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A **grindstone** is a [block](#) that repairs [items](#) and [tools](#) as well as removing [enchancements](#) from them, except for [curses](#). It also serves as a [weaponsmith's job site block](#).

## Grindstone



<b>Renewable</b>	Yes
<b>Stackable</b>	Yes (64)
<b>Tool</b>	
<b>Blast resis- tance</b>	6
<b>Hardness</b>	2
<b>Luminous</b>	No
<b>Transparent</b>	Yes
<b>Flammable</b>	No
<b>Catches <a href="#">fire</a> from <a href="#">lava</a></b>	No

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## Obtaining

### Breaking

Grindstones can be obtained using any [pickaxe](#). If mined without a pickaxe, it drops nothing.

Block	Grindstone
Hardness	2
Tool	
Breaking time <sup>[A]</sup>	
Default	10
Wooden	1.5
Stone	0.75
Iron	0.5
Diamond	0.4
Netherite	0.35
Golden	0.25

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

### Natural generation

Grindstones naturally generate at [village weaponsmiths](#).



A grindstone generated inside a weaponsmith shelter structure.

### Crafting

Ingredients	Crafting recipe	Description
<a href="#">Stick</a> + <a href="#">Stone</a> <a href="#">Slab</a> + Any <a href="#">Planks</a>		In Bedrock Edition, grindstone recipes built with crimson, warped, or mangrove planks can use a slab of almost any of the

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## Usage

A grindstone can be oriented in different directions. In [Java Edition](#) it doesn't need a supporting block. In [Bedrock Edition](#) it breaks if unsupported.

## Repairing and disenchanting

When [used](#), an interface is displayed with two input slots and one output slot.

Placing one [enchanted item](#) in an input slot forms a new *non-enchanted* item of the same type and durability in the output slot. Interface for the grindstone

Removing the item from the output slot consumes the input item and drops some [experience](#).

Placing two [items](#) (enchanted or not) of the same type in the input slots forms a new non-enchanted item of that type and with a durability equal to the sum of the durabilities of the two input items, plus 5% of the maximum durability of that item (rounded down), up to its maximum durability. Both input items are consumed in the process. If either input item was enchanted, then removing the output item drops some [experience](#).

The amount of experience dropped depends on the number of enchantments and levels of each, but it is partially random. For example, [Fire Protection](#) I gives 5-9 experience.<sup>[[more information needed](#)]</sup>

As with all non-enchanted items, the new item has no [prior work penalty](#). A grindstone cannot remove a [curse](#). Grindstones also do not remove an item's custom name.

If the action is not applicable (e.g. only one non-enchanted item, or the two inputs are different items), the arrow displays a red cross like that of an [anvil](#) and no item appears in the output slot.

The following tables show the durability bonuses of various items:

Armor	Leather	Gold	Chainmail	Iron	Diamond	Netherite
<b>Helmet</b>	2	3	8	8	18	20
<b>Chestplate</b>	4	5	12	12	26	29
<b>Leggings</b>	3	5	11	11	24	27
<b>Boots</b>	3	4	9	9	21	24

Tools



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Bow	Crossbow	Trident	Shield	Turtle Shell	Elytra	Carrot on a Stick	Warped Fungus on a Stick	Fishing Rod	Shears	Flint and Steel
19	23	12	16	13	21	1	5	3 <sup>[JE only]</sup> 19 <sup>[BE only]</sup>	11	3

### Changing profession

If a [village](#) has a grindstone that has not been claimed by a [villager](#), any villager who did not already pick a [job site](#) block has a chance to change their profession into [weaponsmith](#).

### Experience

When removing enchantments from items, the player gains experience equal to the minimum [modified enchantment level](#) of that enchantment. The final amount is a uniformly-distributed random amount between half the resulting sum (rounded up) and the sum itself.

### Piston interactivity

Grindstones cannot be pushed by [pistons](#) or pulled by [sticky pistons](#).

## Sounds

#### Generic

*Java Edition:*

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



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Sound	Source	Description	Resource location	Volume	<div>[Collapse]</div> Pitch
	Blocks	Once the block has broken	<div>dig</div> <div>.stone</div>	1.0	0.8-1.0
	Blocks	When the block is placed	<div>dig</div> <div>.stone</div>	1.0	0.8-1.0
	Blocks	While the block is in the process of being broken	<div>hit</div> <div>.stone</div>	0.37	0.5
	Players	Falling on the block with fall damage	<div>fall</div> <div>.stone</div>	0.4	1.0
	Players	Walking on the block	<div>step</div> <div>.stone</div>	0.3	1.0
	Players	Jumping from the block	<div>jump</div> <div>.stone</div>	0.12	1.0
	Players	Falling on the block without fall damage	<div>land</div> <div>.stone</div>	0.22	1.0

Unique

Java Edition:

Sound	Subtitles	Source	Description	Resource location	Translation key	Volume	Pitch	<div>[Collapse]</div> Attenuation distance
	Grindstone used	Blocks	When a grindstone is used	<div>block.grindstone</div> <div>.use</div>	<div>subtitles.block</div> <div>.grindstone.use</div>	0.5	0.9-1.0	16
	Weaponsmith works	Friendly Creatures	Randomly while a weaponsmith is working	<div>entity.villager</div> <div>.work_weaponsmith</div>	<div>subtitles.entity</div> <div>.villager</div> <div>.work_weaponsmith</div>	0.5	0.8-1.2	16

Bedrock Edition:

Sound	Source	Description	Resource location	Volume	<div>[Collapse]</div> Pitch
	Blocks	When a grindstone is used	<div>block</div> <div>.grindstone</div> <div>.use</div>	0.5	1.0
	Blocks	Randomly while a weaponsmith is working	<div>block</div> <div>.grindstone</div> <div>.use</div>	0.5	1.0

Data values

ID





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Grindstone		Item	
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*Bedrock Edition:*

Name	Identifier	Numeric ID	Form	Item ID <sup>[i 1]</sup>	Translation key
Grindstone	<div>grindstone</div>	<div>450</div>	Block & Giveable Item <sup>[i 2]</sup>	Identical <sup>[i 3]</sup>	<div>tile.grindstone.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.

## Block states

See also: *Block states*

*Java Edition:*

Name	Default value	Allowed values	Description
<b>face</b>	<div>wall</div>	<div>ceiling</div> <div>floor</div> <div>wall</div>	What the grindstone is attached to.
<b>facing</b>	<div>north</div>	<div>east</div> <div>north</div> <div>south</div> <div>west</div>	The direction the grindstone is facing. Opposite from the direction the player faces when placing a grindstone on the floor or ceiling.

*Bedrock Edition:*

Name	Metadata Bits	Default value	Allowed values	Values for Metadata Bits	Description
<b>attachment</b>	<div>0x4</div> <div>0x8</div>	<div>standing</div>	<div>standing</div> <div>hanging</div> <div>side</div> <div>multiple</div>	<div>0</div> <div>1</div> <div>2</div> <div>3</div>	What the grindstone is attached to.
<b>direction</b>	<div>0x1</div> <div>0x2</div>	<div>0</div>	<div>0</div> <div>1</div> <div>2</div>	<div>0</div> <div>1</div> <div>2</div>	The direction the grindstone is facing. Opposite from the direction a player faces when placing the block. <div><div>• 0:</div><div>South</div></div>

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					North facing <ul style="list-style-type: none"><li>3: East facing</li></ul>
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## Achievements

Icon		Achievement	In-game description	Actual requirements (if different)	Gamerscore earned	Trophy type (PS4)
PS4	Other					
		Disenchanted	Use a Grindstone to get experience from an enchanted item.	–	20G	Bronze

## History

For a more in-depth breakdown of changes to textures and models, including a set of renders for each state combination, see /Asset history

Java Edition		
1.14		Added grindstones.
	18w44a	Grindstones are currently obtainable only from the <span>creative inventory</span> and do not have any functionality.
	18w45a	Added cullface argument to the feet of the grindstone.
	18w48a	The texture of grindstones has been changed.
		Added a <span>crafting</span> recipe for grindstones.
		Grindstones are now functional and used to repair <span>items</span> and <span>tools</span> .
		Grindstones can now remove all non-curse <span>enchancements</span> from an item, in which <span>experience</span> is reimbursed to the <span>player</span> .
		Grindstones now generate in the updated <span>plains villages</span> .
	18w49a	Grindstones now generate in the updated <span>savanna</span> villages and the new <span>snowy tundra</span> villages.
	18w50a	Grindstones now generate in the updated <span>desert</span> and <span>taiga</span> villages.
	19w03a	Added <span>sounds</span> for grindstones.
	19w11a	Grindstones now serve as weaponsmith

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Bedrock Edition				
1.9.0		beta 1.9.0.2		Added grindstones, but they have no functionality.
1.10.0		beta 1.10.0.3		Grindstones can now generate in village weaponsmith houses.
				The texture of grindstones has been changed.
				Added a <a href="#">crafting</a> recipe for grindstones.
1.11.0		beta 1.11.0.1		Grindstones are now functional.
				Grindstones are no longer immune from explosions.
Legacy Console Edition				
		1.91		Added grindstones.
		1.92		The texture of grindstones has been changed.

## Issues

Issues relating to "Grindstone" 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%22Grindstone%22%29%20order%20by%20resolution%20desc) (<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%22Grindstone%22%29%20order%20by%20resolution%20desc>).

## Trivia

- Before the grindstone was added, a different method to remove enchantments was floated for [Update Aquatic](#), which would have been by means of feeding items to a mob known as "[the Great Hunger](#)", but the mob lost the [MINECON Earth 2017](#) mob vote to the [phantom](#).

## Gallery



Grindstones on a wall, floor and ceiling.



A grindstone at a blacksmith.

## References

Blocks	<span>[Collapse]</span>
Natural	<span>[Expand]</span>



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	<div>BarrelBeacon</div> <div>Brewing Stand</div> <div>Cartography TableChest</div> <div>(Ender)Chiseled Bookshelf</div> <div>Crafting Table</div> <div>Enchanting Table</div> <div>Fletching TableFurnace</div> <div>(BlastSmoker)</div> <div><b>Grindstone</b>LecternLoom</div> <div>Shulker BoxSign</div> <div>(Hanging)Smithing Table</div> <div>Stonecutter</div> <div>BannersBeehiveBeds</div> <div>BellCake (with Candle)</div> <div>Campfire (Soul)Cauldron</div> <div>(LavaPowder SnowWater)</div> <div>ComposterConduit</div> <div>End GatewayEnd Portal</div> <div>End Portal FrameFarmland</div> <div>Flower PotFrosted Ice</div> <div>HeadsItem Frame (Glow)</div> <div>JukeboxLadder</div> <div>LodestoneMonster Spawner</div> <div>Nether PortalRespawn Anchor</div> <div>ScaffoldingSponge (Wet)</div> <div>TNT</div> <div>ButtonDaylight Detector</div> <div>Dispenser (Dropper)Doors</div> <div>(Trapdoors)Fence Gates</div> <div>Honey BlockHopperLever</div> <div>Lightning RodNote Block</div> <div>ObserverPiston (Sticky HeadMoving)</div> <div>Pressure PlatesRail</div> <div>(ActivatorDetector</div> <div>Powered)Redstone Wire</div> <div>(ComparatorRepeater</div> <div>LampTorch)Slime Block</div> <div>TargetTrapped Chest</div> <div>Tripwire Hook (Tripwire)</div>
<b>Redstone/Mechanical</b>	<div>BorderChalkboard</div> <div>AllowCompound Creator</div> <div>Colored TorchesDeny</div> <div>Element Constructor</div>
<b>Education Edition only</b>	<div>Heat BlockLab Table</div> <div>Material Reducer</div> <div>Underwater TNT</div> <div>Underwater Torch</div>
<b>BE &amp; edu only</b>	
<b>Creative only</b>	<b>[Expand]</b>
<b>Commands only</b>	<b>[Expand]</b>
<b>Unimplemented</b>	<b>[Expand]</b>
<b>Unused</b>	<b>[Expand]</b>



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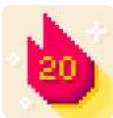




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