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# Enchanting


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*"Enchant" redirects here. For the command, see [Commands/enchant](#). For the block used to enchant, see [Enchanting Table](#). For the command NBT tag, see [Tutorials/Command NBT tags § Items](#). For the Minecraft Dungeons mechanic, see [Minecraft Dungeons:Enchanting](#).*

**Enchanting** is a mechanic that augments [armor](#), [tools](#), [weapons](#), and [books](#) with one or more of a variety of "enchantments" that improve an [item](#)'s existing abilities or imbue them with additional abilities and uses. A special "glint" animation appears on items that are enchanted.



The glint animation applied to an enchanted iron [pickaxe](#).

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| Name                             | Icon | Usage   |
|----------------------------------|------|---|
| <a href="#">Enchanting Table</a> |      | Used for enchanting items.  |
| <a href="#">Bookshelf</a>        |      | Each bookshelf (up to 15) increases the level of the enchantments given by the enchanting table.  |
| <a href="#">Lapis Lazuli</a>     |      | Required to power the enchanting table.   |
| <a href="#">Anvil</a>            |      | Used to combine enchanted items (tools, armor, weapons, etc), add enchantments from books, or repair an enchanted item while preserving enchantments. |
| <a href="#">Grindstone</a>       |      | Used to remove all non-curse enchantments on an item, returning a small amount of experience, and optionally repair an item for no experience.        |
| <a href="#">Enchanted Book</a>   |      | Can be combined with another item through an anvil to add certain enchantments to the item.   |

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## Enchanting methods

There are four ways to enchant an item in Survival mode:

- Through an enchanting table in exchange for [experience](#) points and lapis lazuli. Only unenchanted items may be enchanted this way.
- Through an [anvil](#), combining an [enchanted book](#) with an item.
- Through an [anvil](#), combining two of the same item with different existing enchantments into a single item that has the enchantments of both.
- Through a [librarian villager](#), which may enchant books respectively for emeralds instead of lapis lazuli and experience, which instead gives the player experience just like every [trade](#).



An enchanting table surrounded by bookshelves.

A player may also obtain items already enchanted:

- Through a [villager](#), who may trade some enchanted items for [emeralds](#).
- By [fishing](#), which gives a chance of obtaining enchanted items.
- Through a [zombie](#), [drowned](#), [husk](#), [piglin](#), [skeleton](#), [stray](#), [wither skeleton](#), and [zombified piglin](#) if they have enchanted items and are killed by a [player](#). They have an 8.5% chance to drop each individual item.
- By finding them in treasure chests in locations such as [end cities](#), [ancient cities](#), [shipwrecks](#), [mineshafts](#), [dungeons](#), [desert temples](#), [jungle temples](#), [woodland mansions](#), [ocean ruins](#), [strongholds](#), [ruined portals](#), [pillager outposts](#), and [bastion remnants](#).
- Due to [bartering](#) with piglins. When given gold, piglins have a small chance to drop an enchanted [book](#) or [iron boots](#) with the [Soul Speed](#) enchantment (random level 1-3).
- Through killing [pillagers](#) and [vindicators](#) in [raids](#) on *Bedrock Edition*.



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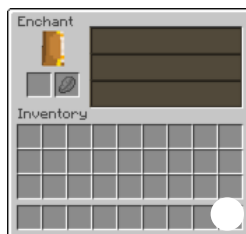
enchanted with the `/give` command, the maximum enchantment level is 255 on Java Edition. In [Creative](#) mode, items can be enchanted via an anvil and [enchanted books](#), with no [experience](#) points required. [Enchanted books](#) are available in the Creative mode inventory, with individual book displays for the highest level of each enchantment and other levels available via the "Search" tab.

## Enchanting table

*Main article: [Enchanting mechanics](#)*

An item can be enchanted by using an enchanting table and placing the item in the input slots and uses 1–3 [lapis lazuli](#) but can hold up to 64 [lapis](#) in its dedicated slot.

Upon placing the item, three (pseudo)randomized options appear on the right of the GUI. The [glyphs](#)(Random galactic alphabet sentences) here do not affect the enchantment, but hovering over a presented enchantment shows one enchantment to be applied (on mobile devices, the player can tap an enchantment before putting in the lapis lazuli or hold the enchantment before release). The only choices available have a level requirement equal to or below the player's current level and a lapis lazuli requirement equal to or below the number of lapis lazuli placed in the table. Each option imbues the item with a randomized set of enchantments that are dependent on the number of experience levels required (e.g. a level 10 enchantment can give a pickaxe the "Efficiency II" enchantment); the actual level cost and the number of lapis lazuli required have no effect.



Enchanting table interface.

Although the player must have at least the level requirement to get an enchantment, the number of levels that the player is charged is the same as the lapis lazuli requirement. For example, if the third enchantment listed is a level 30 enchantment, the player must have at least 30 levels, but pay only 3 levels and 3 lapis lazuli.

The level requirement influences the quantity, type, and level of enchantments instilled in the item, with a higher experience level generally resulting in more and/or higher-level enchantments. Nevertheless, there is a significant random factor, and even a level 30 enchantment (the maximum) doesn't guarantee more than one enchantment, or even that enchantments are "maximum strength" – a level 30 enchantment can still yield Fortune II or Efficiency III alone, for example. On the other hand, it is possible for multiple different enchantments to be given from one use of the enchanting table. For example, a level 30 enchantment applied to a pickaxe may yield both Efficiency IV and Unbreaking III.

To increase the enchantment level, [bookshelves](#) can be placed next to the [enchanting table](#) while keeping one block of [air](#) between them. To gain access to the previously mentioned level 30 enchantments, a total of 15 bookshelves need to be placed around the enchanting table. See the [Enchantment Mechanics](#) page for more detailed information on this.

Enchanting a [book](#) produces an enchanted book, which does nothing on its own, but effectively "saves" the enchantment for later application to another item with an [anvil](#).

Unlike with an anvil, using the enchanting table while on Creative still



then experience reduces to zero and the enchantment still works, even when using the enchanting table while already at level zero.

## Affecting offered enchantments

Enchanting any item at any enchantment level changes the player's enchantment seed, which changes the possible enchantments for every item at every enchantment level. Thus, if none of the available enchantments for a tool are desired, 1 lapis lazuli and 1 [level](#) could be spent to enchant a book or a different [tool](#) to refresh the list.

The possible enchantments depend on the player's enchantment seed, the item type, and material, and the enchantment level (1–30). The following actions do not affect the possible enchantments:

- removing the item and putting it back in
- clicking on the item slot with a different item
- using a different item of the same type and material
- replacing or moving the table (but keeping the same number of bookshelves)
- using a different table with the same number of bookshelves, or
- replacing or rearranging the bookshelves without changing their total number.

Changing the enchantment levels offered by adding, removing, or blocking bookshelves alters the enchantments shown, but does not change possible enchantments; using another enchanting table with the previous bookshelf number still shows the previous enchantments. The enchantments for a particular enchantment level (with the same seed and item) do also differ depending on which row they appear in, but they are not "better" or "worse" based on the row despite the different resource costs.

## Anvil combinations

*Main article: [Anvil mechanics](#)*

An anvil can be used to combine the enchantments of two [items](#), sacrificing one of them and repairing the other. The items must be compatible; they must either be the same type and material (such as two iron swords) or an item and an enchanted book with an applicable enchantment (such as a bow and an [Infinity](#) enchanted book).

Combining two enchanted items, books or one of each with the same enchantment at the same level produces an item or book with the next higher level of that enchantment up to the maximum allowed in Survival mode; for example, a book with [Thorns](#) I and [Unbreaking](#) II combined with a book with [Unbreaking](#) II produces a book with [Thorns](#) I and [Unbreaking](#) III.

To combine items, the player places the target item in the anvil's first slot and the sacrifice item in the second slot. If the combination is allowed, the resulting enchanted item appears in the anvil's output slot and an experience level cost, labeled "Enchantment Cost", appears below (green if the player has enough experience levels, red if they don't). To complete the enchanting, the player removes the enchanted item from the anvil's output slot, and their experience level is reduced accordingly.

The experience cost depends on the enchantments, with highly enchanted items costing more. If the target item is also being repaired, that costs more as well. The target item can also be renamed, at additional cost. There is also an accumulating surcharge for prior work done on



steps. For example, a damaged enchanted bow may be repaired on an anvil with an ordinary bow, and then another enchanted bow may be used to combine enchantments with the repaired bow.

## Enchanted books

*Main article: [Enchanted Book](#)*

Enchanted books can be made by enchanting a book in an [enchanting table](#) at the cost of [experience](#) points. They can also be found in the chests of several structures, purchased with [emeralds](#) from a librarian villager, or caught while fishing.

Enchanted books can be applied to tools, weapons, and armor, or combined with other enchanted books in an [anvil](#). In this way, some enchantments that cannot normally be obtained on an item through use of the enchanting table can still be applied to those items, such as applying [Thorns](#) to boots.

Although enchanted books can have multiple enchantments of any type, only enchantments appropriate to a given item type are applied to that item when combined in an anvil. For example, an enchanted book may have both the Respiration and Power enchantments, but the Respiration enchantment is lost if the book is applied to anything but a helmet or a turtle shell. Likewise, the Power enchantment is lost if the book is applied to anything but a bow.

In Creative mode, enchanted books can be used to apply any enchantment to any item, such as a stick having [Knockback II](#) on Java Edition. However, mutually-exclusive enchantments, such as [Infinity](#) and [Mending](#), cannot be applied this way or even via `/enchant` (though both enchantments function as normal when obtained on a bow through the `/give` command).

The experience costs for *using* books are considerably less than for combining items with similar enchantments since the books themselves cost levels to create. However, it's still an extra cost, and enchanting items directly has a chance to get multiple enchantments. The advantage of books is that they can be stockpiled for use on an item of choice and allow for *controlled* combinations. For example, a Silk Touch book can be used on an [axe](#), [pickaxe](#), or [shovel](#), and the player can decide which item receives which enchantment.

### Best Enchanting order

Use [Order Calculator](#) (<https://iamcal.github.io/enchant-order/>) to minimize experience loss when merging two items.

## Disenchanting

The only way to disenchant items is via the [grindstone](#) or by repairing the items via the crafting grid. Using the grindstone removes all enchantments (except [Curse of Binding](#) and [Curse of Vanishing](#), also known as curses) but gives some experience back based on the level of the enchantment(s) and their value.

## Summary of enchantments

*See also: [Enchanting/Levels](#)*

Each enchantment in the table below includes attributes that are possible for the player to acquire legitimately in Survival mode. Other combinations

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- **Max Level:** Maximum levels for enchantments vary, but the game can comprehend up to 32-bit integer values ( $-2^{31}$  to  $2^{31}-1$ ). Exceeding this value results in an overflow, and eventually resets itself to 0.
- **Primary Items:** The items that can receive the enchantment legitimately in Survival mode by using an enchanting table. Items of any material can be enchanted (some more easily than others – see [Enchantment mechanics](#)).
- **Secondary Items:** Items that, in Survival mode, cannot receive the enchantment from an enchanting table but can from an enchanted book with an anvil.
- **Weight:** Relative probability of the enchantment being offered.

| Name   | Summary  | Treasure <sup>[note 1]</sup> | Incompatible With                                  | Max Level | Primary Items        | Secondary Items      | Weight |
|--|--|------------------------------|--|-----------|----------------------|----------------------|--------|
| <a href="#">Aqua Affinity</a>                                      | Increases underwater mining speed.   | No                           |  | I(1)      |                      |                      | 2      |
| <a href="#">Bane of Arthropods</a>                                 | Increases damage and applies <a href="#">Slowness</a> IV to <a href="#">arthropod</a> mobs (spiders, cave spiders, silverfish, endermites and bees). | No                           | Smite, Sharpness                                   | V(5)      | <sup>[BE only]</sup> | <sup>[JE only]</sup> | 5      |
| <a href="#">Blast Protection</a>                                   | Reduces explosion damage and knockback.  | No                           | Fire Protection, Protection, Projectile Protection | IV(4)     |                      |                      | 2      |
| <a href="#">Channeling</a>   | During thunderstorms, trident summons a lightning bolt on the target when hitting it.  | No                           | <a href="#">Riptide</a>                            | I(1)      |                      |                      | 1      |
| <a href="#">Cleaving</a><br><sup>[upcoming: JE Combat Tests]</sup> | Increases damage and shield stunning.  | Unknown                      | Sharpness, Bane of Arthropods, Smite               | III(3)    |                      |                      |        |
| <a href="#">Curse of Binding</a>                                   | Items cannot be removed from armor slots.  | Yes                          |  | I(1)      |                      |                      | 1      |
| <a href="#">Curse of Vanishing</a>                                 | Item disappears on death.  | Yes                          |  | I(1)      |                      | <sup>[BE only]</sup> | 1      |
| <a href="#">Depth Strider</a>                                      | Increases underwater movement speed.   | No                           | Frost Walker                                       | III(3)    |                      |                      | 2      |
|  | Increases tool   |                              |  |           |                      |                      |        |

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|                                 |  | for axes to disable shields. |  |   |        |                                    |  |   |
| <a href="#">Feather Falling</a> | Reduces fall damage.   | No                           |  |   | IV(4)  |                                    |  | 5 |
| <a href="#">Fire Aspect</a>     | Sets target on fire.   | No                           |  |   | II(2)  | <i>[upcoming: JE Combat Tests]</i> |  | 2 |
| <a href="#">Fire Protection</a> | Reduces fire damage and burn time.<br>Mutually exclusive with other protections.                                   | No                           |  | Blast Protection, Protection, Projectile Protection | IV(4)  |                                    |  | 5 |
| <a href="#">Flame</a>           | Arrows shot are ignited and deal fire damage to the target.  | No                           |  |   | I(1)   |                                    |  | 2 |
| <a href="#">Fortune</a>         | Increases the amount of block drops.   | No                           |  | Silk Touch  | III(3) |                                    |  | 2 |
| <a href="#">Frost Walker</a>    | Allows the player to walk on water by freezing the water under their feet.   | Yes                          |  | Depth Strider                                       | II(2)  |                                    |  | 2 |
| <a href="#">Impaling</a>        | Increases damage against aquatic mobs. In <i>Bedrock Edition</i> , increases damage against mobs in water or rain. | No                           |  |   | V(5)   |                                    |  | 2 |
| <a href="#">Infinity</a>        | Prevents consumption of normal arrows (tipped arrows and spectral arrows are consumed).                            | No                           |  | Mending   | I(1)   |                                    |  | 1 |
| <a href="#">Knockback</a>       | Increases knockback.   | No                           |  |   | II(2)  |                                    |  | 5 |
| <a href="#">Looting</a>         | Increases mob loot.  | No                           |  |   | III(3) |                                    |  | 2 |
| <a href="#">Loyalty</a>         | Trident returns after being thrown.  | No                           |  | Riptide   | III(3) |                                    |  | 5 |
| <a href="#">Luck of the Sea</a> | Increases rate of good loot (enchancing books, etc.).  | No                           |  |   | III(3) |                                    |  | 2 |
| <a href="#">Lure</a>            | Decreases time for bites.  | No                           |  |   | III(3) |                                    |  | 2 |





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




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|   | <a href="#">Mending</a>                                     | Repairs the item using experience.   | Yes  | Infinity   | I(1)  |   | 2   |
|   | <a href="#">Multishot</a>                                   | Fires 3 arrows at the same time.   | No   | Piercing   | I(1)  |   | 2   |
|   | <a href="#">Piercing</a>                                    | Arrows pierce entities, allowing for arrows to pierce through stacks of mobs.                    | No   | Multishot  | IV(4)   |   | 10  |
|   | <a href="#">Power</a>                                       | Increases arrow damage.  | No   |  | V(5)  |   | 10  |
|   | <a href="#">Projectile Protection</a>                       | Reduces damage from projectiles.   | No   | Protection, Blast Protection, Fire Protection  | IV(4)   |   | 5   |
|   | <a href="#">Protection</a>                                  | Reduces generic damage.  | No   | Blast Protection, Fire Protection, Projectile Protection   | IV(4)   |   | 10  |
|   | <a href="#">Punch</a>                                       | Increases arrow knockback.   | No   |  | II(2)   |   | 2   |
|   | <a href="#">Quick Charge</a>                                | Decreases crossbow charging time.  | No   |  | III(3)  |   | 5   |
|   | <a href="#">Respiration</a>                                 | Extends underwater breathing time.   | No   |  | III(3)  |   | 2   |
|   | <a href="#">Riptide</a>                                     | Trident launches player with itself when thrown while in water or rain.                          | No   | Channeling, Loyalty  | III(3)  |   | 2   |
|   | <a href="#">Sharpness</a>                                   | Increases melee damage.  | No   | Bane of Arthropods, Smite  | V(5)  | <i>[BE only]</i>  | <i>[JE only]</i> 10   |
|   | <a href="#">Silk Touch</a>                                  | Mined blocks drop themselves.  | No   | Fortune  | I(1)  | <i>[BE only]</i>  | 1   |
|   | <a href="#">Smite</a>                                       | Increases damage to <a href="#">the undead</a> .   | No   | Bane of Arthropods, Sharpness  | V(5)  | <i>[BE only]</i>  | <i>[JE only]</i> 5  |
|   | <a href="#">Soul Speed</a>                                  | Increases movement speed on <a href="#">soul sand</a> and <a href="#">soul soil</a> .            | Yes  |  | III(3)  |   | 1   |
|   | <a href="#">Sweeping Edge</a><br><i>[Java Edition only]</i> | Increases sweeping attack damage.  | No   |  | III(3)  |   | 2   |
|   |   | Increases  |  |  |   |   |   |

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|            | speed.   |     |  |        |  |  |   |
| Thorns     | Taking damage causes the attacker to also take damage. | No  |  | III(3) |  |  | 1 |
| Unbreaking | Reduces durability damage.                             | No  |  | III(3) |  |  | 1 |
| Wind Burst | Any smash attacks causes the player a wind charge.     | Yes |  | III(3) |  |  | 1 |

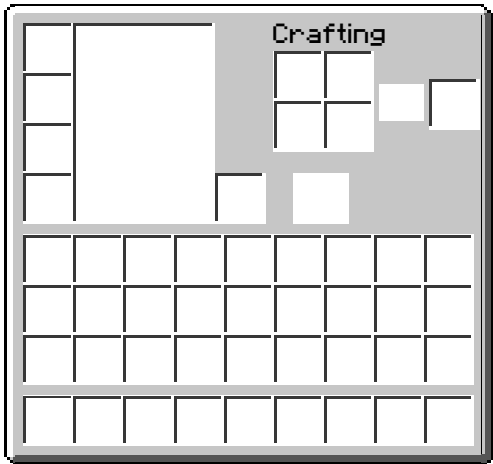
1. Treasure enchantments are those that can't be obtained using an [enchantment table](#).

## Summary of enchantments by item

Enchantments that have multiple levels are shown with their maximum level numbers. Mutually exclusive enchantments can be combined using|-

## Summary of enchantments by item

Enchantments that have multiple levels are shown with their maximum level numbers. Mutually exclusive enchantments can be combined using [commands](#) (e.g., `/give @s bow{Enchantments:[{id:infinity,lvl:1},{id:mending,lvl:1}]} 1`). Also, a player can exceed the maximum levels of enchantments (e.g., `/give @s netherite_sword{Enchantments:[{id:fire_aspect,lvl:10}]} 1`). However, if that number goes above `10`, it looks like this:



[1]

| Item         | Any combination of                   | Only one from each column            |  |
|--------------|--------------------------------------|--------------------------------------|--|
| Helmet       | Mending, Unbreaking III, Thorns III, | Protection IV, Projectile Protection |  |
| Turtle Shell | Respiration III, Aqua Affinity       |                                      |  |
| Chestplate   | Mending, Unbreaking III, Thorns III  |                                      |  |
|              | Mending, .....                       |                                      |  |

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|  |                          | Swift Sneak III   | IV, Blast Protection IV  |  |
|  | Boots                    | Mending, Unbreaking III, Thorns III, Feather Falling IV, Soul Speed III   |  | Depth Strider III<br>Frost Walker II   |
|  | Sword                    | Mending, Unbreaking III, Fire Aspect II, Looting III, Knockback II, Sweeping Edge III <sup><span>[</span><i>JE only</i><span>]</span></sup> | Sharpness V, Smite V, Bane of Arthropods V                       |  |
|  | Mace                     | Mending, Unbreaking III, Fire Aspect II, Wind Burst III   | Density V,Breach IV,Bane of Athropods V,Smite V                  |  |
|  | Axe                      | Mending, Unbreaking III, Efficiency V <sup><span>[</span>2<span>]</span></sup>  | Fortune III, Silk Touch  | Sharpness V<br>Smite V<br>Bane of Arthropods V<br>Cleaving III <sup><span>[</span><i>upcoming: JE Combat Tests</i><span>]</span></sup> |
|  | Pickaxe                  |   |  |  |
|  | Shovel                   |   |  |  |
|  | Hoe                      |   |  |  |
|  | Bow                      | Unbreaking III, Power V, Punch II, Flame  | Infinity, Mending  |  |
|  | Fishing Rod              | Mending, Unbreaking III, Lure III, Luck of the Sea III  |  |  |
|  | Trident                  | Mending, Unbreaking III, Impaling V   | Channeling   | Loyalty III  |
|  |                          |   | Riptide III <sup><span>[</span><i>note 1</i><span>]</span></sup> |  |
|  | Crossbow                 | Mending, Unbreaking III, Quick Charge III   | Piercing IV, Multishot   |  |
|  | Shears                   | Mending, Unbreaking III, Efficiency V, Silk Touch <sup><span>[</span><i>BE only</i><span>]</span></sup>                                     |  |  |
|  | Shield                   | Mending, Unbreaking III   |  |  |
|  | Elytra                   |   |  |  |
|  | Flint and Steel          |   |  |  |
|  | Carrot on a Stick        |   |  |  |
|  | Warped Fungus on a Stick |   |  |  |



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|---------------------------------------|--------------------|--|--|
| Compass                               | Curse of Vanishing |  |  |
| Recovery Compass <sup>[BE only]</sup> |                    |  |  |

1. Channeling and Loyalty can be used together but neither can be used with Riptide.

The tables below summarize the enchantments that can be obtained on specific items in *Bedrock Edition* and in *Java Edition* Survival mode (Any enchantment can be applied to any item in *Java Edition* Creative mode). Enchantments that can be applied to both hand slot items and armor slot items are listed in both tables.

- An enchanting table indicates the item can receive the enchantment from an [enchancing table](#).
- An anvil indicates the item *cannot* receive the enchantment from an enchanting table (an enchanting table never offers the enchantment for the item), but can receive the enchantment by another method (for example, using an [anvil](#) to combine the item with an enchanted book or another enchanted item; note the enchanting table *could* still apply the enchantment to the item as a random additional enchantment).

Enchantments for hand slot items

| Enchantment<br>(Max)                                     | <sup>[JE only]</sup> | <sup>[BE only]</sup> |  |  |                      |  |  |  |  | <sup>[BE only]</sup> |
|--|----------------------|----------------------|--|--|----------------------|--|--|--|--|----------------------|
| Bane of Arthropods (V)                                   |                      |                      |  |  |                      |  |  |  |  |                      |
| Channeling (I)   |                      |                      |  |  |                      |  |  |  |  |                      |
| Cleaving (III)<br><sup>[upcoming: JE Combat Tests]</sup> |                      |                      |  |  |                      |  |  |  |  |                      |
| Curse of Vanishing (I)                                   |                      |                      |  |  |                      |  |  |  |  |                      |
| Efficiency (V)   |                      |                      |  |  |                      |  |  |  |  |                      |
| Fire Aspect (II)   |                      |                      |  |  |                      |  |  |  |  |                      |
| Flame (I)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Fortune (III)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Impaling (V)   |                      |                      |  |  |                      |  |  |  |  |                      |
| Infinity (I)   |                      |                      |  |  |                      |  |  |  |  |                      |
| Knockback (II)   |                      |                      |  |  |                      |  |  |  |  |                      |
| Looting (III)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Loyalty (III)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Luck of the Sea (III)                                    |                      |                      |  |  |                      |  |  |  |  |                      |
| Lure (III)   |                      |                      |  |  |                      |  |  |  |  |                      |
| Mending (I)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Multishot (I)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Piercing (IV)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Power (V)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Punch (II)   |                      |                      |  |  |                      |  |  |  |  |                      |
| Quick Charge (III)                                       |                      |                      |  |  |                      |  |  |  |  |                      |
| Riptide (III)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Sharpness (V)  |                      |                      |  |  |                      |  |  |  |  |                      |
| Silk Touch (I)   |                      |                      |  |  | <sup>[BE only]</sup> |  |  |  |  |                      |



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|                     |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Sweeping Edge (III) |  |  |  |  |  |  |  |  |  |  |  |  |
| Unbreaking (III)    |  |  |  |  |  |  |  |  |  |  |  |  |

Enchantments for armor slot items

| Enchantment (Max)          |  |  |  |  |  |  |
|----------------------------|--|--|--|--|--|--|
| Aqua Affinity (I)          |  |  |  |  |  |  |
| Blast Protection (IV)      |  |  |  |  |  |  |
| Curse of Binding (I)       |  |  |  |  |  |  |
| Curse of Vanishing (I)     |  |  |  |  |  |  |
| Depth Strider (III)        |  |  |  |  |  |  |
| Feather Falling (IV)       |  |  |  |  |  |  |
| Fire Protection (IV)       |  |  |  |  |  |  |
| Frost Walker (II)          |  |  |  |  |  |  |
| Mending (I)                |  |  |  |  |  |  |
| Projectile Protection (IV) |  |  |  |  |  |  |
| Protection (IV)            |  |  |  |  |  |  |
| Respiration (III)          |  |  |  |  |  |  |
| Soul Speed (III)           |  |  |  |  |  |  |
| Swift Sneak (III)          |  |  |  |  |  |  |
| Thorns (III)               |  |  |  |  |  |  |
| Unbreaking (III)           |  |  |  |  |  |  |

## Maximum effective values for enchantments

**This section is missing information about a better lead section with a better summary.**

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

A table shows the effective limits for enchantments (found also [here \(https://gist.github.com/tryashtar/4e3917bbd59532463d280755a63705d0\)](https://gist.github.com/tryashtar/4e3917bbd59532463d280755a63705d0)).

| Enchantment        | Stackable                 | Effective min  | Effective max  | Notes   |
|--------------------|---------------------------|--|--|---|
| Aqua Affinity      | Largest on first in armor | 1  | 1  |   |
| Bane of Arthropods | Adds                      | Single:<br>-2147483648<br>Stacked:<br>-52241757371157708 | Single:<br>2147483647<br>Stacked:<br>52241757371157708 | Adds $2.5 * \text{level}$ damage<br>Affects arthropods with slowness amplifier 3 for $1 + \text{random}(0, \text{level} / 2)$ seconds |
|                    |                           |  |  | Reduces damage by a factor of $\text{min}(20, \text{level} * 2) / 25$   |

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|                                    |   |   |     |  |   |
|------------------------------------|---|---|-----|--|---|
|                                    |   |   |     |  | knockback by a factor of $\text{level} * 0.15$<br>Higher levels are treated as 255  |
| <a href="#">Channeling</a>         | First   | 1 | 1   |  |   |
| <a href="#">Curse of Binding</a>   | First   | 1 | 1   |  |   |
| <a href="#">Curse of Vanishing</a> | First   | 1 | 1   |  |   |
| <a href="#">Depth Strider</a>      | Largest on first in armor   | 1 | 3   |  | Higher levels are treated as 3  |
| <a href="#">Efficiency</a>         | First   | 1 | 255 |  | Increases mine speed by $\text{level}^2 + 1$<br>Higher levels are treated as 255  |
| <a href="#">Feather Falling</a>    | Adds  | 1 | 7   |  | Reduces damage by a factor of $\min(20, \text{level} * 3) / 25$   |
| <a href="#">Fire Aspect</a>        | First   | 1 | 255 |  | Sets mobs on fire for $\text{level} * 4$ seconds<br>Higher levels are treated as 255  |
| <a href="#">Fire Protection</a>    | Adds for damage reduction<br>Largest of first in armor for duration reduction | 1 | 10  |  | Reduces damage by a factor of $\min(20, \text{level} * 2) / 25$<br>Reduces fire duration by a factor of $\text{level} * 0.15$ |
| <a href="#">Flame</a>              | First   | 1 | 1   |  |   |
| <a href="#">Fortune</a>            | First   | 1 | 255 |  | Anything that uses the <code>apply_bonus</code> loot table function works like this<br>Higher levels are treated as 255       |
| <a href="#">Frost Walker</a>       | First   | 1 | 14  |  | Higher levels are treated as 14   |

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|                       |       |   |   |   |
|-----------------------|-------|---|---|---|
| Impaling              | Adds  | <div><div>-2147483648</div><div>Stacked:</div><div>-52241757371157708</div></div> | <div><div>2147483647</div><div>Stacked:</div><div>52241757371157708</div></div> | level<br>damage   |
| Infinity              | First | 1   | 1   |   |
| Knockback             | First | 1   | 255   | Adds level<br>knockback<br>strength<br>Higher levels<br>are treated as<br>255   |
| Looting               | First | 1   | 255   | Higher levels<br>are treated as<br>255  |
| Loyalty               | First | 1   | 127   | Increases<br>return speed<br>by <div><div>0.05</div><div>*</div></div><br>level<br>Higher levels<br>are treated as<br>0               |
| Luck of the Sea       | First | 1   | 255   | Adds level<br>luck<br>Higher levels<br>are treated as<br>255  |
| Lure                  | First | 1   | 5   | Reduces lure<br>time by <div><div>5</div><div>*</div></div><br>level<br>seconds<br>Higher levels<br>prevent fish<br>from<br>appearing |
| Mending               | First | 1   | 1   |   |
| Multishot             | First | 1   | 1   |   |
| Piercing              | First | 1   | 127   | Higher levels<br>are treated as<br>0  |
| Power                 | First | 1   | 255   | Increases<br>damage by<br><div><div>0.5</div><div>*</div></div><br>level + 0.5<br>Higher levels<br>are treated as<br>255              |
| Projectile Protection | Adds  | 1   | 10  | Reduces<br>damage by a<br>factor of<br><div><div>min(20,</div><div>level * 2)</div><div>/ 25</div></div>                              |
| Protection            | Adds  | 1   | 20  | Reduces<br>damage by a<br>factor of<br><div><div>min(20,</div><div>level)</div><div>/ 25</div></div>                                  |
|                       |       |   |   | Adds level<br>* 0.6   |

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|  |               |                           |  |  |   |
|--|---------------|---------------------------|--|--|---|
|  |               |                           |  |  | Higher levels are treated as 255  |
|  | Quick Charge  | First                     | 1  | 5  | Reduces draw time by $0.25 * \text{level}$ seconds<br>Higher levels prevent charging of crossbow  |
|  | Respiration   | Largest of first in armor | 1  | 255  | Causes a $\text{level} / (\text{level} + 1)$ chance not to decrease air level<br>Higher levels are treated as 255                       |
|  | Riptide       | First                     | 1  | 1  |   |
|  | Sharpness     | Adds                      | 0  | Single: 2147483647<br>Stacked: 36028799149670399 | Adds $0.5 * \max(0, \text{level} - 1) + 1$ damage   |
|  | Silk Touch    | First                     | 1  | 1  |   |
|  | Smite         | Adds                      | Single: -2147483648<br>Stacked: -52241757371157708 | Single: 2147483647<br>Stacked: 52241757371157708 | Adds $2.5 * \text{level}$ damage  |
|  | Soul Speed    | First                     | 1  | 255  | Increases speed by $0.03 + (\text{level} * 0.0105)$<br>Higher levels are treated as 255   |
|  | Sweeping Edge | First                     | 1  | 255  | Increases sweeping damage by a factor of $\text{level} / (\text{level} + 1)$ times the hit's damage<br>Higher levels are treated as 255 |
|  | Swift Sneak   | Adds                      | 1  | 5  | Increases walking speed while sneaking by $\text{level} * 50\%$<br>Higher levels are treated as 5                                       |





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|            |                  |   |            |   |
|------------|------------------|---|------------|---|
| Thorns     | Individual Procs | 1 | 2147483647 | <div>0.15 *<br/>level<br/>Deals level<br/>- 10 damage<br/>if level is 11<br/>or greater,<br/>otherwise<br/>deals<br/>random(0,<br/>3) + 1</div>   |
| Unbreaking | First            | 1 | 255        | <div>Items only<br/>have a 1 in<br/>level + 1<br/>chance to take<br/>damage.<br/>Armor has a<br/>0.6 chance<br/>to take<br/>damage even<br/>if it would<br/>otherwise skip<br/>it.<br/>Higher levels<br/>are treated as<br/>255</div> |

## Item data

- tag**: The item's main **tag**.
- Enchantments**: Contains [enchantments](#) on this item that affect the way the item works.
    - : A single enchantment.
      - id**: The name of the enchantment.
      - lvl**: The level of the enchantment, where 1 is level 1. Values are clamped between 0 and 255 when reading.
  - StoredEnchantments**: Contains enchantments for [enchanted books](#).
    - : A stored enchantment, identical structure to each enchantment in **Enchantments**.
  - RepairCost**: Number of experience levels to add to the base level cost when repairing, combining, or renaming this item with an [Anvil](#).

## Sounds

*Java Edition:*

| Sound | Subtitles             | Source | Description               | Resource location   | Translation key   | Volume | Pitch   | <div>[Collapse]</div> Attenuation distance |
|-------|-----------------------|--------|---------------------------|---|---|--------|---------|--|
|       | Enchanting Table used | Blocks | When an item is enchanted | <div>block<br/>.enchantment_table<br/>.use <sup>[sound 1]</sup></div> | <div>subtitles.block<br/>.enchantment_table<br/>.use <sup>[sound 1]</sup></div> | 1.0    | 0.9-1.0 | 16   |

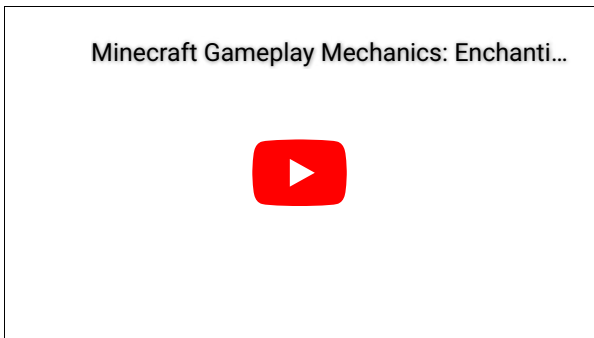
- MC-218109

*Bedrock Edition:*

| Sound | Source | Description     | Resource location                      | Volume | <div>[Collapse]</div> Pitch |
|-------|--------|-----------------|--|--------|-----------------------------|
|       | Blocks | When an item is | <div>block<br/>.enchanting table</div> | 1.0    | 1.0                         |



## Videos



## History

|  |                              |  |
|--|------------------------------|--|
| <b>October 1, 2011</b> ( <a href="https://twitter.com/notch/status/120207632228298753">https://twitter.com/notch/status/120207632228298753</a> ) |                              | The first images of the enchantment screen are revealed, with enchantments written in the <a href="#">Standard Galactic Alphabet</a> . The first enchantment translates into "Well Played Internets You Are Good", the second translates into "These Names Will Be Random And Confusing", and the third translates to "Each Spell Costs Experience Levels". The Standard Galactic Alphabet or SGA was originally created by Tom Hall for use in the <a href="#">Commander Keen</a> series of computer games. |
| <b>October 3, 2011</b> ( <a href="https://twitter.com/notch/status/120859830339637249">https://twitter.com/notch/status/120859830339637249</a> ) |                              | The first images of a <a href="#">player</a> wearing enchanted <a href="#">armor</a> are revealed.   |
| <i>Java Edition</i>  |                              |  |
| <b>1.0.0</b>   | <b>Beta 1.9 Prerelease 3</b> | The basics of enchanting have been added.  |
|  |                              | Enchantment tables do not require <a href="#">bookshelves</a> to get maximum enchantments.   |
|  |                              | Enchantments are to be labeled in the enchantment table as random words written in the <a href="#">Standard Galactic Alphabet</a> .  |
|  | <b>Beta 1.9 Prerelease 4</b> | <div>A bug where all enchantments would show up as <a href="#">Feather Falling I</a> has been fixed.</div> <div>Enchanting has been now properly enabled in <a href="#">multiplayer</a>. Previously, if a <a href="#">player</a> attempted to enchant an <a href="#">item</a>, it appeared enchanted for the client, but updated with the un-enchanted status once the player logged out and then back in again.</div>   |
| <b>1.2.1</b>   | <b>12w05a</b>                | Enchanting no longer requires <a href="#">experience</a> in <a href="#">Creative</a> mode.   |
|  | <b>12w06a</b>                | <a href="#">Bows</a> and <a href="#">golden swords</a> now have a small chance of being already enchanted when dropped by their  |

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|       |        |   |
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|       | ?      | Enchanting always gives the highest level available for the 3rd enchant, instead of randomly choosing a level (requiring clicking the item in and out (or attempting to insert a non-enchantable item over the item to be enchanted) many times to get level 50 enchants) |
| 1.3.1 | 12w22a | The maximum enchantment power has been lowered from 50 to 30.<br><br>Experience is now collectable with mining and smelting in a furnace.   |
|       | 12w23a | Glint (animated glow effect) on enchanted tools and armor is now visible on multiplayer.  |
| 1.4.2 | 12w41a | Enchantments can be combined using anvils, allowing some high level enchantments to be applied where they were not previously possible.   |
| 1.4.4 | pre    | Enchantments can be applied using <code>/enchant</code> . However, Protection is unavailable due to a bug.  |
| 1.4.6 | 12w49a | <code>/enchant</code> now works with ID 0, meaning it can be used to apply Protection.  |
|       |        | The player can now enchant books to then be used to enchant a tool.   |
| 1.7.2 | 13w36a | The fishing rod can be enchanted without the use of books.  |
| 1.8   | 14w02a | Enchanting has received a major overhaul where there is now a secondary cost, which is lapis lazuli.  |
|       |        | When enchanting an item, one enchantment now appears in the tooltip when selecting an enchantment (e.g Looting III?...).  |
|       |        | Levels are now hard to obtain again (like pre-1.3 settings.)  |
|       |        | Level 5 enchants (Sharpness, Power, Smite and Bane of Arthropods) can be applied without the use of an anvil.   |
|       |        | Villager trading has been revamped: clerics no longer enchant items, while blacksmiths trade enchanted items.   |
|       |        | Experience cost was reduced from a cost equal to the enchant level to a flat 1, 2, or 3   |
| 1.9   | 15w42a | Enchantments with max 1 level no longer displays the level, e.g. "Infinity" rather than "Infinity I".   |
|       | 15w47b | Shears can no longer be enchanted with Silk Touch.  |
|       | 15w47c | Shears now harvest cobweb   |





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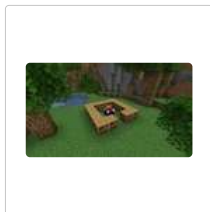


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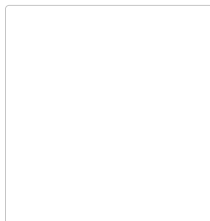


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enchancements, right after  
enchancing.



Place 15 [bookshelves](#)  
around an enchanting table  
to get the highest level  
enchancements.



A bow that has four  
enchancements.

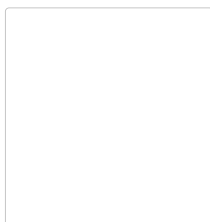
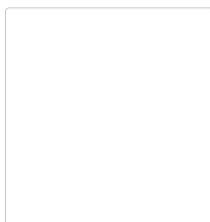
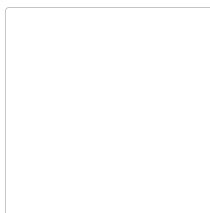


Table of enchantment  
probabilities for books.

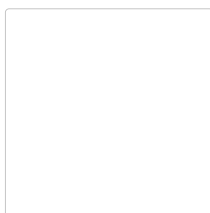


The GUI of the  
enchantment table in  
[Pocket Edition](#) while the  
Pocket UI Profile is  
activated (top = no item,  
bottom = with item  
hovering on the second  
line).

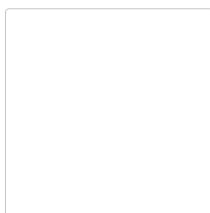


Underwater, with and  
without the [Respiration](#)  
enchantment comparison.  
(Removed in [1.13](#))

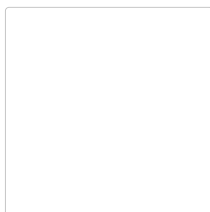
## Development images



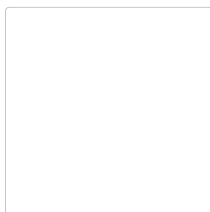
Enchant screen. Posted by  
[Notch](#).



Some enchantments.  
Posted by [Jeb](#).



Updated enchant screen.  
Note that [gold ingots](#) was  
required.



First image of enchanting  
in the pocket edition.

## See also

- [Enchanting/Levels](#)
- [Tutorials/Best enchantments guide](#)
- [Brewing](#)
- [Crafting](#)





## References

1. [MC-248616](#)
2. Tools of any material except stone and diamond can receive up to Efficiency V through the enchantment table. [Stone](#) tools can receive up to level IV through the enchantment table, but can be given Efficiency V by combining 2 items with Efficiency IV in an [anvil](#). Diamond tools with efficiency V can also be found in [end city](#) and [bastion remnant](#) chests.
3. [MC-231508](#) – "Enchantments are capped at level 255" – resolved as "Works As Intended".

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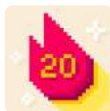
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