or bishops) and the vast majority of those are from the book of Psalms.

This means the chant is first and foremost prayer, and therefore is sacred, i.e. set apart from worldly music for the dual purpose of giving glory and adoration to God and the edification and sanctification of the faithful who hear and sing it. The text came first, and the music was composed in order to elevate the text; to say something beyond what mere words can say, like a little musical sermon/exposition on the text. It was, is and always will be primarily intended for the worship of God in the holy liturgies.

With that, let us now begin to take a look at some of the musical elements, beginning, of course, with the sounds which exist before notation: the scale.

The Scale

Gregorian Chant is built upon the **diatonic scale** — the natural sequence of tones and semitones (aka whole steps and half steps) that form the foundation of Western music. An octave in the diatonic scale has a total of 8 degrees/steps and hence the name octave (*octa* meaning 8).

1. The Structure

The diatonic scale contains seven different pitches before repeating at the octave:

Do – Re – Mi – Fa – Sol – La – Ti – (Do)

Sing it!

The distance between any two notes is called an interval and since the diatonic scale has 8 degrees/steps, that means there are 7 intervals in a complete octave. The size of the intervals between adjacent degrees are: 5 whole steps and 2 half steps (one whole step = two half steps). The two half steps are located from:

- **Mi → Fa** (the first semitone; sing it)
- **Ti → Do** (the second semitone; sing it)

All other intervals are whole steps. Learning to *hear and feel* these two half steps is one of the most important skills in chant reading.

So, in this arrangement of the diatonic scale, the intervals of the scale are arranged as follows:

whole step (do-re), whole step (re-mi), half step (mi-fa),

whole step (fa-sol),

whole step (sol-la), whole step (la-ti), half step (ti-do).

2. The Diatonic Framework in Chant

Gregorian chant melodies typically stay within a **limited range** (about one octave) and draw from the **diatonic scale** to form the **eight modes** of chant.

In the scale you just sang above, the pattern begins and ends on **Do**, forming the familiar modern “Do-Re-Mi” framework. But in chant, the scale is not organized around Do — unless a piece happens to be transposed (something we can ignore for now).

Instead, chant melodies are **mode-based**, meaning the diatonic scale begins and ends on one of **four degrees: Re, Mi, Fa, or Sol**. Each mode uses the same seven-note diatonic structure, but because it begins on a different degree, where half-steps occur in the sequence of intervals changes, giving each mode a unique color and emotional character.

For example:

- In **Mode I**, the scale runs from **Re to Re**.
Try singing it aloud: Re, mi, fa, sol, la, ti, do, re
- Note that the half step is not the 3rd interval in the sequence like we had when singing from Do-Do. Now it is the second interval in the sequence.
Re-Mi (whole step)
Mi-Fa (half step)
Fa-Sol (whole step)
Sol-La (whole step)
La-Ti (whole step)
Ti-Do (half step)
Do-Re (whole step)

The resulting pattern feels both solemn and noble — perfectly suited to the meditative quality of Mode I chants.

3. Why the Diatonic Scale Matters

Understanding the diatonic structure helps you instantly recognize where the two half steps of the chant scale occur. Once you can locate them, you know what and where all the other intervals are.

So far we have been singing notes without any notation, just like everyone did before musical notation was invented in the 9th century A.D. But what if we want a visual representation of the musical scale? How might we do that?

The Staff

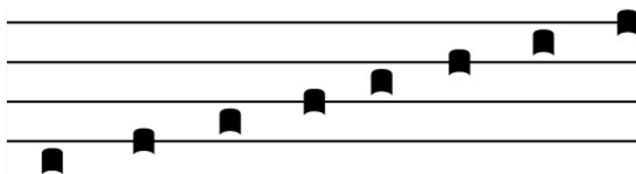
1) What You're Looking At: the 4-line staff



In the 11th century, a famous Benedictine monk and musical theoretician named Guido d'Arezzo developed the four lined staff. Four lines, three spaces. Gregorian notation uses a 4-line staff (as opposed to the 5-line staff most common today) because most chant melodies fit a modest range and 4 lines is capable of displaying a full octave + one.

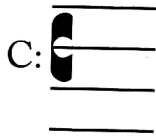
The lines of the staff are numbered from bottom to top: bottom = line 1, top = line 4. The 3 spaces between the lines are likewise numbered from bottom to top. The spaces below and above the staff are referred to as “in campo aperto” or “in open field”.

But if we simply place individual square notes on the staff, one for each line and space, how do we know where the half steps and whole steps are? Where is Do?



Two clefs *unlock* the scale for us (the word *clef* means *key*):

- C-clef (aka Do clef) and
- F-clef (aka Fa clef).



Either clef may be used, but in contemporary chant books only one will be used at any given time, never both at the same time.

If the C/Do clef is used, whichever line the clef surrounds marks Do.

Likewise, if the F/Fa clef is used, whichever line it surrounds marks F/Fa. or Fa.

For example, in the above image, the C/Do clef is placed on the 3rd line. This tells us that C/Do is on the third line which means that A/LA is on the 2nd line and F/Fa is on the 1st/bottom line. Likewise, D/Re would be in the top, 3rd space, B/Ti would be in the 2nd, middle space, and G/Sol would be in the 1st, bottom space.

Clefs can be placed on any line to suit a melody's range—learn to spot them quickly.

NOTE: in chant, when we say that a particular note is C, or A, etc this does NOT mean it is the pitch of C or A. It is merely nomenclature to identify the various degrees of the diatonic scale. You can use letters (C, D, E, etc), numbers (1, 2, 3, etc) or traditional syllables (Do, Re, Mi, etc). In chant, each system is merely intended to identify certain degrees of the diatonic scale and therefore it is about the relationship of intervals, NOT pitches.

Tip: Whenever you see a Fa-clef (F) or a Do-clef (C) on the staff, your eye and ear should immediately start to look for the *mi-fa* and *ti-do* moments. These half-steps give the melody its gravity and direction.

Exercise (1 min):

- 1) Draw a 4-line staff. Place a C/Do-clef on line 4. Write the solfa syllables (Do, Re, Mi, etc) downward on the staff for a complete octave.
- 2) Circle Mi-Fa and Ti-Do wherever they occur.

Neumes

The building blocks

What is a neume? To put it simply, a neume is any and all notes sung on a single syllable. If a syllable has only one note, that is a neume. If a syllable has 60 notes, that is a neume. But in practice, or colloquial terms, we also refer to certain note groupings as neumes. Below is a list of some of the most common neumes, their names and meanings.

Single Note shapes

 **Punctum** = one square note. The duration is reflective of the duration of the syllable to which it is sung. It can never be subdivided into smaller durations (in modern music a half note can be divided into two quarter notes, which can be divided into 8th notes, etc) but can only be multiplied.



— **Virga** = a punctum with a stem; same duration value, often used when the pitch is higher than neighboring notes.

Common two- and three-note shapes:



— **Podatus** (aka Pes): low-to-high (stacked). Whenever you see this, you sing the bottom note first, then the upper note. These notes can span any interval, not just adjacent degrees like is show here. The same goes for the rest of the note groups.



—— **Clivis:** high-to-low.



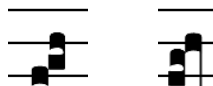
—— **Torculus:** low-high-low.



—— **Porrectus:** high-low-high. The first note is the top left point, the second note is the bottom right point and the third note is the square. The sloping figure does not mean anything. It is merely the result of drawing with a square nibbed pen back in the 12th-13th century.



—— **Climacus:** high-lower-lower (virga + descending diamonds). The diamond shaped notes don't necessarily mean anything either. This, again, is the result of turning the square nibbed pen 45 degrees and drawing downward.



OR —— **Scandicus:** low-high-higher.

NOTE: in the above examples of the neume shapes, we don't see any clefs. Without the presence of any clefs, we don't know which intervals to sing these notes with. If, however, we assume that the C/Do clef is on the top line, then FA would be the 2nd line, G/Sol would be the middle space, and A/La would be the 3rd line and each adjacent interval would be a whole step.

Exercise (2 min):

Copy each neume shape 5x. Then sing them on “Ah” from a comfortable starting pitch.

Bar Lines

The last elements of notation we will look at in this quick beginner's guide are the bar lines. There are 4 different bar lines in chant and they are as follows:



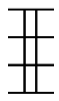
— **Quarter bar:** crosses only one of four lines, and always the top line. This marks a small division in the text or music or both... similar to that of a comma in text. Group breaths should almost never be taken here. Breathing should be staggered so that there is never any group breath at a quarter bar.



— **Half Bar:** crosses only two of four lines, and always the middle two. This marks a slightly larger division in the text or music or both... similar to that of a semi-colon in text. A group breath may or should not be taken at a half bar. It depends on the context.



— **Full Bar:** crosses all four lines. This marks the end of a phrase and should always be accompanied by a group breath.



— **Double Bar:** two adjacent full bar lines. This marks either the end of a chant or the end of a sentence in a congregational chant, such as the Gloria in excelsis or Credo in Deum. In the case of a congregational chant, the double bar indicates an alternation in singers. Typically this is done by: choir only, congregation + choir, choir only, congregation + choir, etc.

Rhythm

Free but not formless

Chant rhythm is inspired by and largely governed by the rhythm of the text. Think “solemn speech made song.”

There’s no time signature; notes don’t subdivide into eighths or sixteenths. Instead, some notes may lengthen by context.

To give a simple, short explanation, the accented syllables of words are shorter, light and energetic while the final syllables of words are longer and more restful. This creates a beautiful rise and fall, energy and relaxation, like the waves of the sea rolling into the shore and back out again. Or a feather being blown into the air and gently falling back down again.

Note: In Latin, *final* syllables are *never* accented. Therefore, in two syllable words – such as Deus or tuum – you won’t see any accent marks, because if the final syllable can’t be accented, then that leaves only one other option: the first syllable. For words with three or more syllables, the rules for knowing where the accent goes (on the penultimate or prepenultimate syllable) are very complicated. That is why most modern Latin texts print accent marks.

Exercise (10 min): Speak the text of the Marian antiphon *Sub tuum praesidium* but in English. Below is the translation. First speak the text as you normally would in prayer. Then speak it again, but on a single pitch (reciting tone).

Feel the natural rhythm and flow. Notice how not all syllables or words have the same weight and importance. Some are shorter and lighter, while others are longer and more weighty. Some syllables are lengthened without taking a breath, while others are lengthened followed by a breath.

English translation:

We fly to thy protection, O Holy Mother of God; Do not despise our petitions in our necessities, but deliver us always from all dangers, O Glorious and Blessed Virgin.

Now try speaking the Latin text, making sure to give some light energy to the accented syllables and some restfulness to the final syllables.

Latin Text:

Sub tuum praesídium confúgimus, Sancta Dei Génatrix. Nostras deprecationes ne despicias in necessitatibus, sed a perículis cunctis libera nos semper, Virgo gloriósa et benedícta.

Next, speak the Latin text again but on a single pitch (reciting tone), making sure to observe proper accentuation.

For this next step, it is best if you are standing with your arms stretched out in front of you. Take extra notice of the accented syllables.

Recite the Latin text again on a single pitch, but this time sing the accented syllables a half step (or whole step) higher than the reciting tone. Each time you sing an accented syllable, gently lift your hands (and maybe lift up onto your toes as well) and come back down on the final syllables. Then lift again on the next accented syllable and come back down on the final syllable. You may have to start more slowly when first trying this out, but eventually try to get back to the pace/tempo you had when reciting the English translation.

Sub Tuum Praesidium

By the end of this beginners guide, you should be able to confidently sing the Marian chant *Sub Tuum Praesidium*.

Ant
7 a

S UB tu- um præ-sí-di- um confú-gimus, * sancta De- i Gé-ni-
under thy protection do we fly, o holy Mother of God;

trix: nostras depre-ca-ti- ónes ne despí- ci- as in ne-cessi-tá-tibus:
our petitions do not despise in our necessities:

sed a pe-rí-cu-lis cunctis lí-be-ra nos semper, Virgo glo-ri- ó-
but from all dangers deliver us always, Virgin glorious

sa et be- ne- dicta.
and blessed.

Spend 5-10 minutes per step; repeat as needed.

Step 1 — Listen to recording: <https://www.youtube.com/watch?v=7ocxjiRFZOU>

Listen to the chant multiple times. Take note of which syllables/notes are noticeably lengthened.

Step 2 — Text understanding

Read over and speak English the translation and pray the text; Practice speaking the Latin text until you are very comfortable with it, making sure to give it proper accentuation. Underline accented syllables. The bar lines help mark the various sense units. Listen to the chant some more and try singing along if you can.

Step 3 – Determine the arrangement of the scale

Notice which clef is used and which line it is on. From here, determine where the rest of the degrees of the scale are located. Take special note of where the half steps (mi-fa & ti-do) are located.

Step 4 – Solfège pass (slow → natural)

First, try singing the chant in solfege (aka sol-fa). You may find that the starting pitch in the recording is too high or low for you. If so, try starting on a slightly higher or lower pitch to find one that is comfortable for your voice. Additionally, it may be more advantageous to start at the end and work your way backward to the beginning.

Step 5 – Sing with text

Now that you are comfortable with speaking the text and are comfortable singing all the notes with solfege, it's time to add in the actual Latin words. If you feel it helpful, try singing the melody using only the vowels of the text without the consonants, then later add in the consonants. I suggest recording yourself the first time you sing it with the text. This can help you know how you are doing, where and what you need to work on and also serve as a reference point later on when tracking your progress.

Step 6 – Shaping

Notice how the melodic line begins low on *Sub* and moves upward, reaching a climax on *confúgimus*. Each accented syllable should have a slight crescendo/energetic lift, but this should also be subordinated to the overall melodic line. Try giving an overarching crescendo, building up to the accented syllable on *confúgimus* and then giving a slight feeling of rest on its final syllable of *mus*. From here, the melodic line continues to descend until it comes to rest on the final syllable of *Genitrix*. Try giving this line an overarching decrescendo while maintaining slight/gentle energetic lifts on the accented syllables. Apply this same principle to the rest of the text.

Step 7 – Phrasing & breath plan

Breathe only at the full bars and half bars. At quarter bars, the note immediately preceding the quarter bar will usually be slightly lengthened, but be sure to keep

the line moving. Don't stall and let the energy fall. Circle your planned breath points.

Step 8 - Record again and improve

After having worked through steps 5-7, record yourself again and watch/listen back. How are you doing? Any improvements? Still struggling in the same area, or in new ones? Be patient and kind with yourself. Simply take note of what you need to work on, and work on one thing at a time. Continue practicing to sing (and pray) this chant many times. Practice makes perfect and struggles can be prayers too. 😊

Step 9 — Reduce dependency

At this point, you should be gaining a good amount of familiarity with the entirety of this chant. Start practicing singing the chant without looking at the sheet music. Take one phrase or phrase member at a time and try singing it without the sheet music. Try singing along with the recording if the pitch is comfortable for you.

Step 10 - Sing from the heart

Now sing the entire antiphon by memory, eyes closed if possible. Record once; listen back. Note a single improvement for tomorrow. As you continue singing from memory, it will begin to transform from “memory” to singing “by heart”. And this is where you can truly pray the chant, with both your mind and heart fully engaged in the prayer.

Core Practice Protocol (10–15 minutes)

Use this loop every time you learn a new chant.

- 1) Pray the text first (translation + meaning). Underline accents; mark sense-phrases.
- 2) Practice speaking the Latin text until you are comfortable with it.
- 3) Note which clef is being used and which line it is on. Write a tiny solfège ladder at the margin. For example, if the **Do clef** is on the **top line**, write Do next to the clef, Ti underneath it, then La (in line with the 3rd line), then Sol, then Fa (in line with the 2nd line), etc.
- 4) Spot half-steps (mi-fa, ti-do).
- 5) Solfège pass: slowly sing through the chant using solfa, then with the text.
- 6) Phrase shaping: breathe at full bars; not at quarter bars. Generally speaking, as a melody ascends, give a proportionate crescendo (get louder, more energetic); as a melody descends, give a proportionate decrescendo (get quieter, more restful).

7) Record & reflect: make a phone recording of yourself, watch/listen back, fix one thing, sing again. Only try working on one thing at a time.

Vocal tips

Warm-up (10s): gentle hum on a comfortable pitch; relax your jaw and tongue; while keeping your lips together, make the space inside your mouth a little tall (like you have a donut ball in your mouth). You should feel a slight buzz at your lips. Do this again at a slightly higher pitch for another 10 secs. Repeat a third time at another slightly higher pitch.

Warm-up (60 secs): With your mouth open, jaw, tongue and neck relaxed, make a gentle, happy sigh, like you are very satisfied with something. The voice should glide downward as you do this. Repeat again, starting at a slightly higher pitch. Repeat a third time, again at a slightly higher pitch. Make sure that each time you do this, you are maintaining that relaxed, easy feeling of a sigh. Let go of any tension or squeezing.

Starting Pitch: Before beginning any chant, first decide which pitch you'll start on. With that note in mind, take a gentle "happy sigh" *starting* on that pitch — not breathy, but with a clear, resonant tone. Repeat this sigh **three times**. On the **fourth sigh**, begin as if to glide down again — but instead, simply start singing the chant. If you're struggling with a high note, sigh your way *up* to that pitch instead. Hold that sigh on the high note a few times, resting as needed, until it feels easy and relaxed. Then, on your next attempt, replace the sigh with actual singing and continue from there.

Continuing Your Journey in Gregorian Chant

You've just taken your first steps into the sacred world of Gregorian Chant — the sung prayer of the Church.

I'd love to hear your thoughts on this Beginner's Guide.

Your feedback helps us improve our resources and make Gregorian Chant easier and more enjoyable to learn for everyone.

If you have a few minutes, please click [HERE](#) to share your feedback — it truly makes a difference.

If you'd like to keep growing, I've created several gentle next steps to help you continue with clarity and peace:

→ **The Cantor's Cloister (Community)**

A warm, prayerful community of Catholics learning chant together — with monthly formation sessions, Q&As, and shared encouragement.

It's the perfect place to stay inspired and supported on your journey. For more info, click [HERE](#).

→ **Square Notation & Chant History Mini Course**

If you're ready to go a little deeper, this short, self-paced course will help you truly *read* square notation and understand how chant developed through the ages — without overload or confusion. For more info, click [HERE](#).

→ **1-on-1 Chant & Singing Lessons**

For personalized guidance with your voice or chant technique, I offer private lessons online and in person.

Perfect for cantors, schola members, or anyone who wants direct feedback and growth. For more info, click [HERE](#).

→ **Gregorian Chant Master Course**

When you're ready for full formation — from psalmody to propers to modes and semiology — the Master Course offers a complete and structured path for mastery in Gregorian Chant for the liturgy. For more info, click [HERE](#).

Each of these steps was created to help you learn chant in a way that is **faithful, peaceful, and attainable** — never overly academic, never watered down.

Always at the service of the liturgy for the glory of God.

Thank you for letting me be part of your journey.

May your study of chant lead you deeper into prayer.

In Christ,

Christopher Jasper

Gregorian Chant Academy