

Inventory

Minecraft displays the **player inventory** differently, according to how the window was opened. Ranges of slot indices vary in meaning between different “windows”. The Open Window packet indicates which window is being opened according to:

Contents

Player Inventory

Chest

Large chest

Crafting table

Furnace

Blast Furnace

Smoker

Dispenser

Enchantment Table

Brewing stand

Villager trading

Beacon

Anvil

Hopper

Shulker box

Llama

Horse

Donkey

Cartography Table

Grindstone

Lectern

Loom

Stonecutter

Type	Name	Description
0	minecraft:generic_9x1	A 1-row inventory, not used by the notchian server.
1	minecraft:generic_9x2	A 2-row inventory, not used by the notchian server.
2	minecraft:generic_9x3	General-purpose 3-row inventory. Used by Chest (https://minecraft.fandom.com/wiki/Chest), minecart with chest (https://minecraft.fandom.com/wiki/Minecart_with_chest), ender chest (https://minecraft.fandom.com/wiki/Ender_chest), and barrel (https://minecraft.fandom.com/wiki/Barrel)
3	minecraft:generic_9x4	A 4-row inventory, not used by the notchian server.
4	minecraft:generic_9x5	A 5-row inventory, not used by the notchian server.
5	minecraft:generic_9x6	General-purpose 6-row inventory, used by large chests.
6	minecraft:generic_3x3	General-purpose 3-by-3 square inventory, used by Dispenser (https://minecraft.fandom.com/wiki/Dispenser) and Dropper (https://minecraft.fandom.com/wiki/Dropper)
7	minecraft:anvil	Anvil (https://minecraft.fandom.com/wiki/Anvil)
8	minecraft:beacon	Beacon (https://minecraft.fandom.com/wiki/Beacon)
9	minecraft:blast_furnace	Blast Furnace (https://minecraft.fandom.com/wiki/Blast_Furnace)
10	minecraft:brewing_stand	Brewing stand (https://minecraft.fandom.com/wiki/Brewing_stand)
11	minecraft:crafting	Crafting table (https://minecraft.fandom.com/wiki/Crafting_table)
12	minecraft:enchantment	Enchantment table (https://minecraft.fandom.com/wiki/Enchantment_table)
13	minecraft:furnace	Furnace (https://minecraft.fandom.com/wiki/Furnace)
14	minecraft:grindstone	Grindstone (https://minecraft.fandom.com/wiki/Grindstone)
15	minecraft:hopper	Hopper (https://minecraft.fandom.com/wiki/Hopper) or minecart with hopper (https://minecraft.fandom.com/wiki/Minecart_with_hopper)
16	minecraft:lectern	Lectern (https://minecraft.fandom.com/wiki/Lectern)
17	minecraft:loom	Loom (https://minecraft.fandom.com/wiki/Loom)
18	minecraft:merchant	Villager (https://minecraft.fandom.com/wiki/Villager), Wandering Trader (https://minecraft.fandom.com/wiki/Wandering_Trader)
19	minecraft:shulker_box	Shulker box (https://minecraft.fandom.com/wiki/Shulker_box)
20	minecraft:smithing	Smithing Table (https://minecraft.fandom.com/wiki/Smithing_Table)
21	minecraft:smoker	Smoker (https://minecraft.fandom.com/wiki/Smoker)
22	minecraft:cartography	Cartography Table (https://minecraft.fandom.com/wiki/Cartography_Table)
23	minecraft:stonecutter	Stonecutter (https://minecraft.fandom.com/wiki/Stonecutter)



The following information needs to be added to this page:

Most of the inventories new to 1.14 have buttons, which are *probably* implemented using Protocol#Click Window Button. This needs to be confirmed and the button IDs should be checked.

The slot number is calculated starting at 0, counting up through the window's unique slots, and then counting through the player's inventory.

For all windows, the slot in the upper-left corner of the player's inventory is slot n where n is the number of unique slots, and slot number -999 is always used for clicking outside the window.

The default inventory window, which is never explicitly opened by the server, has 10 unique slots.

Rectangular regions are always indexed starting with the upper-left corner and scanning across rows. If a window has a crafting region, the output slot is always slot 0 followed immediately by the input region.

Each window type is described in the following sections. All slot index ranges are inclusive and reflect the indices observed in the Minecraft protocol.

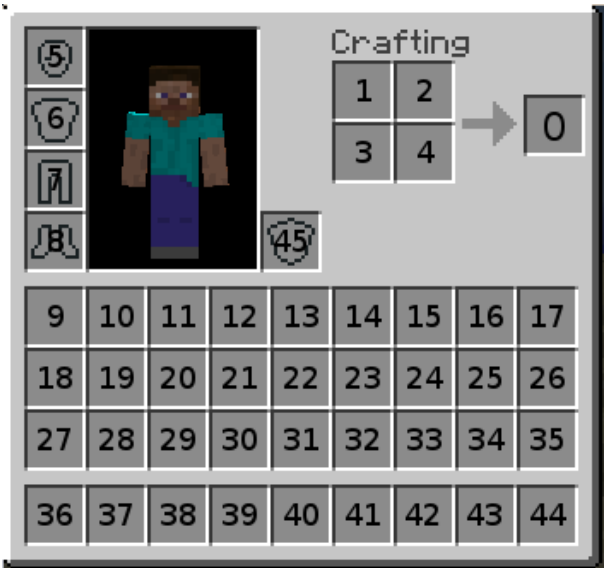
For the window properties (additional data in each window, e.g. smelting progress or enchantments), refer to the table in the [Window Property](#) packet.

Using -1 as slot index and as window id will set the cursor item (the stack dragged with the mouse).

Player Inventory

This is the inventory window that the player can always open, typically by pressing [E](#) since [Beta 1.4](#) (https://minecraft.fandom.com/wiki/Beta_1.4). Before, you had to press [I](#).

Slot range	Description
0	crafting output
1–4	2×2 crafting input ($1 + x + 2 * y$)
5–8	armor (head, chest, legs, feet)
9–35	main inventory
36–44	hotbar
45	Offhand slot



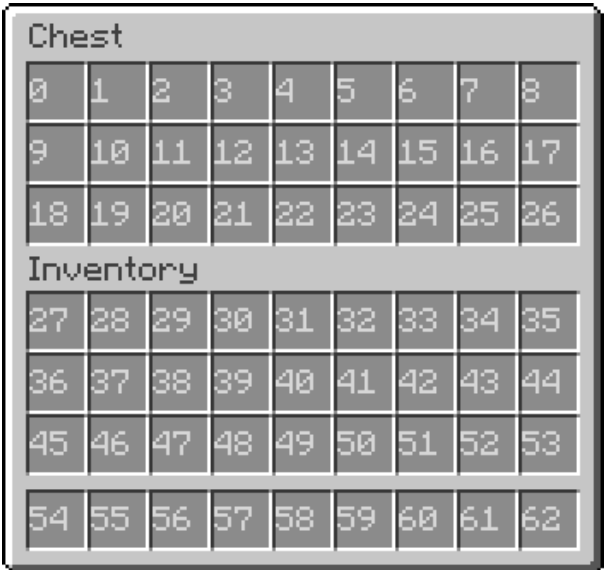
Inventory slots

Note that this is different from inventory items stored in a `player.dat` file. This may help: <https://gist.github.com/459a1691c3dd751db160> (<https://gist.github.com/459a1691c3dd751db160>)

Chest

This is the window that is opened when the player right-clicks on a single chest block.

Slot range	Description
0–26	chest
27–53	main inventory
54–62	hotbar



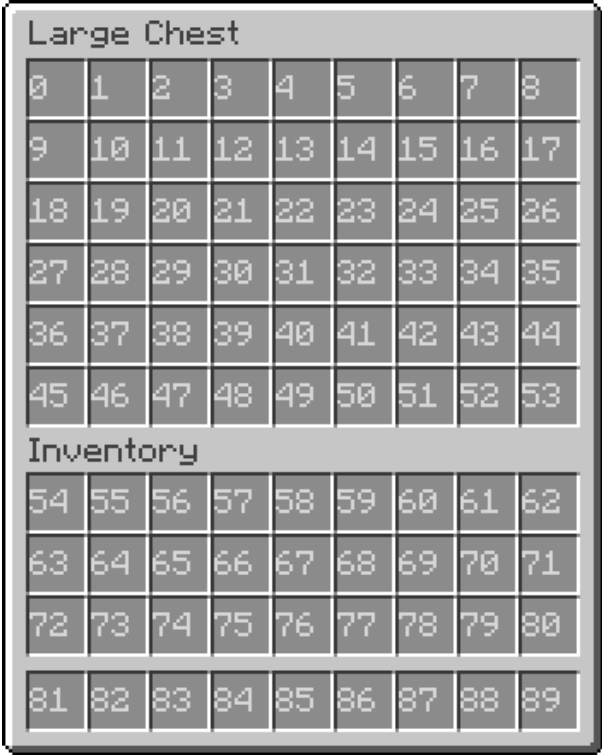
Chest slots

Large chest

This is the window that is opened when the player right-clicks on a double chest block (two adjacent chest blocks).

Slot range	Description
0–53	chest
54–80	main inventory
81–89	hotbar

⚠ It is possible to receive different "Number Of Slots" parameters than those two. In vanilla, using /setblock four times around a chest and then opening the middle chest will open a window with 5*27 chest slots. Some custom servers will send chest inventories with other sizes, usually ranging from 1 row to 6 rows. These may be used for custom GUIs. It is thus important to correctly use the "Number Of Slots" parameter in the open window packet to determine the number of rows in the chest, rather than hardcoding what constitutes a regular chest or a large chest.



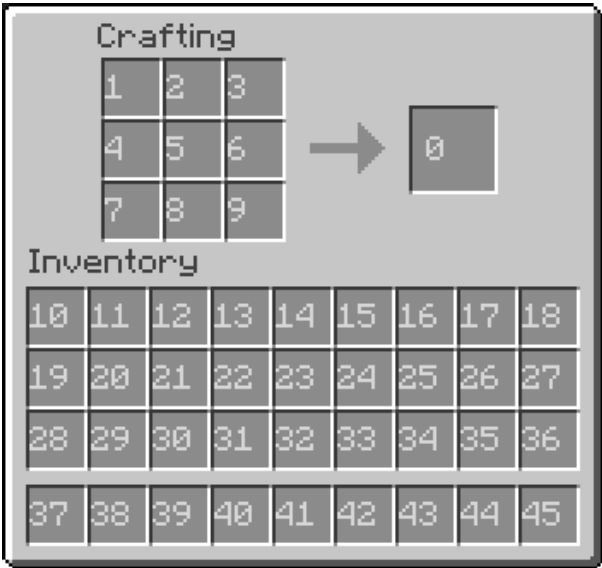
Double/large chest slots

Crafting table

This is the window that is opened when the player right-clicks on a workbench.

Slot range	Description
0	crafting output
1–9	3×3 crafting input (1 + x + 3 * y)
10–36	main inventory
37–45	hotbar

⚠ If the "Number Of Slots" parameter is not set to 0, the opened window will behave like a container window.



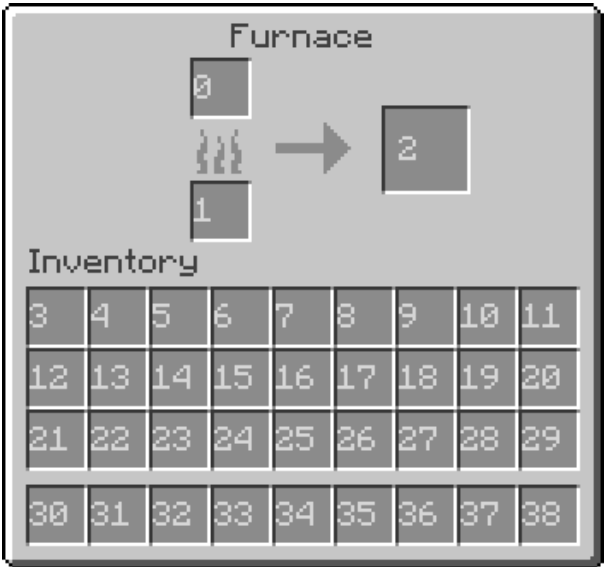
Crafting table slots

Furnace

The window that appears when a furnace is right-clicked.

Slot range	Description
0	ingredient
1	fuel
2	output
3–29	main inventory
30–38	hotbar

⚠ If the "Number Of Slots" parameter is inferior to 3, placing an item in a slot may crash the client.

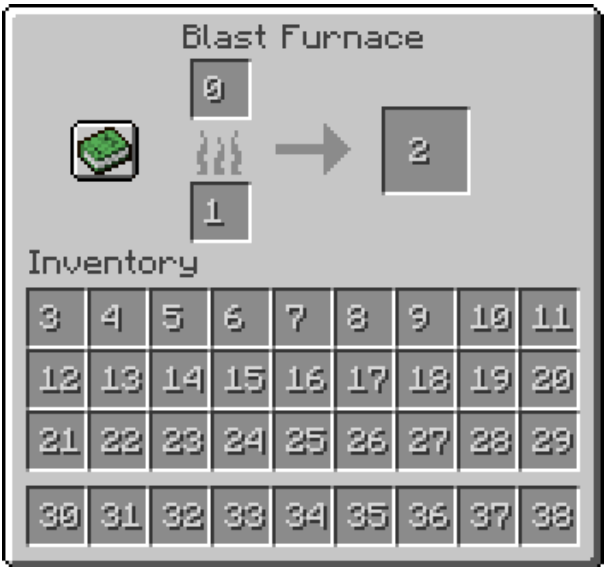


Furnace slots

Blast Furnace

The GUI that appears when a blast furnace is opened. Same layout as a furnace; however, the recipe book displays blast furnace recipes instead of regular furnace recipes.

Slot range	Description
0	ingredient
1	fuel
2	output
3–29	main inventory
30–38	hotbar

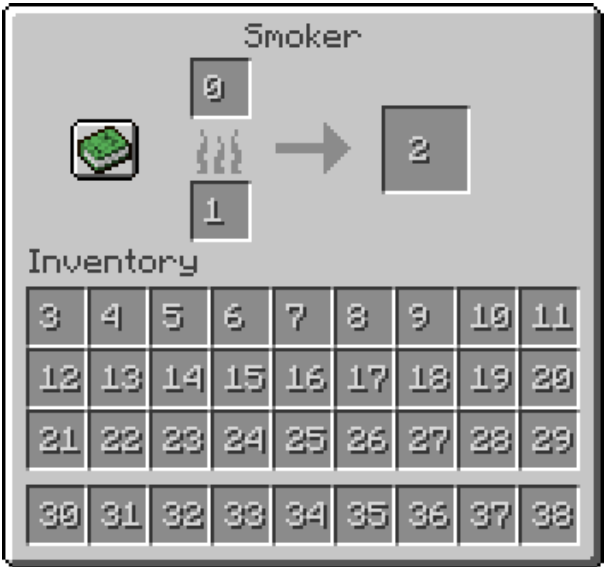


Blast Furnace slots

Smoker

The GUI that appears when a smoker is opened. Same layout as a furnace; however, the recipe book displays smoker recipes instead of regular furnace recipes.

Slot range	Description
0	ingredient
1	fuel
2	output
3–29	main inventory
30–38	hotbar



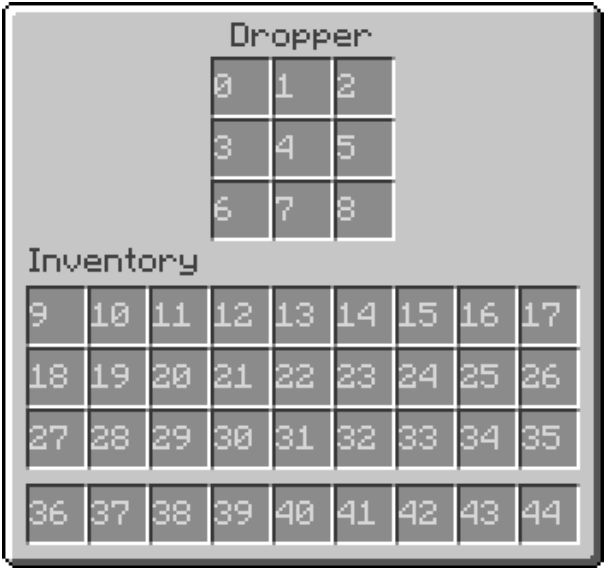
Smoker slots

Dispenser

The inventory that appears when a dispenser or dropper is opened.

Slot range	Description
0–8	3×3 dispenser contents (x + 3 * y)
9–35	main inventory
36–44	hotbar

⚠ If the "Number Of Slots" parameter is inferior to 9, placing an item in a slot may crash the client.



Dispenser/dropper slots

Enchantment Table

The inventory of an enchantment table. The enchant buttons trigger a Enchant item packet.

Slot range	Description
0	item to enchant
1	lapis lazuli slot
2–28	main inventory
29–37	hotbar

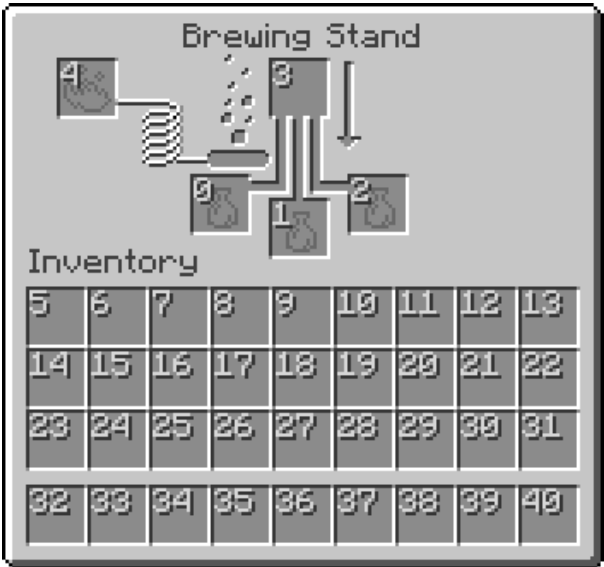


Enchantment table slots

Brewing stand

The GUI that appears when a brewing stand is opened.

Slot range	Description
0-2	bottles/potions
3	potion ingredient
4	blaze powder
5-31	main inventory
32-40	hotbar

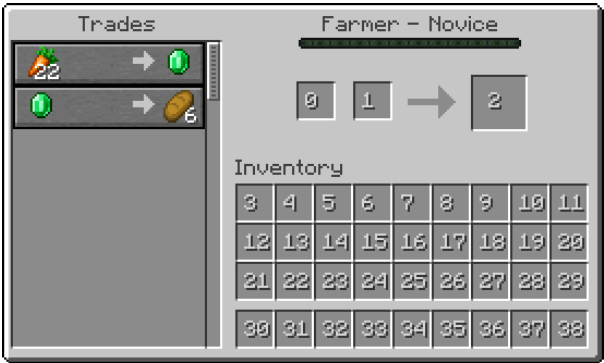


Brewing stand slots

Villager trading

The GUI that appears when a villager is right-clicked. Note that if the villager only requires one item, you can put it in either (or both) slots.

Slot range	Description
0-1	input items
2	result
3-29	main inventory
30-38	hotbar



Merchant slots

Beacon

The window that appears when a beacon is right-clicked.

Slot range	Description
0	payment item
1–27	main inventory
28–36	hotbar



Beacon slots

Anvil

Slot range	Description
0	first item
1	second item
2	result
3–29	main inventory
30–38	hotbar

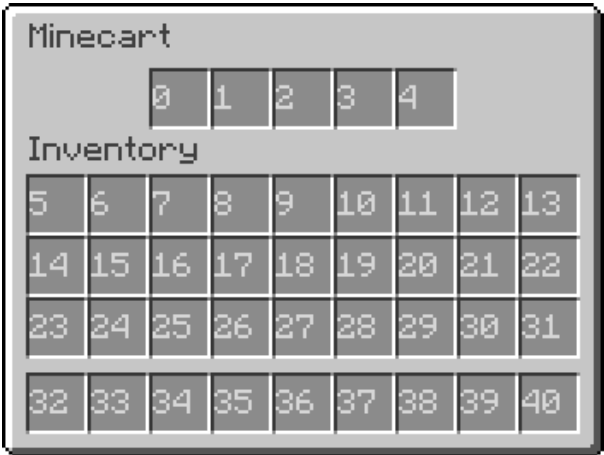


Anvil slots

Hopper

The window that appears when a hopper or hopper minecart is opened.

Slot range	Description
0-4	hopper slots
5-31	main inventory
32-40	hotbar



Hopper slots

Shulker box

This is the window that is opened when the player right-clicks on a shulker box chest.

Slot range	Description
0-26	box slots
27-53	main inventory
54-62	hotbar



Shulker box slots

Llama

The inventory that appears when a tamed llama is right-clicked and has a chest, or when the player's inventory is opened while riding a tamed llama. Depending on the value of the strength field, the number of chest rows may vary (max is 5, so 15 slots).

⚠ There still is a saddle slot, even though it cannot be used and is invisible.

⚠ Slot positions within the llama inventory vary - slot 2 may be at (1,0) or at (0,1) depending on the number of columns.

Slot range	Description
0	saddle
1	carpet
2-(2+3*Strength)	llama inventory
(2+3*Strength)+1-(2+3*Strength)+27	player inventory
(2+3*Strength)+28-(2+3*Strength)+35	hotbar



Llama slots



Unchested llama



Llama with strength 1



Llama with strength 2



Llama with strength 3



Llama with strength 4



Llama with strength 5

Horse

The window for when a tamed horse is right-clicked or the player's inventory is opened while riding a horse.

Slot range	Description
0	saddle
1	armor
2–28	main inventory
29–37	hotbar



Horse slots



Horse slots



Skeleton horse slots



Zombie horse slots

Donkey

The inventory that appears when a tamed donkey (or mule?) is right-clicked, or when the player's inventory is opened while riding a tamed donkey or mule.

⚠ There still is an armor slot, even though it cannot be used and is invisible.

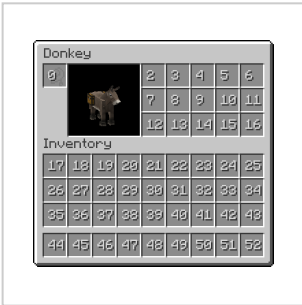
Slot range	Description
0	saddle
1	armor
2–16	donkey inventory
17–43 (2-28 if unchested)	player inventory
44–52 (29-37 if unchested)	hotbar



Donkey slots



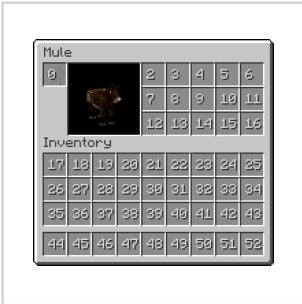
Unchested donkey



Chested donkey



Unchested mule

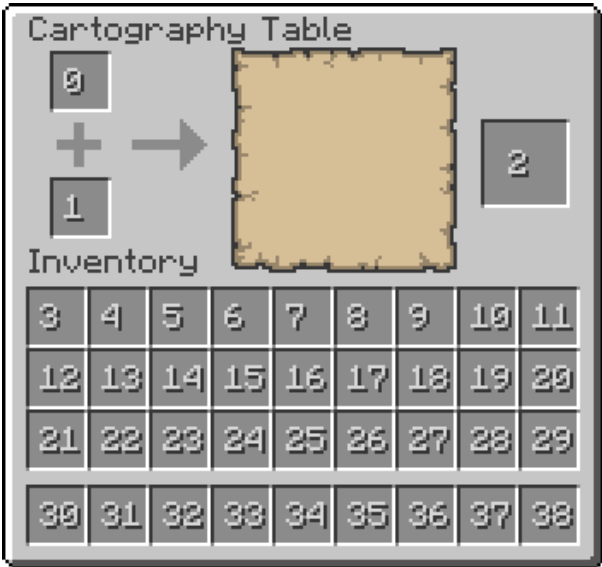


Chested mule

Cartography Table

The GUI that appears when a cartography table is opened.

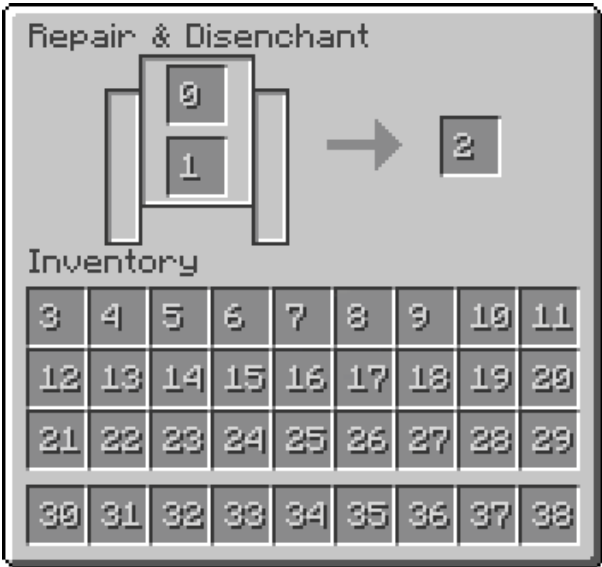
Slot range	Description
0	map
1	paper
2	output
3–29	main inventory
30–38	hotbar



Cartography table slots

Grindstone

Slot range	Description
0	first item
1	second item
2	result
3–29	main inventory
30–38	hotbar



Grindstone slots

Lectern

This is a regular container, unlike with held books opened via [Protocol#Open Book](#). The player inventory is not included.

Slot range	Description
0	book

Page 1 of 494

Heads up!
This article is about the protocol for the latest stable release of Minecraft computer edition (1.14, protocol 477). For the computer edition pre-releases, see [Pre-release protocol](#). For Pocket Edition, see [Pocket Edition Protocol Documentation](#).

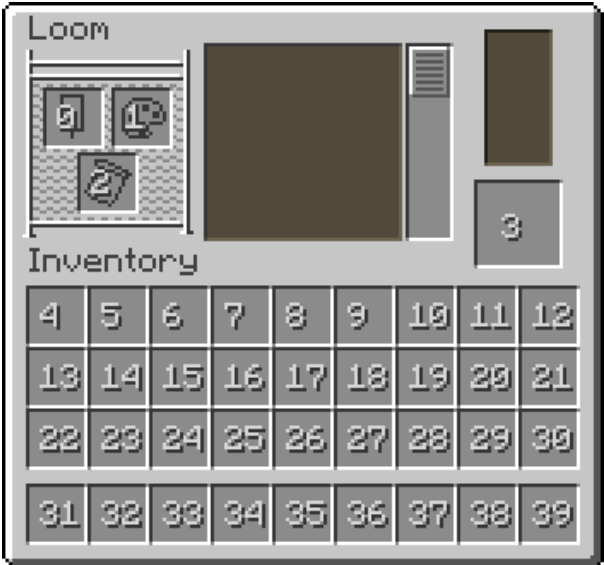
Done

Take Book

Lectern UI

Loom

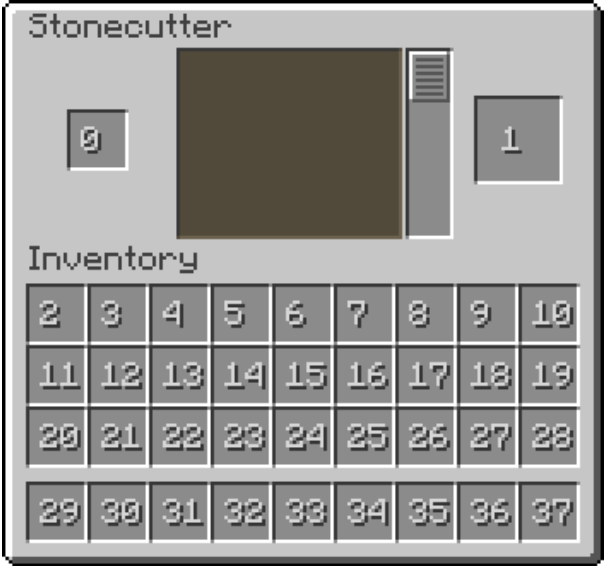
Slot range	Description
0	banner
1	dye
2	pattern
3	result
4–30	main inventory
31–39	hotbar



Loom slots

Stonecutter

Slot range	Description
0	input
1	result
2–28	main inventory
29–37	hotbar



Stonecutter slots

Retrieved from "<https://wiki.vg/index.php?title=Inventory&oldid=17003>"

This page was last edited on 25 September 2021, at 11:03.

Content is available under [Creative Commons Attribution Share Alike](#) unless otherwise noted.