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This article is about the Minecraft item. For other uses, see Redstone.

Redstone dust, internally known as **redstone wire** in block form and **redstone** in item form, is a mineral that can transmit redstone power as a wire when placed as a block. It is also used in crafting, brewing and as a trim material.

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Development

Java Edition

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New Nintendo 3DS Edition

Redstone Dust

Inactive Active

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<u>Renewable</u>	Yes
<u>Stackable</u>	Yes (64)
<u>Tool</u>	Any tool
<u>Blast resistance</u>	0
<u>Hardness</u>	0
<u>Luminous</u>	No
<u>Transparent</u>	Yes
<u>Flammable</u>	No
<u>Catches fire from lava</u>	No

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Obtaining

Breaking

Redstone dust is immediately destroyed when broken.

Redstone dust is removed and drops as an item if:

- its attachment block is moved, removed, or destroyed
- [water](#) or [lava](#) flows into its space
- a piston tries to push it or moves a block into its space

Block	 Redstone Dust
Hardness	0
Breaking time (secs)	
Default	<i>0.05</i>

Legend

- incorrect tool, drops nothing
- correct tool, drops nothing or something other than the block itself
- correct tool, drops the block itself
- *italicized* can be [instant mined](#)

Redstone dust drops itself when destroyed.

Mining

See also: [Redstone Ore § Natural generation](#)

[Redstone ore](#) mined using an [iron pickaxe](#) or higher drops 4 or 5 redstone dust (or more with [Fortune](#), averaging at 6 redstone dust with Fortune III). If mined with [Silk Touch](#), the block drops itself instead of redstone dust. When the ore itself is clicked on/touched, it emits a light level of 9 and glows.


Natural generation

15 lengths of redstone dust are naturally generated as part of the trap in each jungle pyramid. 5 lengths of redstone dust can be found in one type of a jail cell room in a [woodland mansion](#). In [ancient cities](#), multiple pieces of redstone dust can be found integrated into circuitry. 1 piece of redstone dust can be found in the "Encounter 4" room in [trial chambers](#).

Mob loot


Java Edition:

Decimal Fraction Distribution Expectation

Mob		Quantity / Chance / Average											
		Default			Looting I			Looting II			Looting III		
	Witch	4–8	100.00%	6.00	4–9	100.00%	6.50	4–10	100.00%	7.00	4–11	100.00%	7.50

Bedrock Edition:

Decimal Fraction Distribution Expectation

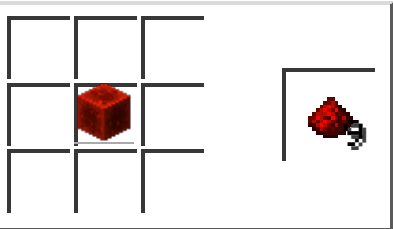
Mob		Quantity / Chance / Average											
		Default			Looting I			Looting II			Looting III		
	Witch	4–8	100.00%	6.00	4–9	100.00%	6.50	4–10	100.00%	7.00	4–11	100.00%	7.50

Generated loot


Item	Structure	Container	Quantity	Chance [hide]
<i>Java Edition</i>				
 Redstone Dust	 Monster Room	Chest	1–4	26.6%
	 Mineshaft	Chest	4–9	14.5%
	 Stronghold	Storeroom chest	4–9	18.6%
		Altar chest	4–9	11.9%
	 Village	Temple chest	1–4	44.8%
	 Woodland Mansion	Chest	1–4	19.7%
<i>Bedrock Edition</i>				
 Redstone Dust	 Monster Room	Chest	1–4	26.6%
	 Mineshaft	Chest	4–9	14.5%
	 Stronghold	Storeroom chest	4–9	15.2%
		Altar chest	4–9	11.6%
	 Village	Temple chest	1–4	44.8%
	 Woodland Mansion	Chest	1–4	24.9%

Crafting





Redstone dust can be crafted from blocks of redstone.

Ingredients	Crafting recipe [hide]
<u>Block of Redstone</u>	

Smelting

Name	Ingredients	Smelting recipe [hide]
Redstone Dust	Redstone Ore or <u>Deepslate Redstone Ore</u> + Any <u>fuel</u>	

Trading

Villager		Probability		Villager wants	Player receives	Trades in stock	Villager experience	Price multiplier
		<i>JE</i>	<i>BE</i>					
 Cleric	 Novice	100%	100%	 Emerald	2 ×  Redstone Dust	12	1	0.05

Villager gifts

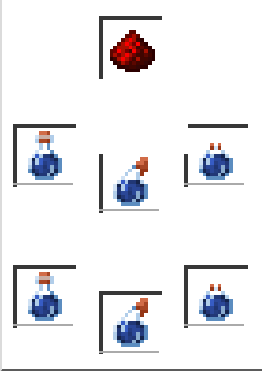
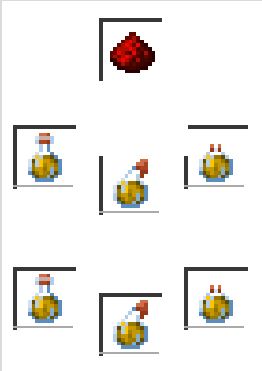
See also: *Tutorial:Raid farming*

In *Java Edition*, when the player has the Hero of the Village status effect, clerics might throw that player a redstone dust as a gift.

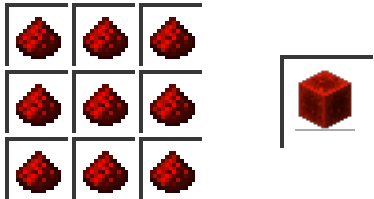

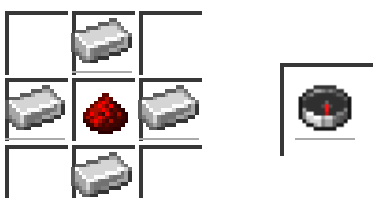




Usage

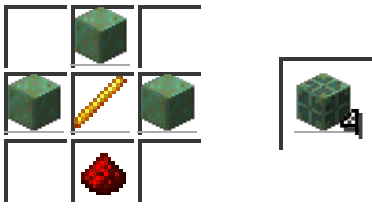
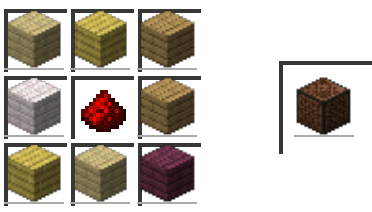



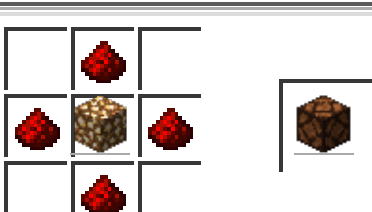
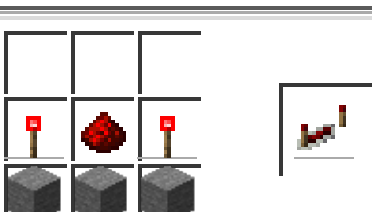
Redstone dust is used for brewing, crafting, and in redstone circuits by placing it on the ground to create redstone wire. It can also be used to power redstone components.

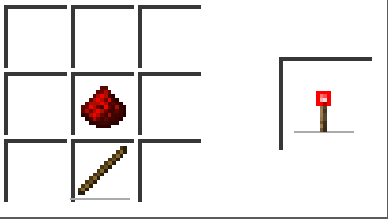
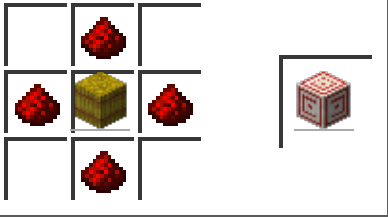
Brewing ingredient

Name	Ingredients	Brewing recipe [hide]
<u>Mundane Potion</u>	Redstone Dust + <u>Water Bottle</u>	
<u>Increased Duration</u>	Redstone Dust + <u>Potion of Night Vision</u> or <u>Potion of Invisibility</u> or <u>Potion of Leaping</u> or <u>Potion of Fire Resistance</u> or <u>Potion of Swiftnes</u> or <u>Potion of Slowness</u> or <u>Potion of the Turtle Master</u> or <u>Potion of Water Breathing</u> or <u>Potion of Poison</u> or <u>Potion of Regeneration</u> or <u>Potion of Strength</u> or <u>Potion of Weakness</u> or <u>Potion of Slow Falling</u>	


Crafting ingredient

Name	Ingredients	Crafting recipe	Description [hide]
<u>Block of Redstone</u>	<u>Redstone Dust</u>		
<u>Clock</u>	<u>Gold Ingot</u> + <u>Redstone Dust</u>		
<u>Compass</u>	<u>Iron Ingot</u> + <u>Redstone Dust</u>		
<u>Crafter</u>	<u>Iron Ingot</u> + <u>Crafting Table</u> + <u>Redstone Dust</u> + <u>Dropper</u>		
<u>Detector Rail</u>	<u>Iron Ingot</u> + <u>Stone Pressure Plate</u> + <u>Redstone Dust</u>		
<u>Dispenser</u>	<u>Cobblestone</u> + <u>Bow</u> + <u>Redstone Dust</u>		The bow can be of any <u>durability</u> . <u>Enchantments</u> on the bow do not affect the resulting dispenser.
<u>Dropper</u>	<u>Cobblestone</u> + <u>Redstone Dust</u>		

Name	Ingredients	Crafting recipe	Description [hide]
<u>Unwaxed Copper Bulb or Waxed Copper Bulb</u>	Matching <u>Unwaxed Block of Copper</u> or <u>Matching Waxed Block of Copper</u> + <u>Blaze Rod</u> + <u>Redstone Dust</u>		
<u>Note Block</u>	Any <u>Planks</u> + <u>Redstone Dust</u>		
<u>Observer</u>	<u>Cobblestone</u> + <u>Redstone Dust</u> + <u>Nether Quartz</u>		
<u>Piston</u>	Any <u>Planks</u> + <u>Cobblestone</u> + <u>Iron Ingot</u> + <u>Redstone Dust</u>		
<u>Powered Rail</u>	<u>Gold Ingot</u> + <u>Stick</u> + <u>Redstone Dust</u>		
<u>Redstone Lamp</u>	<u>Redstone Dust</u> + <u>Glowstone</u>		
<u>Redstone Repeater</u>	<u>Redstone Torch</u> + <u>Redstone Dust</u> + <u>Stone</u>		

Name	Ingredients	Crafting recipe	Description [hide]
<u>Redstone Torch</u>	<u>Redstone Dust</u> + <u>Stick</u>		
<u>Target</u>	<u>Redstone Dust</u> + <u>Hay Bale</u>		

Smithing ingredient

Ingredients	Smithing recipe	Description [hide]
Any <u>Armor Trim</u> + Any <u>Armor Piece</u> + Redstone Dust		All armor types can be used in this recipe, a chestplate is shown as an example.

Trim color palette

The following color palette is shown on the designs on trimmed armor:

▪






Redstone component



When placed in the world, redstone dust becomes a block of redstone wire, which can transmit redstone signal.

Placement

Redstone dust can be placed on conductive blocks as well as glowstone, upside-down slabs, glass, upside-down stairs, and hoppers. It can also be placed on some non-conductive blocks; see Opacity/Placement for more information. It cannot be placed suspended in midair, even with commands.^[1]

Redstone wire configures itself to point toward adjacent redstone power components and transmission component connection points. Redstone wire also configures itself to point toward adjacent redstone wire one block higher or lower – unless there is a conductive block above the lower redstone wire.

If there is only one such adjacent redstone component, redstone wire configures itself into a  line pointing both at the neighbor and away from it. If there are two or more such adjacent components, redstone wire connects them in the form of , , , or  as needed.

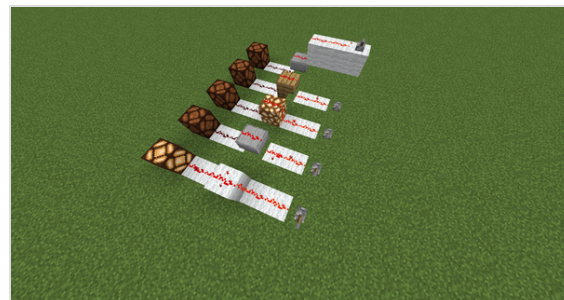
When there are no adjacent components, a single redstone wire configures itself into a  plus sign, which can provide power in all four directions. By right-clicking, it can be changed into a  dot, which does not provide power to any of the four directions.^[*Java Edition only*]

Redstone wire does not automatically configure itself to point toward mechanism components; the only exceptions are the back and side faces of pistons and sticky pistons in *Bedrock Edition*. If such a configuration is desired, the other neighbors of the redstone wire must be arranged to create it, i.e the redstone dust must be placed in a way that it would be pointed at the block's location even if it were not there.

When redstone wire is reconfigured after placement, it does not update other redstone components around it of the change unless that reconfiguration also includes a change in power level or another component provides an update. This can create situations where a mechanism component remains activated when it shouldn't, or vice versa, until it receives an update from something else – a "feature" of redstone wire that can be used to make a block update detector.





Examples of redstone wire configuration. *Top Left:* Redstone wire connects diagonally vertically through non-conductive blocks. *Top Right:* Redstone wire does *not* connect diagonally vertically through conductive blocks. *Center:* Redstone wire gets darker as its power level drops, to a maximum of 15 blocks from a power source.



Examples of redstone wire placements.

Behavior

However, the signal can never go down from slabs. 

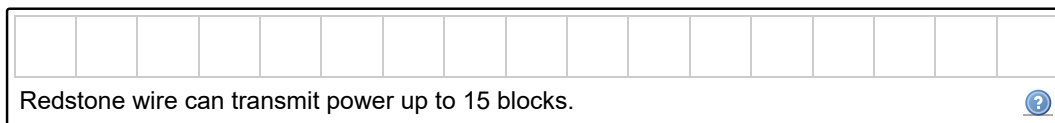
In *Bedrock Edition*, the signal can go down from glass blocks. 

Redstone wire can transmit power, which can be used to operate mechanism components (doors, pistons, redstone lamps, etc.). Redstone wire can be "powered" by a number of methods:

- from an adjacent power component or a strongly-powered block
- from the output of a redstone repeater or redstone comparator
- from adjacent redstone wire. The powering dust can be a level higher or lower, but with restrictions:

- Redstone dust can be powered by redstone dust that is one level lower, or on a conductive block one level higher. A non-conductive block cannot^{*[Java Edition only]*} pass power downward.
- The block "between" the two dust blocks must be air or non-conductive. A conductive block there "cuts" the connection between the higher and lower dust.

The "power level" of redstone dust can vary from 0 to 15. Most power components power-up adjacent redstone dust to power level 15, but a few (daylight sensors, trapped chests, and weighted pressure plates) may create a lower power level. Redstone repeaters output power level 15 (when turned on), but redstone comparators may output a lower power level.



Power level drops by 1 for every block of redstone wire it crosses. Thus, redstone wire can transmit power for no more than 15 blocks. To go further, the power level must be re-strengthened – typically with a redstone repeater.

Powered redstone wire on top of, or pointing at, a conductive block provides *weak* power to the block. A weakly-powered block cannot power other adjacent redstone wire, but can still power redstone repeaters and comparators, and activate adjacent mechanism components. Non-conductive blocks cannot be powered.

When redstone wire is unpowered, it appears dark red. When powered, it becomes bright red at power level 15, fading to darker shades with decreasing power. Powered redstone wire also produces "dust" particles of the same color.

While redstone wire always provides power to the directions it points into, it can still point into directions in which it cannot give power. If redstone wire comes in the form of a cross, the player can right-click to toggle it between a cross and dot. A redstone dot does not power anything adjacent to it, but powers the block under it.

Piston interactivity

Redstone dust is destroyed when a piston tries to push it. It can't be pulled by sticky pistons.

Sounds

Java Edition:

<div> stone sound type </div> <div>[hide]</div>								
Sound	<u>Closed captions</u>	<u>Source</u>	<u>Description</u>	<u>Identifier</u>	<u>Translation key</u>	Volume	Pitch	<u>Attenuation distance</u>
	Block broken	Blocks	Once the block has broken	block.stone.break	subtitles.block.generic.break	1.0	0.8	16
	Block placed	Blocks	When the block is placed	block.stone.place	subtitles.block.generic.place	1.0	0.8	16
	Block breaking	Blocks	While the block is in the process of being broken	block.stone.hit	subtitles.block.generic.hit	0.25	0.5	16
	Something falls on a block	<i>Entity-Dependent</i>	Falling on the block with fall damage	block.stone.fall	subtitles.block.generic.fall	0.5	0.75	16
	Footsteps	<i>Entity-Dependent</i>	Walking on the block	block.stone.step	subtitles.block.generic.footsteps	0.15	1.0	16

Bedrock Edition:



<div> normal sound type </div> <div>[hide]</div>							
Sound	<u>Closed captions</u> <i>[upcoming: BE 26.0]</i>	<u>Source</u>	<u>Description</u>	<u>Identifier</u>	<u>Translation key</u> <i>[upcoming: BE 26.0]</i>	Volume	Pitch
	Block broken	Blocks	Once the block has broken	dig.stone	subtitles.block.generic.break	1.0	0.8-1.0
	Block broken	Blocks	When the block is placed	dig.stone	subtitles.block.generic.break	1.0	0.8-1.0
	Block breaking	Blocks	While the block is in the process of being broken	hit.stone	subtitles.block.generic.hit	0.27 <i>[sound 1]</i>	0.5
	Footsteps	Players	Falling on the block with fall damage	fall.stone	subtitles.block.generic.footsteps	0.4	1.0
	Footsteps	Players	Walking on the block	step.stone	subtitles.block.generic.footsteps	0.3	1.0
	Footsteps	Blocks	Jumping from the block	jump.stone	subtitles.block.generic.footsteps	0.12	1.0
	Footsteps	Blocks	Falling on the block without fall damage	land.stone	subtitles.block.generic.footsteps	0.22	1.0

1. MCPE-169612 — Many blocks make slightly different sounds to stone



Data values

ID

Java Edition:

Name	Identifier	Form	Translation key ^{[hide]}
 Redstone Wire	redstone_wire	Block	block.minecraft.redstone_wire
 Redstone Dust	redstone	Item	item.minecraft.redstone

Bedrock Edition:

Name	Identifier	Numeric ID	Form	Item ID ^{[1]}	Item tags	^{[hide]} Translation key
 Redstone Wire	redstone_wire	55	Block & Ungiveable Item ^{[2]}	Identical ^{[3]}	—	tile.redstone_wire.name
 Redstone Dust	redstone	373	Item	—	minecraft:trim_materials	item.redstone.name

1. ID of block's direct item form, which is used in savegame files and addons.
2. Unavailable with /give command
3. The block's direct item form has the same ID as the block.

Block states

See also: *Block states*

Java Edition:

<u>Name</u>	Default value	Allowed values	Description [hide]
east	none	none side up	The way redstone dust connects to the east, side can also mean down.
north	none	none side up	The way redstone dust connects to the north, side can also mean down.
power	0	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	The redstone dust's current power level.
south	none	none side up	The way redstone dust connects to the south, side can also mean down.
west	none	none side up	The way redstone dust connects to the west, side can also mean down.



Bedrock Edition:

<u>Name</u>	Metadata Bits	Default value	Allowed values	Values for Metadata Bits	Description [hide]
redstone_signal	0x1 0x2 0x4 0x8	0	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	The redstone dust's current power level.

List of block state combinations

Achievements

[hide]

Icon		Achievement	In-game description	Actual requirements (if different)	Gamerscore earned	Trophy type (P.S.)
PS4	Other					
		Dispense With This	Construct a Dispenser .	—	20	Bronze

Videos

Note: These videos do not show all uses for redstone in crafting and all methods of obtaining. This video is from [Java Edition 1.13](#) where redstone is now called Redstone Dust.

History





There is an associated technical blocks page for the internal item form of this block; see Technical blocks/Redstone Wire.


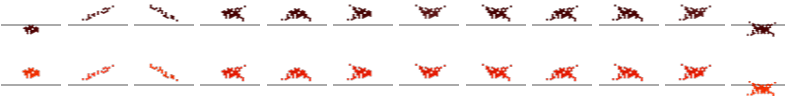
Development


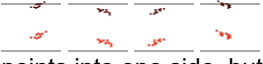
May 21, 2009 (https://web.archive.org/web/0/http://notch.tumblr.com/post/110762705/my-list-on-tile-types-so-far)
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Notch shows interest in adding wire-type <u>blocks</u> .
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Java Edition

Java Edition Alpha			[hide]
<u>v1.0.1</u>	 Added redstone.		
			
	Added redstone dust as a placed <u>block</u> .		
	Replaces existing <u>gears</u> in a world as they share the same numeric ID of 55.		
	Redstone dust as a placed block has two power appearances; either completely on, or completely off.		
	Redstone dust is used to craft <u>redstone torches</u> .		
	At this time, redstone has not been given an official name.		
<u>v1.0.2_01</u>	Redstone dust now doesn't connect through solid <u>blocks</u> diagonally down.		
	Walking on redstone dust no longer <u>breaks</u> it. <i>[needs testing]</i>		
	Active redstone dust now gives off <u>particles</u> . <i>[needs testing]</i>		
<u>v1.1.0</u>	Redstone is now used to craft <u>compasses</u> .		
<u>v1.2.0</u>	<u>?</u>	Redstone is now used to craft <u>clocks</u> .	
Java Edition Beta			[hide]
<u>1.0</u>	With the addition of inventory tooltips, the <u>item</u> form of redstone dust has been named "Redstone", and the usually unobtainable block form has been named "Redstone Dust".		
<u>1.2</u>	Redstone is now used to craft <u>dispensers</u> and <u>note blocks</u> .		
<u>1.3</u>			
	Redstone wire gets darker the farther away it is from a source of power, using a dedicated <u>tint</u> system. Previously, it was fully on until it reached its limit.		
	Its particles now appear gray due to not being tinted.		
	Redstone is now used to craft <u>redstone repeaters</u> .		
<u>1.5</u>			
	Fully off redstone wire is no longer black.		
	Redstone dust can now be placed on <u>snow</u> .		
	Redstone is now used to craft <u>powered rails</u> and <u>detector rails</u> .		
<u>1.6.6</u>	Redstone dust now checks if the block below has a solid top face or <u>glowstone</u> , allowing it to be placed on it.		
<u>1.7</u>	Redstone dust now connects to a <u>repeater</u> without the dust being explicitly pointed at it.		
	Redstone can now be used to craft <u>pistons</u> .		
<u>1.8</u>	<u>Pre-release</u>	Redstone can now be found in the new <u>stronghold storeroom chests</u> , and in the new <u>mineshaft chests</u> .	
Java Edition			[hide]
<u>1.0.0</u>	<u>Beta 1.9</u>	Redstone can now be <u>brewed</u> in a <u>water bottle</u> to create a <u>mundane potion</u> .	



	Prerelease 3	Redstone can now be found in the new <u>stronghold altar chests</u> .
		Redstone now extends the <u>potions</u> of <u>Fire Resistance</u> , <u>Slowness</u> , <u>Swiftness</u> , <u>Poison</u> , <u>Weakness</u> and <u>Strength</u> .
	Beta 1.9 Prerelease 4	Redstone now extends the new <u>potion</u> of <u>Regeneration</u> .
	RC1	 Redstone dust placement on one <u>block</u> has been changed from a "+" to a "•" shape.
?		Redstone wire block particles are now correctly colored.
1.1	11w49a	Fixed redstone update bug. ^{[<i>more information needed</i>]}
1.2.1	12w06a	Redstone can now be placed on <u>glowstone</u> .
	12w07a	Redstone is now used to craft <u>redstone lamps</u> .
1.3.1	12w21a	Redstone can now be <u>bought</u> from <u>priest villagers</u> , at 2–4 redstone for 1 <u>emerald</u> , making them <u>renewable</u> .
	12w22a	Redstone dust now generates in <u>jungle temples</u> .
	12w25a	Redstone dust can now be placed on top of upside-down <u>slabs</u> and <u>stairs</u> .
1.4.2	12w34a	Redstone now extends the new <u>potions</u> of <u>Night Vision</u> and <u>Invisibility</u> .
	12w38a	<u>Witches</u> have been added, which sometimes <u>drop</u> redstone when killed.
1.5	13w01a	Redstone can now be used to craft <u>blocks of redstone</u> , <u>redstone comparators</u> and <u>droppers</u> .
1.7.2	13w36a	Redstone now extends the new <u>potion</u> of <u>Water Breathing</u> .
1.8	14w02a	Trading has been changed: cleric <u>villagers</u> now sell 1–4 redstone for 1 <u>emerald</u> .
	14w25a	Redstone dust no longer changes to <u>obsidian</u> next to water when <u>lava</u> flows into it.
	14w27a	Redstone now extends the new <u>potion</u> of <u>Leaping</u> .
1.9	15w31a	 Some slight changes have been made to redstone wire's appearance - the dot now extends outward with two more pixels, and the south-facing section of bends, T shapes and crosses now has one fewer pixel. It also appears straighter and more continuous in straight wire form.
		Redstone can no longer be added to extended <u>potions</u> or tier-II potions.
	15w44a	The average yield of redstone from <u>dungeon chests</u> has been cut by more than half.
		The average yield of redstone in <u>mineshaft chests</u> has been increased.
	15w46a	The hitbox of redstone now covers only part of the surface of the <u>block</u> below, based on the orientation of the redstone. Mobs no longer spawn on redstone dust.
1.11	16w39a	Redstone dust can now be found in chests in <u>woodland mansions</u> .
		Redstone dust now generates in woodland mansions.
		Redstone can now used to craft <u>observers</u> .
1.13	17w47a	The <u>item</u> form of "Redstone" has been renamed to "Redstone Wire".

		Redstone wire now plays a sound when placed.
	<u>17w48a</u>	"Redstone Wire" has been renamed to "Redstone Dust".
	<u>18w07a</u>	Redstone now extends the new <u>potion</u> of the Turtle Master.
	<u>18w14a</u>	Redstone now extends the new <u>potion</u> of Slow Falling.
<u>1.14</u>	<u>18w43a</u>	 The texture of redstone dust has been changed.
	<u>18w50a</u>	Redstone dust can now be found in chests in <u>village</u> temples.
	<u>19w11a</u>	Cleric villagers now sell 2 redstone dust for 1 emerald.
	<u>19w12b</u>	Redstone dust can now be placed on <u>glass</u> , <u>ice</u> and <u>sea lanterns</u> .
	<u>19w13a</u>	Cleric villagers now give redstone dust to players under the <u>Hero of the Village</u> effect.
<u>1.16</u>	<u>20w06a</u>	Redstone dust now has a bottom texture.
	<u>20w09a</u>	Redstone can now be used to craft <u>targets</u> .
	<u>20w18a</u>	Redstone dust placement on one <u>block</u> has been changed from a "•" back to a "+" shape.
		Redstone dust's hitbox is no longer strictly a cuboid, and more closely matches the shape of the wiring. ^[2]
		Upward going redstone dust now has a hitbox on the side of the <u>block</u> too, rather than only on the floor. ^[3]
		Unconnected redstone dust now has all direction block states set to "side".
		The direction block states of redstone dust are now properly set to "side" at the end of a redstone wire on both ends, rather than only the one with other redstone besides it.
		 While not accessible in normal gameplay, redstone dust that points into one side, but not the opposite, now visually reaches halfway across the <u>block</u> .
	<u>20w19a</u>	Redstone dust now visually connects when going up <u>soul sand</u> , 8-layer <u>snow</u> stacks and the back side of upside-down <u>stairs</u> .
		Particles are now generated across the length of the redstone wire rather than the center of the <u>block</u> .
	<u>20w21a</u>	Redstone dust placement on one <u>block</u> is now toggleable between a "+" and a "•" shape, by <u>interacting</u> with it.
<u>1.17</u>	<u>21w08a</u>	Redstone dust can now drop and be smelted from <u>deepslate redstone ore</u> .
<u>1.19</u>	<u>22w13a</u>	Redstone wire now generates in <u>ancient cities</u> .
<u>1.19.4</u> — Experiment — Update 1.20	<u>23w04a</u>	Redstone dust can now be used as an armor trim material.
<u>1.20.3</u> — Experiment — Update 1.21	<u>23w42a</u>	Redstone dust can now be used to craft <u>crafters</u> .
	<u>23w43a</u>	Redstone dust can now be used to craft <u>copper bulbs</u> .
<u>1.21</u>	<u>24w20a</u>	<u>Witches</u> now always drop 4-8 redstone dust.
<u>1.21.2</u>	<u>24w33a</u>	Redstone dust can now generate in <u>trial chambers</u> .


Bedrock Edition

Pocket Edition Alpha [hide]		
<u>v0.8.0</u>	<u>build 1</u>	 Added redstone as an <u>item</u> . They are currently unobtainable in the <u>Creative inventory</u> and cannot be placed.
		Redstone is now <u>dropped</u> when mined from <u>redstone ore</u> .
		Redstone can be used to craft <u>compasses</u> and <u>clocks</u> .
	<u>build 2</u>	Redstone can now be used to craft <u>powered rails</u> .
<u>v0.11.0</u>	<u>build 1</u>	Redstone is now used to craft <u>redstone blocks</u> .
<u>v0.12.1</u>	<u>build 1</u>	Redstone has been added to the <u>Creative inventory</u> , but it still cannot be placed.
<u>v0.13.0</u>	<u>build 1</u>	Redstone can now be placed.
		Redstone is now used to craft <u>redstone lamps</u> , <u>note blocks</u> , <u>detector rails</u> and <u>redstone torches</u> .
<u>v0.14.0</u>	<u>build 1</u>	Redstone is now used to craft <u>dispensers</u> and <u>droppers</u> .
<u>v0.15.0</u>	<u>build 1</u>	Redstone is now used to craft <u>pistons</u> and <u>observers</u> .
Pocket Edition [hide]		
<u>1.0.4</u>	<u>alpha 1.0.4.0</u>	Cleric <u>villagers</u> now <u>sell</u> 1–4 redstone for an <u>emerald</u> .
<u>1.1.0</u>	<u>alpha 1.1.0.0</u>	Redstone can now be found in <u>woodland mansions</u> .
Bedrock Edition [hide]		
<u>?</u>		<div></div> <div></div> <div>Placed redstone now assumes its current appearance with a more solid center. Its linear state appearances are unknown.</div>
<u>1.10.0</u>	<u>beta 1.10.0.3</u>	 The texture of redstone has been changed.
<u>1.11.0</u>	<u>beta 1.11.0.1</u>	Redstone can now be found in <u>desert village temple chests</u> .
	<u>beta 1.11.0.4</u>	Cleric <u>villagers</u> now sell 4 redstone as part of their first tier <u>trade</u> .
<u>1.16.210</u>	<u>beta 1.16.210.57</u>	"Redstone" has been renamed to "Redstone Dust".
<u>1.17.0</u>	<u>beta 1.16.230.52</u>	Redstone dust can now drop and be smelted from <u>deepslate redstone ore</u> .
<u>1.19.0</u>	<u>beta 1.19.0.26</u>	Redstone wire now generates in <u>ancient cities</u> .
<u>1.19.80</u> — Experiment — Next Major Update	<u>Preview 1.19.80.21</u>	Redstone dust can now be used as an armor trim material.
<u>1.20.50</u> — Experiment — Update 1.21	<u>Preview 1.20.50.21</u>	Redstone dust can now be used to craft <u>crafters</u> .
	<u>Preview 1.20.50.22</u>	Redstone dust can now be used to craft <u>copper bulbs</u> .

Legacy Console Edition

Legacy Console Edition							[hide]		
Xbox 360	Xbox One	PS3	PS4	PS Vita	Wii U	Switch			
TU1	CU1	1.00	1.00	1.00	Patch 1	1.0.1	 Added redstone.		
TU3							Redstone now connects to a repeater without the dust being explicitly pointed at it.		
TU12							Redstone can now be used to craft pistons .		
TU14		1.04					Redstone is now used to craft redstone lamps .		
	Redstone now extends the new potion of Night Vision and Invisibility .								
									Redstone can now be bought from priest villagers, at 2–4 redstone for 1 emerald , making them renewable .
TU19	CU7	1.12	1.12	1.12					Witches have been added, which sometimes drop redstone when killed.
									Redstone can now be used to craft blocks of redstone , redstone comparators and droppers .
TU31	CU19	1.22	1.22	1.22	Patch 3		Redstone now extends the new potion of Leaping and Water Breathing .		
							Trading has been changed: cleric villagers now sell 1–4 redstone for 1 emerald .		
TU46	CU36	1.38	1.38	1.38	Patch 15		The hitbox of redstone now covers only part of the surface of the block below, based on the orientation of the redstone.		
TU54	CU44	1.52	1.52	1.52	Patch 24	1.0.4	Redstone dust can now be found in chests in woodland mansions .		
							Redstone dust now generates in woodland mansions.		
							Redstone can now used to craft observers .		
TU69		1.76	1.76	1.76	Patch 38		Redstone now extends the new potion of the Turtle Master and potion of Slow Falling .		
			1.90				 The texture of redstone has been changed.		
			1.91				Cleric villagers now sell 4 redstone as part of their first tier trade .		
			1.95				Redstone can now be placed on glass .		

New Nintendo 3DS Edition

New Nintendo 3DS Edition		[hide]
0.1.0	 Added redstone dust.	
1.9.19	Redstone dust now generates in woodland mansions.	

Data history

Java Edition [hide]		
1.13	17w47a	Prior to <i>The Flattening</i> , this block's numeral ID was 55, and the item's 331.

Issues

Issues relating to "Redstone", "Redstone dust", or "Redstone wire" are maintained on the [bug tracker](#). Issues should be reported and viewed 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%22redstone%22%20OR%20summary%20~%20%22redstone%20dust%22%20OR%20summary%20~%20%22redstone%20wire%22%29%20ORDER%20BY%20resolution%20DESC>).

Trivia

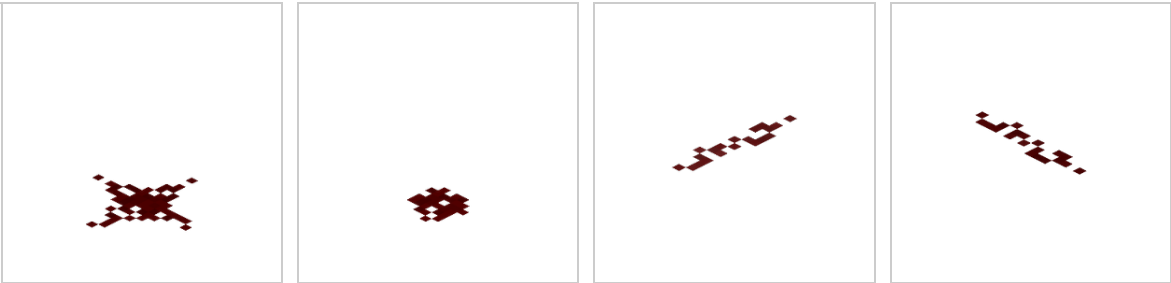
- Five updates for [Windows 10](#) released from 2016 to 2018 were codenamed "Redstone", referencing *Minecraft*.^[4]
- The block has 1,296 possible block state combinations in *Java Edition*, the highest of all blocks, exceeding [fire](#)'s 512 and [note block](#)'s 1150.
- According to the Material Reducer in *Minecraft Education*, redstone dust is 31% [carbon](#), 31% [uranium](#), and 38% some [unknown element](#).
- In the trailer for the Village and Pillage update, a blue piece of redstone dust (dubbed by the community as "[bluestone](#)") can be seen among the gifts the villagers throw into the air.

Gallery

Renders

All renders can be viewed in-game in the [debug world](#).

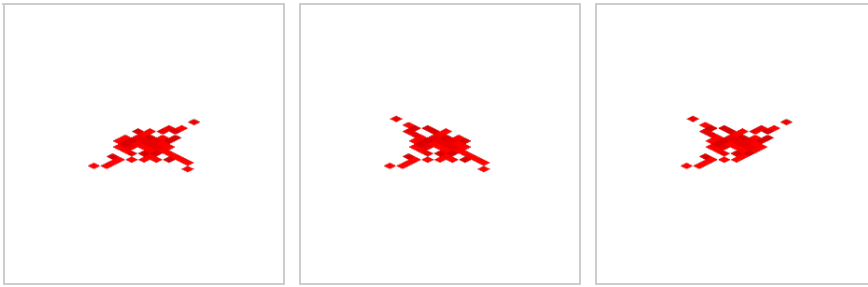
Java Edition





Bedrock Edition



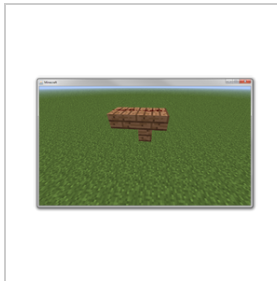
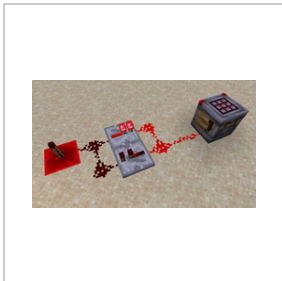


Screenshots



Giant Redstone Dust
past 1,073,741,824
on both axes, it is
actually 128 blocks
big because of
floating point
precision loss.

Mojang screenshots



First image of
redstone dust on top
of slabs and stairs.



Olivia using a scarce
amount of redstone
dust.

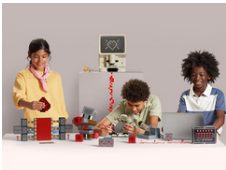


Sunny using a very long strip of redstone dust.



The inside of a redstone elevator.

In other media



Real children building with redstone.



Pixel art of redstone dust.



Redstone dust in *A Minecraft Movie*.



Official T-shirt artwork "Powered by Redstone" made by JINX (<https://www.jinx.com>).

References

- MC-182709 — Fire, soul fire, redstone wire and powered, detector and activator rails cannot be placed suspended without a supporting block via /setblock — resolved as "Invalid".
- MC-137336 — resolved as "Fixed".
- MC-153508 — resolved as "Fixed".
- "Microsoft plans 'Redstone' updates for Windows 10 in 2016" (<https://www.theverge.com/2015/4/7/8364355/microsoft-redstone-windows-updates>) by Tom Warren – The Verge, April 7, 2015.

External links

- "Taking Inventory: Redstone Dust" (<https://www.minecraft.net/en-us/article/redstone-dust>) by Duncan Geere – [Minecraft.net](https://www.minecraft.net), April 26, 2025.

Navigation

Redstone

Redstone circuits & tutorials

[[hide](#)]

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Redstone components

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	<div> <div>Block of Redstone</div> <div>Buttons (<div>Wooden</div> <div>Stone</div> <div>Polished Blackstone)</div> <div>Daylight Detector</div> <div>Detector Rail</div> <div>Jukebox</div> <div>Lectern</div> <div>Lever</div> <div>Lightning Rod</div> <div>Observer</div> <div>Pressure Plates (<div>Wooden</div> <div>Stone</div> <div>Polished Blackstone</div> <div>Light Weighted</div> <div>Heavy Weighted)</div> <div>Redstone Comparator</div> <div>Redstone Torch</div> <div>Sculk Sensor</div> <div>(Calibrated)</div> <div>Target</div> <div>Trapped Chest</div> <div>Tripwire Hook</div> <div>(Tripwire)</div> <div>Redstone Wire</div> <div>Redstone Repeater</div> <div>Conductive and non-conductive blocks</div> <div>Allay</div> <div>Boat with Chest (<div>Bamboo Raft</div> <div>Copper Golem</div> <div>Crafter</div> <div>Dispenser</div> <div>Dropper</div> <div>Hopper</div> <div>Minecart</div> <div>(with Chest</div> <div>with Furnace</div> <div>with Hopper)</div> <div>Rail</div> <div>(Activator</div> <div>Powered)</div> <div>Water (<div>Bubble Column)</div> <div>Barrel</div> <div>Bee Nest (<div>Hive)</div> <div>Brewing Stand</div> <div>Cake</div> <div>Cauldron</div> <div>Chest (<div>Copper)</div> <div>Chiseled Bookshelf</div> <div>Composter</div> <div>Copper Golem Statue</div> <div>Decorated Pot</div> <div>End Portal Frame</div> <div>Furnace (<div>Blast</div> <div>Smoker)</div> <div>Item Frame (<div>Glow)</div> <div>Respawn Anchor</div> <div>Shulker Box</div> <div>Redstone Ore (<div>Deepslate)</div> <div>Scaffolding</div> <div>Sculk Catalyst</div> <div>Sculk Shrieker</div> <div>Wall</div> <div>Piston (<div>Sticky)</div> <div>Honey Block</div> <div>Slime Block</div> <div>Movable and immovable blocks</div> <div>Block of Amethyst</div> <div>Wool (<div>Carpet)</div> <div>Armor Stand</div> <div>Bell</div> <div>Big Dripleaf</div> <div>Copper Bulb</div> <div>Creaking Heart</div> <div>Doors (<div>Copper</div> <div>Iron</div> <div>Wooden)</div> <div>Fence Gate</div> <div>Head</div> <div>Note Block</div> <div>Redstone Lamp</div> <div>Shelf</div> <div>TNT (<div>Minecart)</div> <div>Trapdoors (<div>Copper</div> <div>Iron</div> <div>Wooden)</div> <div>Command Block (<div>Minecart)</div> <div>Minecart with Monster Spawner</div> <div>Structure Block</div> <div>Test Block</div> </div> </div> </div></div></div></div></div></div></div></div></div></div></div></div></div></div>
Power emission	
Signal transmission	
Item and entity transportation	
Comparator-readable	
Observer-related	
Pistons/related	
Sculk sensor-related	
Mechanisms/misc.	
Creative or commands only	

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Interactable	<div> <div>Anvil (<div>Chipped</div> <div>Damaged)</div> <div>Barrel</div> <div>Beacon</div> <div>Brewing Stand</div> <div>Cartography Table</div> <div>Chest (<div>Ender</div> <div>Copper)</div> <div>Crafting Table</div> <div>Enchanting Table</div> <div>Furnace (<div>Blast</div> <div>Smoker)</div> <div>Grindstone</div> <div>Lectern</div> <div>Loom</div> <div>Shulker Box (<div>Dyed)</div> <div>Sign (<div>Hanging)</div> <div>Smithing Table</div> <div>Stonecutter</div> </div> </div></div></div></div></div>	
Utilizable	<div> <div>Banners (<div>Ominous)</div> <div>Beehive</div> <div>Beds</div> <div>Bell</div> <div>Bookshelf</div> <div>Cake</div> <div>(with Candle)</div> <div>Campfire (<div>Soul)</div> <div>Cauldron</div> <div>Chiseled Bookshelf</div> <div>Composter</div> <div>Conduit</div> <div>Copper Golem Statue</div> <div>Decorated Pot</div> <div>End Gateway</div> <div>End Portal</div> <div>End Portal Frame</div> <div>Farmland</div> <div>Fletching Table</div> <div>Flower Pot</div> <div>Frosted Ice</div> <div>Heads (<div>Skeleton</div> <div>Wither Skeleton</div> <div>Zombie</div> <div>Creeper</div> <div>Piglin</div> <div>Dragon)</div> <div>Heavy Core</div> <div>Jukebox</div> <div>Ladder</div> <div>Lodestone</div> <div>Monster Spawner</div> <div>Nether Portal</div> <div>Respawn Anchor</div> <div>Scaffolding</div> <div>Shelf</div> <div>Sponge (<div>Wet)</div> </div> </div></div></div></div>	

**Redstone/
Mechanical**

Suspicious Gravel
 Suspicious Sand
 TNT
 Trial Spawner
 Ominous)
 Vault (Ominous)
 Buttons (Wooden Stone Polished Blackstone)
 Copper Bulb
 Crafter
 Daylight Detector
 Dispenser
 Dropper
 Doors (Copper Iron Wooden)
 Honey Block
 Hopper
 Lever
 Lightning Rod
 Note Block
 Observer
 Piston (Sticky)
 Pressure Plates (Wooden Stone Polished Blackstone Heavy Weighted Light Weighted)
 Rail (Activator Detector Powered)
 Redstone Lamp
 Redstone Wire (Comparator Repeater Torch)
 Slime Block
 Target
 Trapped Chest
 Trapdoors (Copper Iron Wooden)
 Fence Gates
 Tripwire Hook (~ ~ Tripwire)
 Allow
 Border
 Chalkboard
 Compound Creator
 Deny
 Element Constructor
 Heat Block
 Item Frame (Glow)
 Lab Table
 Material Reducer
 Underwater TNT
 Underwater Torch

BE & edu only **Creative or commands only**[\[show\]](#) **Removed**[\[show\]](#) **Unused**[\[show\]](#) **Unimplemented**[\[show\]](#) **Joke**[\[show\]](#) **Extreme metadata variants**[\[show\]](#)**Items**[\[hide\]](#) **Equipment**[\[show\]](#) **Utilities**[\[show\]](#) **Food**[\[show\]](#) **Ingredients**[\[hide\]](#)**Seeds**

Beetroot Seeds
 Cocoa Beans
 Melon Seeds
 Nether Wart
 Pitcher Pod
 Pumpkin Seeds
 Torchflower Seeds
 Wheat Seeds

Raw materials

Amethyst Shard
 Armadillo Scute
 Blaze Rod
 Bone
 Breeze Rod
 Clay Ball
 Coal
 Diamond
 Disc Fragment 5
 Dragon's Breath
 Echo Shard
 Egg (Blue Brown)
 Emerald
 Feather
 Flint
 Ghast Tear
 Glowstone Dust
 Gunpowder
 Heart of the Sea
 Honeycomb
 Ink Sac (Glow)
 Kelp
 Lapis Lazuli
 Leather
 Magma Cream
 Nautilus Shell
 Nether Quartz
 Nether Star
 Phantom Membrane
 Prismarine Shard
 Prismarine Crystals
 Rabbit Hide
 Rabbit's Foot
 Raw Copper
 Raw Gold
 Raw Iron
 Redstone Dust
 Resin Clump
 Shulker Shell
 Slimeball
 Snowball
 Stick
 String
 Turtle Scute
 Wheat
 Blaze Powder
 Book
 Brick (Nether Resin)
 Charcoal
 Copper Ingot (Nugget)
 Fermented Spider Eye
 Firework Star
 Glistening Melon Slice
 Gold Ingot (Nugget)
 Iron Ingot
 Nugget)
 Netherite Ingot (Scrap)
 Paper
 Popped Chorus Fruit
 Sugar

Processed
























Edu only
 Bleach
 Compounds
 White
 Light Gray
 Gray
 Black
 Brown
 Red
 Orange
 Yellow
 Lime
 Green
 Cyan
 Light Blue
 Blue
 Purple
 Magenta
 Pink

Dyes

Bordure Indented
 Creeper Charge
 Field Masoned
 Flow
 Flower Charge
 Globe
 Guster
 Skull Charge
 Snout
 Thing

Banner patterns

Pottery sherds

 Angler  Archer  Arms Up  Blade  Brewer  Burn  Danger
 Explorer  Flow  Friend  Guster  Heart  Heartbreak
 Howl  Miner  Mourner  Plenty  Prize  Scrape  Sheaf
 Shelter  Skull  Snort

Smithing templates

Armor Trim ( Bolt  Coast  Dune  Eye  Flow  Host
 Raiser  Rib  Sentry  Shaper  Silence  Snout  Spire
 Tide  Vex  Ward  Wayfinder  Wild)  Netherite Upgrade

 **Creative or commands only** [\[show\]](#)

 **Removed** [\[show\]](#)

 **Unused** [\[show\]](#)

 **Unimplemented** [\[show\]](#)

 **Joke** [\[show\]](#)

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