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*This article is about the block that produces single musical notes.
For the block that plays music discs, see [Jukebox](#).*

A **note block** is a [block](#) that emits sounds when attacked, [used](#) or powered with [redstone](#). The sound produced can be altered in various ways by using it or putting certain blocks directly above or below it. A note block's sound played repeatedly can be used to direct [allays](#) to stay nearby and drop collected items near it.

Note Block



Renewable	Yes
Stackable	Yes (64)
Tool	
Blast resis- tance	0.8
Hardness	0.8
Luminous	No
Transparent	No
Flammable	No
Catches fire from lava	Yes

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Obtaining

Natural generation

Note blocks generate in [ancient cities](#).

Breaking

Note blocks are most quickly broken with an [axe](#).

Block	Note Block
Hardness	0.8
Tool	
Breaking time ^[A]	
Default	1.2
Wooden	0.6
Stone	0.3
Iron	0.2
Diamond	0.15
Netherite	0.15
Golden	0.1

1. Times are for unenchanted tools as wielded by players with no status effects, measured in seconds. For more information, see [Breaking § Speed](#).

Crafting

Ingredients	Crafting recipe
Any Planks + Redstone Dust	

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Note blocks play a musical note when hit (pressing the attack button) or powered by redstone. A note block must have [air](#) in the space directly above it to play a sound. Notes can be heard up to 48 blocks away. The volume of a note block decreases as the player gets further away from it. The volume of note blocks (as well as [jukeboxes](#)) can be independently controlled by the Jukebox/Note Blocks slider in the audio [settings](#).



A note block being triggered and playing a note.

Note blocks play when on or next to a powered block. Each time a note block plays a note, a note [particle](#) may fly out of the top (if pressed too fast, notes may not appear), with the color depending on the pitch (but not the instrument).

There are 16 different instruments and 25 different pitches per instrument. Pressing the [use](#) button on the block increases the note pitch up a [semitone](#), with a total of two full [octaves](#) and a semitone (25 semitones in total) being available for each instrument. The standard range (for harp and pling instruments) of notes span from $F\sharp_3$ to $F\sharp_5$. After reaching the highest note, pressing use again resets the pitch back to $F\sharp_3$, as does breaking the block and picking it back up.

The string bass and didgeridoo are two octaves (24 semitones) lower than the standard range, the guitar is one octave (12 semitones) lower than the standard range, the flute is one octave above the standard range, and the bells, chimes, and xylophone are 2 octaves above the standard range. This gives the player six octaves (72 semitones) of effective range to combine instruments for greater pitch coverage.

The exact pitch can be found from its [use](#)-count by using the following formula: $2^{\lceil (\text{use count} - 12) / 12 \rceil}$.

The exact pitch to use-count assignment is shown below,^{[1][2]} along with the note's color, which is rendered with shading using the particle's texture.

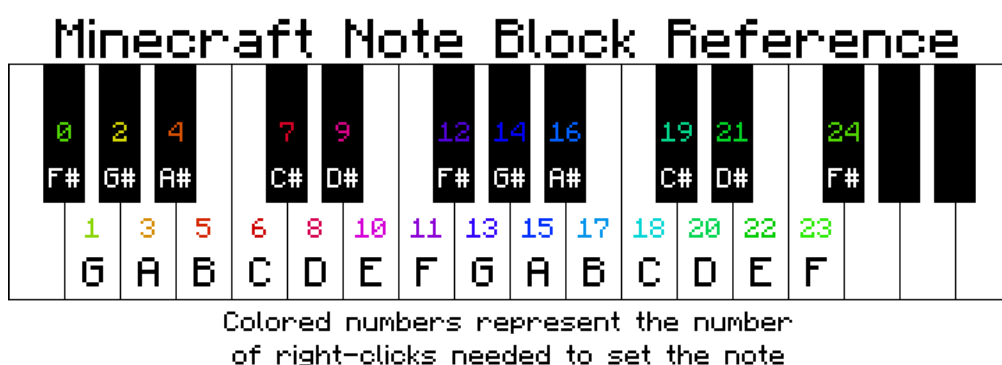
Pitch (Octave 1)	Use Count	Pitch (/ playsound)	Color (hex)	Pitch (Octave 2)	Use Count	Pitch (/ playsound)	Color (hex)
$F\sharp/G\flat$ - Fi/Se	0	0.5	<input type="checkbox"/> #77D700	$F\sharp/G\flat$ - Fi/Se	12	1.0	<input type="checkbox"/> #8600CC
G - Sol	1	$2^{\lceil (-11/12) \rceil} \approx 0.529732$	<input type="checkbox"/> #95C000	G - Sol	13	$2^{\lceil (1/12) \rceil} \approx 1.059463$	<input type="checkbox"/> #5B00E7
$G\sharp/A\flat$ - Si/Le	2	$2^{\lceil (-10/12) \rceil} \approx 0.561231$	<input type="checkbox"/> #B2A500	$G\sharp/A\flat$ - Si/Le	14	$2^{\lceil (2/12) \rceil} \approx 1.122462$	<input type="checkbox"/> #2D00F9
A - La	3	$2^{\lceil (-9/12) \rceil} \approx 0.594604$	<input type="checkbox"/> #CC8600	A - La	15	$2^{\lceil (3/12) \rceil} \approx 1.189207$	<input type="checkbox"/> #020AFE
$A\sharp/B\flat$ - Li/Te	4	$2^{\lceil (-8/12) \rceil} \approx 0.629961$	<input type="checkbox"/> #E26500	$A\sharp/B\flat$ - Li/Te	16	$2^{\lceil (4/12) \rceil} \approx 1.259921$	<input type="checkbox"/> #0037F6
B - Ti	5	$2^{\lceil (-7/12) \rceil} \approx 0.667420$	<input type="checkbox"/> #F34100	B - Ti	17	$2^{\lceil (5/12) \rceil} \approx 1.334840$	<input type="checkbox"/> #0068E0



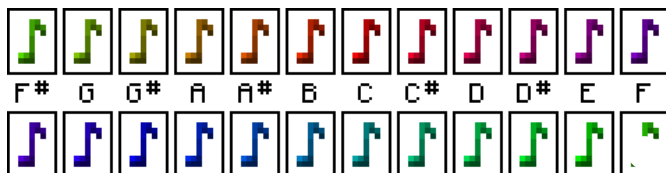
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D - Re	8	0.793701	<input type="checkbox"/> #F0033	D - Re	20	≈ 1.587401	<input type="checkbox"/> #00E958
D#/Eb- Ri/Me	9	$2^{(-3/12)} \approx 0.840896$	<input type="checkbox"/> #E8005A	D#/Eb- Ri/Me	21	$2^{(9/12)} \approx 1.681793$	<input type="checkbox"/> #00FC21
E - Mi	10	$2^{(-2/12)} \approx 0.890899$	<input type="checkbox"/> #CF0083	E - Mi	22	$2^{(10/12)} \approx 1.781797$	<input type="checkbox"/> #1FFC00
F - Fa	11	$2^{(-1/12)} \approx 0.943874$	<input type="checkbox"/> #AE00A9	F - Fa	23	$2^{(11/12)} \approx 1.887749$	<input type="checkbox"/> #59E800
F#/Gb- Fi/Se	12	1.0	<input type="checkbox"/> #8600CC	F#/Gb- Fi/Se	24	2.0	<input type="checkbox"/> #94C100

Alternatively, there is a graphical version available:



Players can roughly check the tuning of a block by looking at the note icon.



In *Java Edition*, the tuning can also be checked by looking at the right side of the [debug screen](#) (accessed by pressing **F3**). It is denoted as "note:" followed by a number from 0 to 24.

Instruments

The instrument played depends on the [material](#) of the block underneath the note block. Note that these are groups of blocks defined by the code, not just the individual block.

Mob heads

When a [mob head](#) is placed on top of a note block, the sound made by the note block will instead be that of the corresponding mob's [ambient](#) sound, with the exception of the creeper head, which instead causes the note block to play the [primed](#) sound.

Block	Instrument	Range	Sound event names (Java)	Sound event names (Bedrock)
Material: Wood	Bass (String Bass)	F ₁ -F ₃	block.note_block.bass	note.bass
Material: Sand, Gravel, Concrete Powder	Snare Drum	–	block.note_block.snare	note.snare



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Obsidian, Quartz, Sandstone, Ores, Bricks, Corals, Respawn Anchor, Bedrock, Concrete, Observer	Bass Drum (Kick)	–	<code>block.note_block.basedrum</code>	<code>note.bd</code>
Block of Gold	Bells (Glockenspiel)	F \sharp ₅ –F \sharp ₇	<code>block.note_block.bell</code>	<code>note.bell</code>
Clay, Honeycomb Block ^[Bedrock Edition only] ^[3] , Infested Block ^[Bedrock Edition only]	Flute	F \sharp ₄ –F \sharp ₆	<code>block.note_block.flute</code>	<code>note.flute</code>
Packed Ice	Chimes	F \sharp ₅ –F \sharp ₇	<code>block.note_block.chime</code>	<code>note.chime</code>
Wool	Guitar	F \sharp ₂ –F \sharp ₄	<code>block.note_block.guitar</code>	<code>note.guitar</code>
Bone Block	Xylophone	F \sharp ₅ –F \sharp ₇	<code>block.note_block.xylophone</code>	<code>note.xylophone</code>
Block of Iron	Iron Xylophone (Vibraphone)	F \sharp ₃ –F \sharp ₅	<code>block.note_block.iron_xylophone</code>	<code>note.iron_xylophone</code>
Soul Sand	Cow Bell	F \sharp ₄ –F \sharp ₆	<code>block.note_block.cow_bell</code>	<code>note.cow_bell</code>
Pumpkin	Didgeridoo	F \sharp ₁ –F \sharp ₃	<code>block.note_block.didgeridoo</code>	<code>note.didgeridoo</code>
Block of Emerald	"Bit" (Square wave)	F \sharp ₃ –F \sharp ₅	<code>block.note_block.bit</code>	<code>note.bit</code>
Hay Bale	Banjo	F \sharp ₃ –F \sharp ₅	<code>block.note_block.banjo</code>	<code>note.banjo</code>
Glowstone	"Pling" (Electric piano)	F \sharp ₃ –F \sharp ₅	<code>block.note_block.pling</code>	<code>note.pling</code>
Skeleton Skull	"Skeleton"	–	<code>block.note_block.imitate.skeleton</code>	<code>note.skeleton</code>
Wither Skeleton Skull	"Wither Skeleton"	–	<code>block.note_block.imitate.wither_skeleton</code>	<code>note.witherskeleton</code>
Player Head	Sound event set in note_block_sound	–	<i>Dependent</i>	<i>Dependent</i>
Zombie Head	"Zombie"	–	<code>block.note_block.imitate.zombie</code>	<code>note.zombie</code>
Creeper Head	"Creeper"	–	<code>block.note_block.imitate.creeper</code>	<code>note.creeper</code>
Piglin Head	"Piglin"	–	<code>block.note_block.imitate.piglin</code>	<code>note.piglin</code>
Dragon Head	"Ender Dragon"	–	<code>block.note_block.imitate.ender_dragon</code>	<code>note.enderdragon</code>
Any other blocks	Harp / piano	F \sharp ₃ –F \sharp ₅	<code>block.note_block.harp</code>	<code>note.harp</code>

Powering note blocks

Note blocks can be powered in a variety of different ways following normal redstone principles; however, some ways of powering note blocks are more convenient than others or produce unexpected results.

- When a note block is powered by a [button](#) on its side, it does play a note, but is often difficult to hear because the sound of the button can overlap the note block.
- Because note blocks need space above them, note blocks powered by pressure plates or redstone directly above them do not make a

A pair of note blocks wired to a [clock circuit](#) to play alternately.



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particular note block, seeking them around and returning them to it instead of its player. After 30 seconds, the allay returns to targeting its player. A [vibration particle](#) emanates from the note block and reaches the allay to indicate the allay has locked on to the note block. Because the allay and the note block interact via a vibration particle, placing [wool](#) between the note block and the allay can prevent this [interaction](#).

Fuel

Note blocks can be used as a [fuel](#) in [furnaces](#), smelting 1.5 items per block.

Sounds

Java Edition:

Sound	Subtitles	Source	Description	Resource location	Translation key	Volume	Pitch	[Collapse] Attenuation distance
	Block broken	Blocks	Once the block has broken	<code>block.wood.break</code>	<code>subtitles.block.generic.break</code>	1.0	0.8	16
	Block placed	Blocks	When the block is placed	<code>block.wood.place</code>	<code>subtitles.block.generic.place</code>	1.0	0.8	16
	Block breaking	Blocks	While the block is in the process of being broken	<code>block.wood.hit</code>	<code>subtitles.block.generic.hit</code>	0.25	0.5	16
	<i>None</i> ^{[sound 1]}	<i>Entity-Dependent</i>	Falling on the block with fall damage	<code>block.wood.fall</code>	<i>None</i> ^{[sound 1]}	0.5	0.75	16
	Footsteps	<i>Entity-Dependent</i>	Walking on the block	<code>block.wood.step</code>	<code>subtitles.block.generic.footsteps</code>	0.15	1.0	16

1. [MC-177082](#)

Bedrock Edition:

Sound	Source	Description	Resource location	Volume	[Collapse] Pitch
	Blocks	Once the block has broken	<code>dig.wood</code>	1.0	0.8-1.0
	Blocks	When the block is placed	<code>dig.wood</code>	1.0	0.8
	Blocks	While the block is in the process of being broken	<code>hit.wood</code>	0.23	0.5
	Players	Falling on the block with fall damage	<code>fall.wood</code>	0.4	1.0



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	Players	Falling on the block without fall damage	<div>land</div> <div>.wood</div>	0.18	1.0
--	---------	--	----------------------------------	------	-----

Data values

ID

Java Edition:

Name	Identifier	Form	Translation key
Note Block	<div>note_block</div>	Block & Item	<div>block.minecraft.note_block</div>

Bedrock Edition:

Name	Identifier	Numeric ID	Form	Item ID ^[1]	Translation key
Note Block	<div>noteblock</div>	<div>25</div>	Block & Giveable Item ^[2]	Identical ^[3]	<div>tile.noteblock.name</div>

1. ID of block's direct item form, which is used in savegame files and addons.
2. Available with

/give

 command.
3. The block's direct item form has the same id as the block.

Name	Savegame ID
Block entity	<div>Music</div>

Block states

See also: *Block states*

Java Edition:

Name	Default value	Allowed values	Description
instrument	<div>harp</div>	<div>banjo</div> <div>basedrum</div> <div>bass</div> <div>bell</div> <div>bit</div> <div>chime</div> <div>cow_bell</div> <div>creeper</div> <div>custom_head</div> <div>didgeridoo</div> <div>dragon</div> <div>flute</div> <div>guitar</div> <div>harp</div> <div>hat</div> <div>iron_xylophone</div> <div>piglin</div> <div>pling</div> <div>skeleton</div> <div>snare</div> <div>wither_skeleton</div>	The instrument of the note block.



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note	<div>0</div>	3	The pitch of the note block
		4	
		5	
		6	
		7	
		8	
		9	
		10	
		11	
		12	
		13	
		14	
		15	
		16	
		17	
		18	
		19	
		20	
		21	
		22	
		23	
		24	
powered	<div>false</div>	<div>false</div> <div>true</div>	True if the note block is currently activated.

Block data

In [Bedrock Edition](#), a note block has a block entity associated with it that holds additional data about the block.

See [Bedrock Edition level format/Block entity format](#).

Achievements

Icon		Achievement	In-game description	Actual requirements (if different)	Gamerscore earned	Trophy type (PS4)
PS4	Other					
		Birthday song	Have an Allay drop a cake at a noteblock	Tame an allay by giving it a cake while having dropped cake items and play a noteblock nearby.	10G	Bronze

Advancements

Icon	Advancement	In-game description	Parent	Actual requirements (if different)	Resource location
				Give an allay a cake and then use a note block to make the allay drop the	





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		Note Block	in Me	<i>by the player only after completing it, regardless of if its child advancement(s), if any, have been completed.</i>	
--	--	------------	-------	--	--

History

Java Edition Beta		
1.2		Added note blocks.
		Note blocks have 5 instruments: Harp, Bass, Bass drum, Snare drum, Click. Pling is also added in the sound files, but is currently unused.
Java Edition		
1.0.0	Beta 1.9 Prerelease 6	Note blocks are now broken faster using an axe .
1.2.4	release	Spruce planks , birch planks , and jungle planks can now be used to craft note blocks.
1.7.2	1.7.1	Acacia planks and dark oak planks can now be used to craft note blocks.
1.12	17w16a	Added sound events (but not the sounds themselves) for additional instruments (bell, chime, flute, guitar, xylophone) to note blocks.
	17w17a	Added sounds for additional instruments to note blocks.
1.13	17w47a	Note blocks can now be pushed by pistons .
1.14	18w43a	The texture of note blocks has been changed.
	19w09a	Added sounds to note blocks for additional instruments (iron xylophone, cow bell, didgeridoo, bit, banjo), and implemented the "Pling" instrument into the game.
1.16	20w06a	Crimson planks and warped planks can now be used to craft note blocks.
	22w11a	Mangrove planks can now be used to craft note blocks.
	22w13a	Note blocks now generate as part of ancient cities .
		Note blocks can now only be



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		reverted.			
1.20 (Experimental)	22w42a		Heads can now be placed on note blocks to play the respective mob sound.		
	23w03a		Heads can now be placed on note blocks without sneaking.		
Pocket Edition Alpha					
v0.13.0	build 1		Added note blocks.		
v0.15.0	build 1		Note blocks can now be moved by pistons .		
Bedrock Edition					
1.10.0	beta 1.10.0.3		The texture of note blocks has been changed.		
1.13.0	beta 1.13.0.9		Added all new note block sounds from Java Edition 1.12 and 1.14 .		
Wild Update (experimental)	beta 1.18.30.22		A note block played near an allay becomes its favorite note block for 30 seconds.		
			Placing a block on top of a note block no longer mutes it, with the exception of wool blocks.		
1.19.0	beta 1.19.0.26		The previous change has been reverted.		
Next Major Update (Experimental)	beta 1.19.60.20		Heads can now be placed on note blocks to play the respective mob sound.		
1.20.10	beta 1.20.10.20		Note blocks with soul soil underneath now produces the "harp" sound instead of "snare".		
Legacy Console Edition					
TU1	CU1	1.0	Patch 1	1.0.1	Added note blocks.
TU53	CU43	1.49	Patch 23	1.0.3	Added new note block sounds .
		1.90			The texture of note blocks has been changed.
New Nintendo 3DS Edition					
0.1.0				Added note blocks.	

Data history

This section is missing information about Info on the block entity used before 17w47a.

Please expand the section to include this information. Further details may exist on the [talk page](#).

Java Edition		
1.9	15w34a	The power state of note blocks is now controlled through the <code>powered</code> tag, and therefore can now be controlled



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1.13	17w47a	Note blocks are no longer block entities and instead are defined by the <code>note</code> , <code>powered</code> , and <code>instrument</code> block states.
		Prior to <i>The Flattening</i> , this block's numeral ID was 25.

Issues

Issues relating to "Note block" or "Noteblock" are maintained on the [bug tracker](#). Report issues [there](#) (<https://bugs.mojang.com/issues/?jql=project%20in%20%28MC%2C%20MCPE%29%20and%20%28resolution%20is%20empty%20or%20resolution%20in%20%281%2C%202%2C%206%29%29%20and%20%28summary%20~%20%22note%20block%22%20or%20summary%20~%20%22noteblock%22%29%20order%20by%20resolution%20desc>).

Trivia

- Because a note block is a wooden type block, a note block directly on top of another one produces a string bass sound when powered.
- In *Java Edition*, note blocks have the second highest number of possible block state combinations, at 1150^{[verify](#)}, beating [fire](#)'s 512 and behind [redstone dust](#)'s 1296.
- In Creative mode, the only way to hit a note block to play it without breaking it or changing its pitch is by doing so while holding a sword.

Gallery

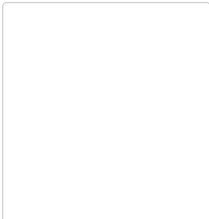


Redstone linked to note blocks, playing a simple melody when the button is pressed.

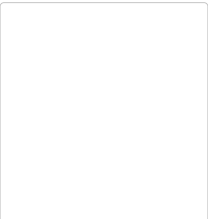


A concept sketch tweeted by Notch depicting what would eventually become the Note Block.

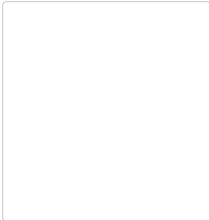
Pixel Artwork



Efe looking at Makena napping on a Note block



Efe placing a zombie head sneakily on the note block.



Makena waking up startled at the sound of zombies being played on the note



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	Colored Torches	Deny
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	Lab Table	Material Reducer
	Underwater TNT	Underwater Torch
	Creative only	[Expand]
	Commands only	[Expand]
	Unimplemented	[Expand]
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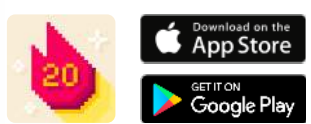
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