



The Crafting Compendium

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Welcome to the complete Minecraft crafting guide. You'll find every crafting recipe here grouped by function, from the essentials to the functional to the purely decorative.

Reading each table is easy; the item's name is shown on the left. The next column shows the ingredients required, including all possible alternatives. You'll then see the crafting recipe and, finally, a quick note about the crafted item's function.

In some cases, the recipes are known as "shapeless," meaning that the recipe ingredients can be placed in any location on the crafting grid. I've indicated these with an asterisk next to the list of ingredients.

You can create any recipe whose ingredients fit a 2x2 grid in the smaller crafting grid built into the inventory window. All others require the 3x3 grid provided by a crafting table.

Quite a few of the recipes create variations on an object, depending on the provided ingredients. For example, you can create a pickaxe from two sticks, and then your choice of three blocks of wood,

stone, iron, gold, or diamond. Instead of repeating that same recipe multiple times, I've simply provided a list of the different ingredient choices.

Minecraft is a constantly evolving work in progress, and at times some recipes disappear or are simplified, and new ones pop into existence. The tables that follow contain all the recipes from v1.6.2, as well as a few, mostly relating to color crafting, that have appeared in early versions of v1.7.

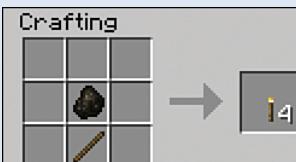
Essential Recipes

The table that follows lists all the recipes you'll need to get through the first few nights and set up a decent home base. See Chapter 2, “First-Night Survival,” for a complete walk-through.

TABLE A.1

Name	Ingredients	Recipe	Description
Bed	Wood planks and wool		Resets your spawn point to the bed's location and enables you to skip the night if no hostile mobs are nearby.
Chest	Wood planks		Creates a storage container for your items and blocks that will survive any respawn.
Crafting Table	Wood planks		Expands the crafting grid to a 3x3 square, making it possible to create a much larger variety of items.
Door	Wood planks or iron ingots		Protects your base or house with a door. You'll need to create a button or send another type of redstone signal to open an iron door.



Name	Ingredients	Recipe	Description
Furnace	Cobblestone		Smelt wood in the furnace to make charcoal for torches and cook food items. The furnace also transforms ore into minerals and has many other functions.
Jack-o'-Lantern	Pumpkin and torch		Use as a decorative item, a source of light, or to light up the landscape underwater.
Sticks	Wood planks		Provides a multitude of uses, including the handles for tools, torches, ladders, fences, and more.
Torch	Stick and Charcoal (or Coal)		Creates a permanent light source and prevents hostile mobs spawning nearby.
Trapdoor	Wood planks		Keeps out mobs and can be opened with a click or via a redstone signal.
Wood Planks	Any wood block*		Used as the base material for many other items and tools, and as a construction block.

*Shapeless recipe

Useful Tools

You can't get far in Minecraft without the right tools for the job. The following table below lists all those that will help you get through the game.

TABLE A.2

Name	Ingredients	Recipe	Description
Anvil	Iron blocks and iron ingots		Repairs tools, weapons, and armor; renames items, including name tags; applies enchantments from books; and combines enchantments.
Axe	Sticks and wood planks, cobblestone, iron ingots, gold ingots, or diamonds		Speeds up the harvesting of wood and many other types of block.
Bucket	Iron ingots		Allows you to collect and carry water, lava, and milk.
Clock	Gold ingots and redstone		Provides a rough indication of the time of day by showing the position of the sun and moon.
Compass	Iron ingots and redstone		Points to your original spawn point but isn't functional in The Nether or End regions.



Name	Ingredients	Recipe	Description
Eye of Ender	Ender pearl and blaze powder*		Allows you to find dungeons by throwing in the air and following their trail. Allows you to collect ender pearls by trading with villagers or by defeating Endermen.
Fire charge	Coal or charcoal, blaze powder, and gun powder*		Like a flint and steel, can set objects on fire without consuming the fire charge itself. Load into a dispenser to shoot out one fire charge per activation. Also gives fireworks the shape of a large ball.
Fishing rod	Sticks and string		Catches fish and pulls in other mobs.
Flint and steel	Iron ingot and flint		Set fire to blocks and activate The Nether portal.
Hoe	Sticks and wood planks, cobblestone, iron ingots, gold ingots, or diamonds		Tills dirt and grass to create farmland suitable for planting crops.
Lead	String and slimeball		Ties up passive mobs (horses, cows, and so on) to prevent them from wandering away and to lead them to a new location, such as a farm.

Name	Ingredients	Recipe	Description
Map	Compass and paper	<p>Crafting</p> 	Shows the area around you that you've already explored. Surround a map with more paper to create a zoomed-out version that covers more ground.
Pickaxe	Sticks and wood planks, cobblestone, iron ingots, gold ingots, or diamonds	<p>Crafting</p> 	Mines stone, iron, and other types of ore. You need an iron pickaxe to mine redstone, gold, and diamonds and a diamond pickaxe to mine obsidian.
Shears	Iron ingots	<p>Crafting</p> 	Harvest leaves, cobwebs, vines, grass, and wool from sheep. Can also cut tripwire.
Shovel	Sticks and wood planks, cobblestone, iron ingots, gold ingots, or diamonds	<p>Crafting</p> 	Digs soft blocks (dirt, grass, clay, sand, and so on) faster than by hand, and collects snowballs.
TNT	Sand and gunpowder	<p>Crafting</p> 	Lights with flint and steel or activates with a redstone current to cause explosions. Collect gunpowder from downed creepers.

*Shapeless recipe

Weapons and Defense

There's no need to channel Sun Tzu; the table that follows provides all the items essential for both attack and defense. For actual strategies, see Chapter 5, "Combat School."

**TABLE A.3**

Name	Ingredients	Recipe	Description
Arrow	Stick, feather, and flint		Used with the bow to hit mobs from a distance.
Boots	Leather, gold ingots, iron ingots, or diamonds		Increase damage protection from $\frac{1}{2}$ to $1\frac{1}{2}$ points depending on the material.
Bow	Sticks and stones		Allows you to attack other mobs from a distance (requires arrows or an infinity enchantment).
Chestplate	Leather, gold ingots, iron ingots, or diamonds		Increases damage protection from $1\frac{1}{2}$ to 4 points depending on the material.
Helmet	Leather, gold ingots, iron ingots, or diamonds		Increases damage protection from $\frac{1}{2}$ to $1\frac{1}{2}$ points depending on the material.
Leather (dyed)	Leather armor and any combination of dyes*		Applies unique colors to your leather armor.
Leggings	Leather, gold ingots, iron ingots, or diamonds		Increase damage protection from 1 to 3 points depending on the material.

Name	Ingredients	Recipe	Description
Sword	Stick and wood planks, cobblestone, iron ingots, gold ingots, or diamonds		Allows you to attack other mobs. Even a basic wood sword is much more effective than just fist-flailing.

*Shapeless recipe

Food and Related Ingredients

There's plenty of food scattered around The Overworld, from passive mobs, such as chickens, cows, and pigs, to naturally occurring pumpkins. All the recipes that follow turn the naturally occurring items into something that provides more sustenance. They're easy to craft and worth carrying to keep the hunger bar full so your health also stays in tip-top shape in any battle with hostile mobs. Chapter 6, "Crop Farming," provides detailed information on crop farming so you can keep up a steady supply of raw ingredients at all times, and Chapter 7, "Taming Mobs," helps you set up a mob farm.

TABLE A.4

Name	Ingredients	Recipe	Description
Bone meal	Bone*		Can quickly grow tall grass to provide seeds and can speed up the growth of other crops. It's also used to create various lighter dye colors. Collect bone from downed skeletons.
Bowl	Wood planks		Used for making mushroom stew and milking a mooshroom.
Bread	Wheat		Allows you to gain 6 hunger points.



Name	Ingredients	Recipe	Description
Cake	Wheat, sugar, egg, and milk		Allows you to gain up to 12 hunger points from 6 bites.
Cookie	Wheat and cocoa beans		Restores 2 hunger points.
Enchanted golden apple	Apple and gold blocks		Expensive to craft (requires a total of 72 gold ingots), but heals up to 15 health points over 30 seconds and provides fire resistance and slightly higher damage protection.
Gold nuggets	Gold ingot		Used to craft a golden carrot or a glistening melon for brewing potions. Reverse the recipe by placing 9 gold nuggets to recover a gold ingot.
Golden apple	Apple and gold ingots		Provides just 4 hunger points, but also directly provides 4 health points and 4 additional temporary hearts (the absorption effect). Can also cure zombie villagers and tame horses.
Golden carrot	Carrot and gold nuggets		Provides 6 hunger points and a huge 14.4 saturation points and is useful in potions. Also used to breed horses, donkeys, and mules.

Name	Ingredients	Recipe	Description
Hay bale	Wheat		Use as a compact storage for wheat and as a food to help tame horses. Can also add some nice decorative touches to a farm.
Melon block	Melon		Provides a way to store melon slices but is inefficient because breaking the block on the crafting grid yields only 3–7 melon slices, not the original 9. Melon blocks can also be used for construction, according to taste.
Melon seeds	Melon*		Produces melon blocks when you plant the seeds. Each melon block produces 3–7 slices of melon, with each melon slice restoring 2 hunger points.
Mushroom stew	Red & brown mushroom and a bowl*		Allows you to gain 6 hunger points.
Pumpkin pie	Pumpkin, egg & sugar*		Allows you to gain up to 8 hunger points.
Pumpkin seeds	Pumpkin*		Produces pumpkins for jack-o'-lanterns and pumpkin pie when you plant the seeds.



Name	Ingredients	Recipe	Description
Sugar	Sugar cane*		Used in other recipes, for making paper, and for brewing potions.

*Shapeless recipe

Mechanisms and Redstone

The ability to mechanize, automate, and add electrical (redstone) systems to Minecraft can become something of an endless fascination. Combine the items that follow in an infinite variety of ways to produce amazing results. You can learn more about automation and redstone in Chapters 6, “Crop Farming” and 9, “Redstone, Rails, and More.”

TABLE A.5

Name	Ingredients	Recipe	Description
Button	Wood planks or stone*		Sends a redstone signal when pressed. (Smelt the stone from cobblestone.)
Daylight sensor	Glass, nether quartz, and wooden slabs		Outputs a signal proportionate to the current amount of daylight.
Dispenser	Cobblestone, redstone, and bow		Fires out any items stored in its inventory and can dispense water and lava from buckets.
Dropper	Cobblestone and redstone		Drops items stored in its inventory and can move them vertically between droppers.

Name	Ingredients	Recipe	Description
Hopper	Iron ingots and chest		Moves items between containers, including fuel into a furnace and smelted items out.
Jukebox	Wood planks and diamond		Plays music discs found in some dungeon chests. Discs are also dropped when a creeper is killed by a skeleton's arrow. (This is tricky, but possible—just make sure you're between them both and get out of the way the moment the skeleton shoots.)
Lever	Stick and cobblestone		Sends a constant stream of redstone power when turned on.
Noteblock	Wood planks and redstone		Plays a note when activated with a redstone signal. Vary the note by right-clicking the block, and change the instrument by placing the noteblock on different materials.
Piston	Wood planks, cobblestone, redstone, and iron ingot		Pushes blocks and mobs when activated with a redstone signal.
Pressure plate	Wood planks or stone		Sends a redstone signal when stepped on by a player or mob.



Name	Ingredients	Recipe	Description
Redstone block	Redstone		Provides continuous redstone power and is the only power source that can be moved with pistons without breaking, making it a useful circuit switch.
Redstone comparator	Stone, redstone torches, and nether quartz		Compares the strength of two redstone signals, providing an output specific to its mode of comparison, and can relay the fullness of a container.
Redstone lamp	Redstone and glowstone		Provides a strong light source when activated by redstone power.
Redstone repeater	Stone, redstone, and redstone torches		Amplifies a redstone signal while adding a delay.
Redstone torch	Stick and redstone		Creates a permanent source of redstone power and acts as an inverter.
Sticky piston	Piston and slimeball		Works just like a piston but also pulls back blocks into their original position.
Trapped chest	Chest and trip-wire hook		Sends a redstone signal when opened.

Name	Ingredients	Recipe	Description
Tripwire hook	Iron ingot, stick, and wooden plank		Emits a redstone signal when the string between two hooks is disturbed by a player or mob.
Weighted pressure plate	Iron ingots or gold ingots		Generates a redstone signal whose strength varies according to the number of items on the plates.

*Shapeless recipe

Transport

For some players, transportation systems become the raison d'etre for playing Minecraft. You can read all about transport in Chapter 9.

TABLE A.6

Name	Ingredients	Recipe	Description
Activator rail	Iron ingots, redstone torch, and sticks		Starts the fuse on a minecart with TNT, creating a more powerful explosion the faster the minecart travels. Also turns on the hopper in a minecart with a hopper and can execute the stored command in a minecart with a command block.
Boat	Wood planks		Moves rapidly over water.



Name	Ingredients	Recipe	Description
Carrot on a stick	Fishing rod and carrot		Allows you to steer when riding pigs.
Detector rail	Iron ingots, stone pressure plate, and redstone		Transmits a redstone signal when a minecart passes over the top.
Minecart	Iron ingots		Transports players and other mobs on rails.
Minecart with chest	Chest and minecart		Transports blocks and items in a minecart.
Minecart with furnace	Furnace and minecart		Adds a source of fuel to create a self-propelled minecart that can also push others carts in either direction.
Minecart with hopper	Hopper and minecart		Allows you to collect items laying on the tracks or in containers, such as hoppers or chests located above the track, and transport them in the minecart to another container.
Minecart with TNT	TNT and minecart		Used with an activator rail to explode the TNT.

Name	Ingredients	Recipe	Description
Powered rail	Gold ingots, redstone, and stick		Speeds up a minecart when powered with redstone and slows it down when not.
Rail	Iron ingots and a stick		Creates tracks for minecarts.

Construction

The table that follows lists all the blocks that are craftable, but construction usually includes these and other blocks obtained directly from The Overworld and The Nether regions—everything from wood blocks to cobblestone and more. You can read more about creative construction techniques in Chapter 8, “Creative Construction.”

TABLE A.7

Name	Ingredients	Recipe	Description
Block of quartz	Nether quartz		Used where white blocks are required and need to be fireproof, unlike white wool.
Bricks	Brick, stone, or Nether brick		Obtained by smelting clay in a furnace or Nether brick from fortresses in The Nether.
Chiseled quartz block	Quartz slab		Have an interesting, decorative texture.



Name	Ingredients	Recipe	Description
Chiseled sandstone	Sandstone slab		Has the appearance of two large sandstone bricks stacked atop each other.
Clay block	Clay		Used for construction or for making hardened clay by smelting the clay block in a furnace. Clay is usually found in shallow water; dig it up with a shovel.
Cobblestone wall	Cobblestone or moss stone		Acts like a fence and is useful for decoration.
Fence gate	Sticks and wood planks		Creates an opening through a fence, but can be used anywhere. Gates work like doors, opened manually or via redstone.
Fence panels	Sticks or Nether brick		Creates a barrier 1.5 blocks high, impervious to all mobs except spiders and jumping equines.
Glass block (stained)	Glass blocks and dye		Used for construction and for making stained glass panes (Minecraft v1.7 and above).
Glass pane	Glass		Creates window panels. Obtain glass by smelting sand in a furnace. Stained glass blocks become stained glass panes of the same color.

Name	Ingredients	Recipe	Description
Hardened clay (colored)	Hardened clay and dye		Used for construction and decoration. Harden clay by smelting clay blocks in a furnace.
Iron bars	Iron ingot		Create barriers, decorative windows, or your own personal mob jail. Unlike fences, iron bars are one block high.
Item frame	Sticks and leather		Shows and stores any item placed inside the frame for viewing pleasure and later retrieval.
Ladder	Sticks		Place against vertical surfaces to climb.
Pillar quartz block	Block of quartz		Converts 2 blocks of quartz into 2 blocks with a vertical stripe texture.
Sandstone	Sand		Used for construction. Sandstone acts like a normal construction block, unaffected by gravity.



Name	Ingredients	Recipe	Description
Slabs	Wood planks, cobblestone, stone, sandstone, bricks, Nether brick, quartz blocks, and stone bricks	 → 	Creates a block $\frac{1}{2}$ the normal height. Used to create long staircases and ceiling cornices, hide redstone wiring, and many other decorative purposes.
Smooth sandstone	Sandstone	 → 	Has a smoother texture than regular sandstone.
Snow block	Snowballs	 → 	Used for construction and creation of snow golems. Collect snowballs by digging up snow cover with a shovel.
Stairs	Wood planks, cobblestone, stone, sandstone, bricks, Nether brick, quartz blocks, and stone bricks	 → 	Allows you to run up stairs without having to jump. Also serves many decorative purposes, such as adding more interesting profiles to a building's walls.

*Shapeless recipe

Decorative and Miscellaneous

Many of the items in the following table serve a functional and decorative purpose. You can also create many other decorative items such as furniture, fountains, larger plants, and so on by combining multiple regular items in different ways. Minecraft v1.7 has also introduced new plant species such as rose bushes, tulips, sunflowers, peonies, and more that can add enormous character to a garden. Clipping trees with shears also provides a variety of leaf blocks that work well both for construction and decoration. See Chapter 8 for more construction and decoration ideas.

TABLE A.8

Name	Ingredients	Recipe	Description
Beacon	Nether star, glass, and obsidian		Placed atop a pyramid of iron, gold, emerald, or diamond blocks, emit a beam into the sky. When supplied with an emerald or a diamond gem or a gold or an iron ingot, provide various potion effects. Nether stars are dropped by a defeated wither. (See the following "Withering Heights" Note.)
Blaze powder	Blaze rod*		Creates various potions and is required for Eyes of Ender.
Book	Paper and leather		Allows you to make a bookshelf that can empower an enchantment table.
Book and quill	Book, feather, and ink sac*		Allows you to add your own text to the game with the book and quill. Most useful in Adventure and Multiplayer worlds or for storing your own notes in-game.
Bookshelf	Wood planks and books		Used as a decorative item or for increasing the effectiveness of an enchantment table.
Carpet	Wool		Used as a decoration on almost any surface. Use dyed wool (by dying sheep directly and then shearing, or by dying a wool block in the crafting grid) to create different colored carpet.



Name	Ingredients	Recipe	Description
Ender chest	Eye of Ender and obsidian		Allows you to share between all Ender chests in the world, including across all three regions, by placing items in one Ender chest.
Flower pot	Bricks		Serves as a decorative item. Plant flowers, saplings, mushrooms, cacti, ferns, and even dead bushes, and then place them on almost any horizontal surface.
Glowstone	Glowstone dust		Creates a permanent light source that's brighter than a torch and works underwater. Obtain glowstone dust by mining glowstone in The Nether.
Mineral block	Iron ingots, gold ingots, diamond gems, Lapis Lazuli dye, emeralds, coal, or redstone		Provides a space-effective way to store chunks of 9 blocks at a time; once converted to blocks, a single inventory or container slot can store the equivalent of 576 original items. Place any mineral block on the crafting grid to convert it back to the original 9 pieces.
Painting	Sticks and wool		Put some random art on your walls. Place a painting in front of a door, and then open the door from behind the painting to create a hidden pasageway. (It works! Just walk straight through the painting. Disapparition made easy!)
Paper	Sugar cane		Allows you to create books (and therefore bookshelves and enchantment tables), maps, and rockets.

Name	Ingredients	Recipe	Description
Sign	Wood planks and a stick		Placed freestanding or against vertical surfaces, it displays any text you enter.
Wool	String		Used to make carpet, beds, and paintings. You can dye white wool blocks any available color.

*Shapeless recipe

NOTE

Withering Heights

The wither is a player-created mob. Place soul sand in a T shape (similar to creating snow and iron golems), and then top it with three wither skulls. Wither skulls are occasionally dropped by defeated wither skeletons found stalking Nether fortresses. The wither is extremely difficult to defeat, but upon doing so drops the Nether Star used for crafting a beacon.

Enchanting and Brewing

The table that follows provides the basic items required for enchanting and brewing. These and other ingredients are combined on the enchantment table or in the brewing stand to obtain specific enchantments and potions. See Chapter 10, “Enchanting, Anvils, and Brewing,” for a complete list of each.

**TABLE A.9**

Name	Ingredients	Recipe	Description
Blaze powder	Blaze rod*		Creates various potions and is required for Eyes of Ender.
Brewing stand	Cobblestone and a blaze rod		Brews potions.
Cauldron	Iron ingot		Used for filling water bottles and to wash dye off leather armor. A cauldron can fill only three water bottles, so it's generally better just to create a permanent water source nearby.
Enchantment table	Obsidian, diamond gems, and a book		Enchants weapons, tools, armor, and books.
Fermented spider eye	Spider eye, sugar, and a brown mushroom*		Forms the basis of potions with a negative effect.
Glass bottle	Glass		Stores water and potions.

Name	Ingredients	Recipe	Description
Glistening melon	Melon and gold nuggets	<p>Crafting</p> 	Brews potions of health restoration.
Magna cream	Blaze powder and a slime-ball*	<p>Crafting</p> 	Primarily used to brew potions of fire resistance.

*Shapeless recipe

Colors and Dyes

All the dyes listed next can be used to color wool, sheep, leather armor, hardened clay, and stained glass, as well as to create colored fireworks. Some of the dyes also act as ingredients for other dyes. The many new flower types in Minecraft v1.7 also provide ways to fast-track the creation of most of the dyes. Pick them up on your travels, and try them on the crafting table. I've noted all those in the upcoming table that are known at the time of this writing prior to the final v1.7 release.

Several colors also occur naturally and can be used directly on the crafting table with the target item:

- **Black**—Use the ink sacs obtained by killing squid.
- **Brown**—Use cocoa beans gathered by breaking cocoa pods growing in jungles.
- **Blue**—Mine Lapis Lazuli ore found in the deeper layers of The Overworld to color items blue.
- **Green**—Smelt cactus blocks in a furnace to obtain cactus green and color items green.

TABLE A.10

Name	Ingredients	Recipe	Description
Cyan dye	Lapis Lazuli and cactus green*	<p>Crafting</p> 	Colors the applicable items cyan.



Name	Ingredients	Recipe	Description
Dandelion yellow	Dandelion or sunflower*		Colors the applicable items yellow.
Gray dye	Ink sac and bone meal*		Colors the applicable items a light gray and can be used to create light gray dye.
Light blue dye	Lapis Lazuli and bone meal, or a blue orchid*		Colors the applicable items light blue.
Light gray dye	Ink sac and 2 bone meal; gray dye and bone meal; Azure Blue flower, white tulip, or Oxeye daisy*		Colors the applicable items a light gray.
Lime dye	Cactus green and bone meal*		Colors the applicable items lime. Obtain cactus green by smelting a cactus block in the furnace.
Magenta dye	Purple and pink dye; or Lapis Lazuli, pink dye, and rose red; or the Allium or lilac flowers*		Colors the applicable items magenta.

Name	Ingredients	Recipe	Description
Orange dye	Rose red * dandelion yellow or an orange tulip*		Colors the applicable items orange.
Pink dye	Rose red and bone meal; or the pink tulip or Peony flowers*		Colors the applicable items pink.
Purple dye	Lapis Lazuli and rose red*		Colors the applicable items purple.
Rose red	Any red flower such as a rose, red tulip, or poppy*		Colors the applicable items red.

*Shapeless recipe

Fireworks

Fireworks are easy to make and fun to set off. They're created through crafting by first making a firework star. Optional colors, effects, and a shape for the burst are added at the same time, and then a fade to the firework is included in an optional further crafting operation. Finally, the star is added to a rocket. There are numerous combinations of ingredients, so I'll provide a quick decode here and then a table showing the prototypical examples for each step.

The firework star itself uses a basic recipe of gunpowder and any combination of up to 8 dyes. Build in either or both of the two explosive effects at the same time that you create the firework star using the following:

- **Trail**—Add a diamond gem to the basic recipe to create a trail behind the burst particles when the firework explodes.



- **Twinkle**—Add glowstone dust to the basic recipe to cause the particles to crackle before the firework fades.

Adding one further ingredient to the same recipe gives the firework a shape other than the default small ball:

- **Large ball**—Add a fire charge (see Table A.2) to give the firework's explosion a much larger radius.
- **Star-shaped**—Add a gold nugget to give the explosion a star shape.
- **Burst**—Add a feather to give the explosion a random effect.
- **Creeper-shaped**—Add a mob's head (you can find one in the Creative inventory) to make the firework explode in the shape of a creeper.

If desired, place the completed firework star and any dye on the crafting grid to add a fade effect into a secondary color. Then craft the completed firework star into a rocket to complete the firework. Right-click on the ground at night, in an open area, for best effect, or load into an upward-facing dispenser and activate the dispenser to launch the firework.

TABLE A.11

Name	Ingredients	Recipe	Description
Firework star	Gunpowder and up to 8 dyes*		Creates a basic firework star that explodes with the selected colors.
Firework star with effect and shape	Gunpowder and any dye, and items required for effect and shape*		Creates a firework star with a yellow color, trail and twinkle effects, and a burst shape.
Firework star with fade color	Firework star and up to 8 dyes*		Adds a fade effect to the firework into the colors indicated by the placed dyes.

Rocket	Paper and up to 3 gunpowder*		Creates a basic rocket that flies into the air leaving a trail, but without a firework explosion. Add additional units of gunpowder to make the rocket fly higher.
Firework rocket	Firework star, paper, and up to 3 gunpowder*		Creates a firework rocket with the effects of the included firework star. Increase the explosion height by adding more gunpowder. A setting of 1 or 2 gunpowder is usually sufficient because a height of 3 gunpowder is quite difficult to see from the ground.

*Shapeless recipe