

# The Minecraft Technic Pack Guide

(a WIP by theGeneralRowboat)

\*This guide is made under the assumption that the reader knows the basics of survival in vanilla (unmodded) minecraft. It is also made for technic 6.1.1 for minecraft 1.2.3 and is made under the assumption that the reader has installed all the mods included in technic.

## Getting Started:

When you first spawn in your new technic world, stop for a second to absorb the beautiful blocky landscape and note a few new changes in your gui and settings.



This is from the mod Rei's minimap, which adds obviously a minimap. This minimap can come in very handy because you can add waypoints, you'll never get lost again! Go and hit the < button on your keyboard to set a waypoint for your spawn, just in case. A menu will pop up that looks something like this:



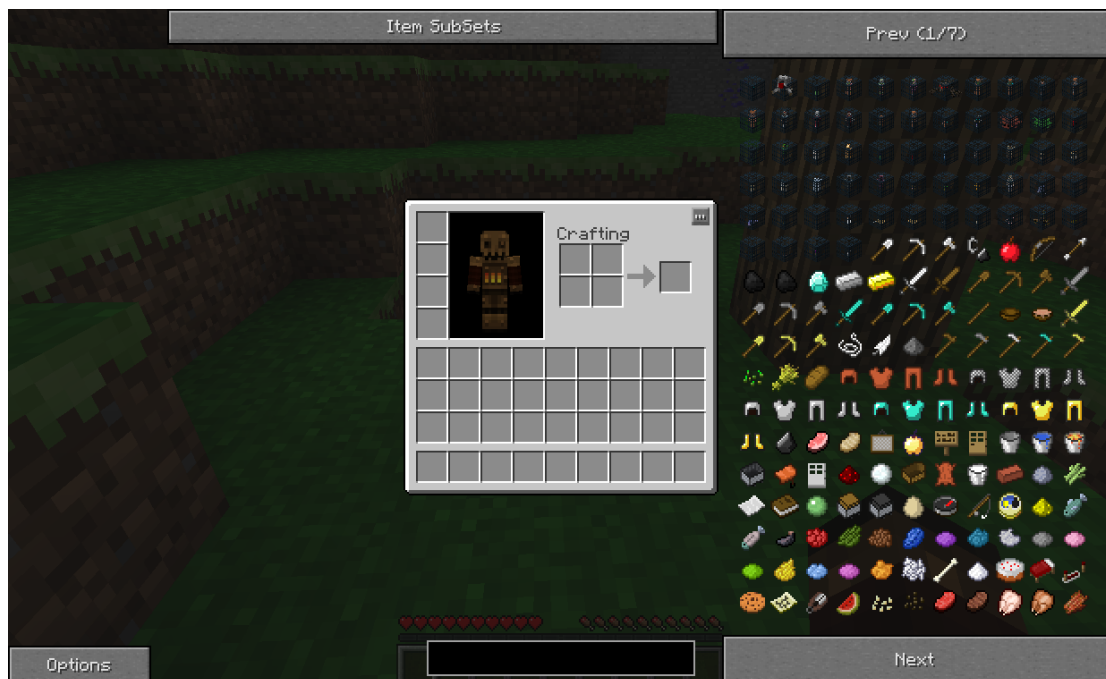
You can set the name, xyz coordinates, and color of your new waypoint. Type a title for this waypoint such as “Spawn” (fine adjust the color if you want I really don’t care) and click “OK” without adjusting the xyz coordinates to create a waypoint at your current position. It should look something like this:



If you see something like this, congratulations! You have the mental capacity to follow basic commands! If you somehow messed up and you don’t see this, do not continue reading until you have gotten it right because if you can’t understand how to complete this simple action you are going to have a lot of trouble keeping up with the rest of this guide.

A quick thing you can do if you want before you continue reading, open up the Rei's Minimap settings with the > button and turn "Death Point" to on. When this is on, if you should die, an X will appear where you died. You do not have to toggle this but can be very useful.

Now, it's time to get your first achievement! Hit the **E** button (or whatever button you use) to open your inventory, you will notice a menu on the side of your inventory that lists all different types of blocks and items.



If you are thinking "Yay Too Many Items!" then you are WRONG. This is not Too Many Items; this is a much different and better-structured mod called Not Enough Items. For those unfamiliar with any sort of mod, Too Many Items and Not Enough Items are mods that allow you to cheat for any item or block in the game through this menu next to your inventory. Now before you get too excited, I must tell you that you will not be able to cheat for anything using Not Enough Items at the moment for it is on recipe mode. Recipe mode in Not Enough Items allows the player to look up the recipe for any block/item in Technic. To see something's recipe, either click on it in the menu, or mouse over it and hit **R**. To see what recipes use this item, mouse over the item and hit **U**. This feature is very useful and will save you the pain and annoyance of searching through different mod wikis to find something's recipe. You can toggle the Not Enough Items inventory with the **O** key

Now before you exit out of your inventory you should go to that top bar that says "Item SubSets". Click this and you should get a few submenus. Mouse over "Vanilla" and then in that menu mouse over "Blocks". In "Blocks" right click the "MobSpawners" button. It is highly recommended for you to do this, or in the words of CheapShot a Technic administrator: **"ATTENTION. IF YOU DO NOT DO THIS YOU COULD RUN INTO A TERRIBLE PROBLEM WHERE YOUR GUI IS VERY BROKEN. PLEASE DO THIS."** So yea, highly recommended.





(this is Cheapshots picture from his post on the forums about this, not mine)

By now you are probably tired of me going on and on about inventory crap but I have one more thing to note before we get on to actually doing stuff. In the technic pack, there is the mod Optifine. Optifine is a mod that makes your video settings way more customizable. So if you have a slow dinosaur of a computer you might want to go into your video settings and tweak them so minecraft doesn't look like a slideshow.



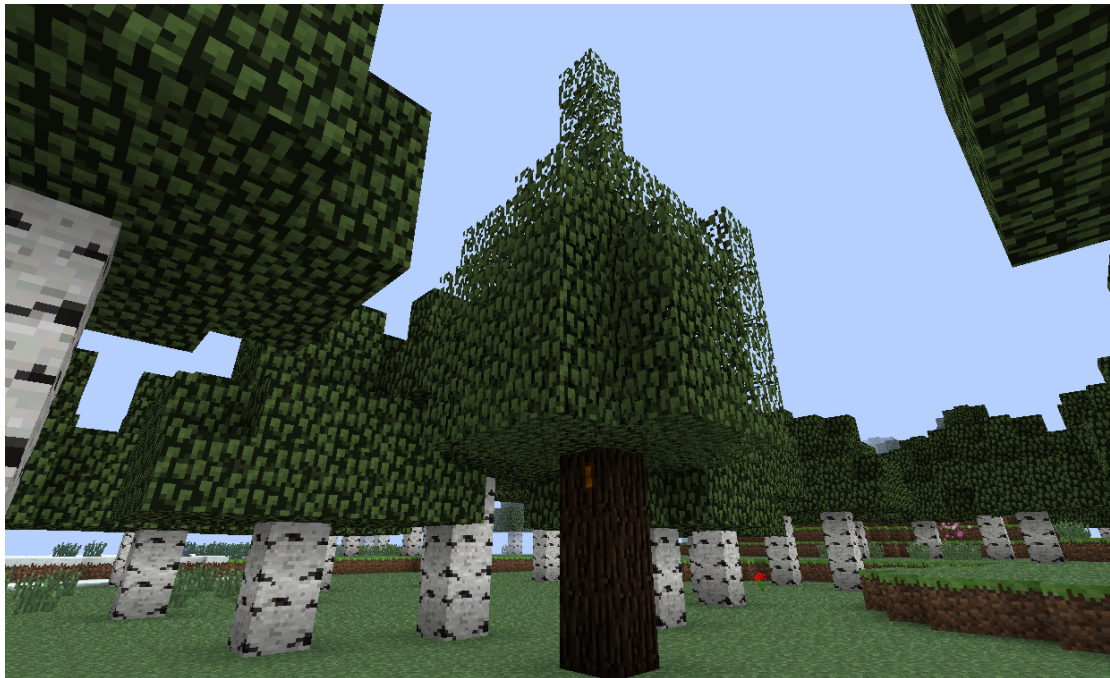
Okay! Now to actually doing stuff! Since we are just getting started right now we don't have to worry about too much complicated infrastructure stuff just yet. Do what you would do in vanilla minecraft basically. Get wood, get coal,



get a lit shelter before the monsters come out and eat you. A few things to consider while you are going around:

- Technic has the “Treecapitator” mod included in it, if you use an axe on the bottom block of a tree the whole tree will fall down. THIS IS VERY VERY USEFUL!
- 
- There are a few things that you should keep an eye out when you are gathering stuff. These are things that you will probably need later if you want to have a successful technic world. If you see any of these you should make a quick waypoint with Rei’s minimap so you can find them again. These things are as follows;

### 1. Rubber Trees:



Rubber trees are used to get rubber (duh) and is used to make machines and electric cabling in the Industrialcraft mod. Some defining characteristics of a rubber tree include the extra three leafs at the top, a darker trunk colour, and small orange lines on the trunk.

### 2.Oil



Oil looks and acts basically like water only it's black. Oil is used in the Buildcraft mod to fuel combustion engines; it can also be refined into fuel in a refinery. Oil is black gold in real life, and it is black diamond in technic. Make sure you make a note of any oil spawns you find. Oil is most commonly found in desert biomes.

### 3. Villages



Technic has the Millinaire mod, which adds new different types of NPC villages complete with new NPCs that can do so much more than testificates. If you should happen to see one of these villages you should mark it down because Millinare NPCs actually have a decent AI and trade system as opposed to what we have in regular minecraft. Trust me, you will recognise a



Millinare village from a regular minecraft village, the difference between the two is really astounding.

#### 4. Ravines & Caves



You should note ravines and caves for future mining expeditions.

By then end of this all you should have a form of lit shelter, some wood, some stone tools, and some torches. Now while you cower in your shelter and wait for the mean monsters to go away, you need something to do to pass the time. IT'S MINING TIME!

#### **Excavation Preparation:**

Now before you go off mining, there are a few things you need to do. First of all, you need to make sure you have the right supplies, torches, crafting bench, wood, cobble, ect. But you also need some other stuff. You need some low covalence dust. Covalence dust is an item added by the Equivalent Exchange mod, it is made by putting 8 pieces of cobble and one piece of charcoal in a crafting bench. This gets you 40 covalence dust.





Covalence dust is used to repair tools; this low dust can be used to repair wood tools, stone tools, leather armour, chainmail armour, fishing rods, and treetaps (treetaps are from industrialcraft, more on them later). To repair something with covalence dust, you just have to put the item in your crafting grid with the required amount of dust. The dust will always fully repair an items, no matter how close to broken it is. The basic rule behind covalence dust is that it takes the same amount of dust to repair the tool as the amount of resources it took to make the tool. For instance, a stone pick will require three covalence dust to repair because it takes three cobblestone to make, a stone shovel will only take one covalence dust to repair because it only took one cobblestone to make. It is the same with the armour; it will take eight pieces of covalence dust to repair a leather chestplate because it took eight pieces of leather to make that chestplate originally. There is an exception to this rule for wood tools, fishing rods, and treetaps, these items only take one low covalence dust to repair. I recommend you use covalence dust to repair your tools as it is much cheaper than remaking tools and doesn't require a 3x3 crafting grid.



There are three tiers of covalence dust but we will focus on those when we get to them.

You need to make one more thing before you start mining, a divining rod! A divining rod is an extremely useful tool from the Equivalent Exchange mod. A divining rod is a tool that can be used to find ore underground, it scans an area and tells you the average EMC value of that area. What is an EMC value you ask? EMC stands for Energy Matter Credit; almost every vanilla item/block in minecraft has its own EMC value as well as a few mod items. For instance, cobblestone has an EMC value of 1 and diamonds have an EMC value of 8,192. This is all for alchemy purposes so basically 8,192 pieces of cobblestone are equal to one diamond. We will get more into EMC later but for now all you need to know is, the higher the EMC, the rarer the ore.



The divining rod you just crafted is a low tier one and can only get the average EMC of a 3x3x3 block radius. Better tier divining rods can scan in larger areas and get a best value and even second and third best value. So basically right now, that divining rod is next to useless until you upgrade it.

Note: The divining rod consumes fuel; the (3x3x3) scan costs the equivalent to a 1/2 piece of Charcoal. The second tier scans (16x3x3) costs the equivalent to one piece of charcoal. The third tier scan (64x3x3) costs the equivalent to a 1/2 piece of redstone dust. Basically, it will use a very small amount of coal, but trust me you won't notice it at all.

## Diggy Diggy Hole Time! :D

OK, it is now time to mine; in this section I will include a table of ores. This table will include the ore, what layer the ore can be found on, the EMC value of the ore, whether the ore is maceratable or not (from industrialcraft, again more on that later) and whether the ore is refineable (smeltable or compressible, again compressible is from industrialcraft). There will then be a list of all these ores that includes a picture of the ore, a brief description, what it's used in, how valuable it is, what type of pickaxe you need to mine it, and what mod it is added by

### Ore Table:

Ore Name	Found	EMC Value	Macerateable	Refinable
Coal	1 to 114	128	Yes	No
Iron	1 to 63	256	Yes	Yes
Copper	10 to 70	85	Yes	Yes
Tin	0 to 40	256	Yes	Yes
Gold	0 to 31	2048	Yes	Yes
Silver	0 to 15*	512	Yes	Yes
Apatite	16 to 70*	N/A	No	No
Ruby	0 to 31*	N/A	No	No
Sapphire	0 to 31*	N/A	No	No
Emerald	0 to 31*	N/A	No	No
Uranium	0 to 64	N/A	No	Yes

Lapis Lazuli	0 to 30	32-64	No	No
Redstone	0 to 15	256-320	No	No
Nikolite	0 to 15*	N/A	No	No
Diamond	0 to 15	8192	No	No
Tungsten	0 to 15*	16384	No	No
Cinnabar	0 to 31*	N/A	No	Yes
Vis Crystals	0 to 256	N/A	No	No

\*When an ore's area found has this mark it means that the numbers are an approximation and I do not know the exact range of where they are found. You try and figure out where to find "[Cinnabar is] a relatively rare crystal found throughout Minecraftia" (Thaumcraft 2 wiki)

### Ore List:



Name: Coal

Description and Use: Coal is now a more valuable resource in technic, with the Equivalent Exchange mod one coal can be turned into four charcoal. Coal can also be ground into coal dust in a macerator. Coal dust can be used in solar panels and fuel. I recommend you save your coal and only use charcoal for smelting and torches.

Pick Needed to Mine: Wood+

Added By: Part of vanilla minecraft



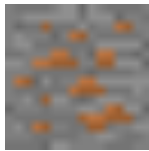
Name: Iron Ore

Description and Use: Iron has become a WAY more valuable resource in technic. Most machines, rails, powertools ect. are made with iron. Iron ingots can be smelted a second time to make refined iron. Refined iron is used to make industrialcraft machines and powertools. Iron can also be rolled into rails in a rolling machine to make minecart tracks. Get as much iron as you possibly can, you will need it! Note that with Equivalent exchange you can change tin into iron and vice versa (more on that later). Iron can also be used to make medium-level covalence dust.

Pick Needed to Mine: Stone+

Added By: Part of vanilla minecraft





Name: Copper

Description and Use: Copper is a commonly found brownish looking ore and is mainly used to make copper cables, which are used in the making of electronic circuits from industrialcraft. Copper is worth roughly one third of iron in terms of EMC, meaning you can change three copper into one iron and vice versa with Equivalent Exchange.

Pick Needed to Mine: Stone+

Added by: Industrialcraft 2

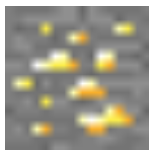


Name: Tin

Description and Use: Tin is a little less common than iron and is white in colour. Tin is mainly used to make rechargeable batteries and cells for industrialcraft. Tin worth the same as iron EMC wise and you can change tin into iron and vice versa with Equivalent Exchange

Pick Needed to Mine: Stone+

Added By: Industrialcraft 2

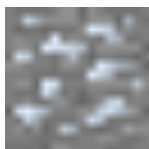


Name: Gold

Description and Use: Gold has also become much more valuable in technic. Gold is now used to make thaumcraft 2 runes, industrialcraft cabling, and many different types of minecart rails. Gold is also worth  $\frac{1}{4}$  of a diamond in EMC terms meaning that four gold can be turned into a diamond and vice versa with Equivalent Exchange.

Pick Needed to Mine: Iron+

Added By: Part of vanilla minecraft

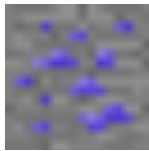


Name: Silver

Description and Use: Silver is around as rare as gold and it has a white-gray tone. If you are observant you will notice that silver has a different base ore texture than the other ores, most ores added by redpower 2 have this base texture. Silver is used in making blueelectric wires, solar panels, thermopiles, and machines. Silver can also be used in an alternate and more efficient recipe for industrialcraft glass fiber cables.

Pick Needed to Mine: Stone+

Added By: Redpower 2 pre-release 4

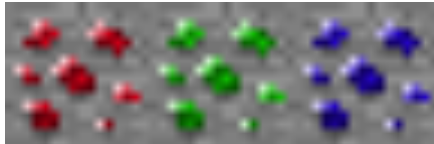


Name: Apatite

Description and Use: Apatite is a fairly common ore that is a purplish color. Apatite is used to make fertilizer, which is used in automatic tree farms and in the making of biomass. You can grab some apatite if you want, it'll be useful later but for now its not top priority.

Pick Needed to Mine: Stone+

Added By: Forestry



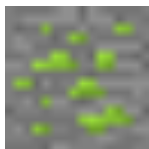
Name: Ruby, Sapphires and Emeralds

Description and Use: I am keeping these three gems in one category because they are all basically the same thing, only different colors and shapes. Rubies are red, sapphires are blue (sugar is sweet) and emeralds are green. Anyone who plays Pokémon will know the colors of these three gems. These gems do not have any use yet in machines but they can be used to make tools.

Gemmed tools have the same mining speed as diamond, but only 500 uses and cannot mine obsidian. You can also make a ruby, sapphire, or emerald block with nine of one kind of these gems in a crafting table (just like a iron/gold/diamond block)

Pick Needed to Mine: Iron+

Added By: Redpower 2 pre-release 4

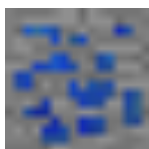


Name: Uranium

Description and Use: Uranium is a light green ore that is found in very small veins of up to four blocks. Uranium is used to make uranium cells, which are used to generate energy in a nuclear reactor (mwuhahahaha!). You can also use it to make nuclear bombs (MWUHAHAHAHAH!). To get the refined form of uranium you need to compress it with an industrialcraft compressor.

Pick Needed to Mine: Iron+

Added By: Industrialcraft 2

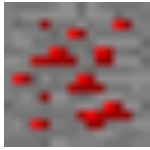


Name: Lapis Lazuli

Description and Use: Lapis (like most vanilla ores) is worth more than just blue dye in the technic pack. Lapis first of all has a high EMC value (864) meaning 10 lapis is worth more than a diamond! Second of all, lapis is used in industrialcraft to make advanced circuits, laptron crystals (which can store a ton of electricity) and lappacks. If you still want blue wool then don't use lapis! There is a new blue dye added by redpower 2, but more on that later.

Pick Needed to Mine: Wood+

Added By: Part of vanilla minecraft

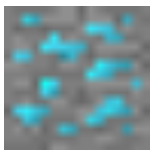


Name: Redstone

Description and Use: Redstone is used a LOT in technic, especially in redpower and industrialcraft. With redpower you can make a new and improved form of redstone called redwire (that's only the start of it too!). Redstone is used to make electronic circuits and is part of many industrialcraft machines. Also, a lot of things in technic use redstone some way shape or form, whether it is power, signaling, whatever. Get a lot of redstone because you will need it!

Pick Needed to Mine: Iron+

Added By: Part of vanilla minecraft

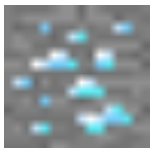


Name: Nikolite

Description and Use: Nikolite is commonly referred to as "fools diamond" because of its similar blue tint and it can be mistaken for diamond at first glance. However, with closer inspection it is easier to see the difference between nikolite and diamond. Nikolite has the special redpower ore texture and is more of a dark cyan-teal color. Nikolite works like redstone in the sense that it drops multiple dusts when it is mined. Nikolite is used in the redpower energy blutricity as well as various redpower machines. Even if it ticks you off because you thought it was diamond, it's good to have a decent supply of nikolite for when we start messing around with redpower.

Pick Needed to Mine: Iron+

Added By: Redpower 2 pre-release 4



Name: Diamond

Description and use: Guess what I'm gonna say, come on guess. Yes you are right, diamond has a greater value in the technic pack just like every other vanilla ore. Diamonds in technic are used for a wide assortment of things from dark matter to energy crystals to oil refineries. Many high tier items require diamonds in some form. An interesting note is that you can convert one diamond into 32 iron with equivalent exchange, which is extremely useful if you need more iron for your machines and stuff. I would not recommend converting 32 iron into one diamond because of the value of iron in the technic pack. Diamond is also used to make high-level covalence dust. You will probably try and do this anyway but grab as much diamond as you can, it will come in very handy in future.

Pick Needed to Mine: Iron+

Added By: Part of vanilla minecraft





Name: Tungsten

Description and Use: Tungsten has no current use in the technic pack besides that fact that it is the most valuable ore EMC wise. One tungsten ore is worth 16,384 EMC, which is equivalent to two diamonds. So if you see tungsten, GRAB IT! You will later be able to convert it into energy and convert that energy into two diamonds with equivalent exchange. Tungsten is black and is commonly mistaken for coal. The way you spot the difference is by looking at the ore texture, coal has the regular minecraft texture while tungsten has the special redpower texture. To tell you the truth, tungsten is not that useful to you at the moment because you can't convert it to diamonds yet, but grab it anyways for future use.

Pick Needed to Mine: Iron+

Added By: Redpower 2 pre-release 4



Name: Cinnabar

Description and Use: Cinnabar is a very different looking ore and because of that it is easily recognizable. Cinnabar has two large red spots on it and can be smelted into quicksilver, which is used in thaumcraft 2. Cinnabar will be useful later but not for a while when we start getting into thaumcraft 2, so it is not top priority to get.

Pick Needed to Mine: Wood+

Added By: Thaumcraft 2

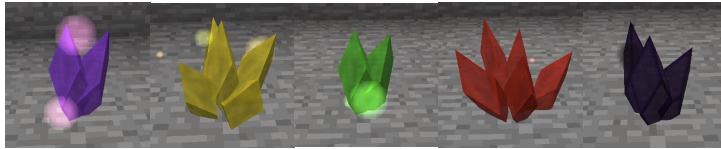
Name: Vis Crystals

Description and Use: Vis crystals are different types of crystals found underground; they can be recognizable because they give off light and are not an ore but a protruding crystalline structure. These crystals will drop 1-9 crystals when broken depending on how big they are. Vis crystals are deposits of pure vis found underground. If the thaumic aura in the chunk these crystals are in is positively charged these crystals will slowly grow and therefore drop more crystals when broken (we will get more into aura and vis and all this thaumcraft 2 stuff later). Vis crystals are a large component of thaumcraft and are used in many thaumic devices and machines. There are six types of vis crystals, Vis, Vaporous, Aqueous, Earthen, Fiery, and Tainted. You will need vis crystals soon probably if you want to get into the magic and alchemy stuff so you should grab some if you can.

Pick Needed to Mine: Can use hands

Added By: Thaumcraft 2

Vis      Aqueous    Earthen    Fiery    Tainted



## Directives for your first mining trip!

All right, now that you have read up on the ores and stuff included in the technic pack, I will now tell you what to do when you first go mining!

### Getting an Upgrade!

The main focus of your first mining trip is to get as many ores as possible (duh) and to upgrade your crappy divining rod into something that is actually useful.

As soon as you find redstone, stop mining for a few minutes, its time to get some medium covalence dust and upgrade your divining rod! To make medium covalence dust, you just need to have one iron ingot and one piece of redstone in a crafting table like this:



This will yield 40 medium covalence dust

Now to upgrade your divining rod! To make your medium tier (and actually useful) divining rod, you need to place your low tier divining rod in the center of a crafting table and surround it with your medium covalence dust.



Now, this divining rod is much better than your older divining rod because it can give a “best EMC found” value and can scan in a 16x3x3 area. To change the scanning distance on your divining rod, just hit **G** and you will get a message telling you that the range has changed



Medium covalence dust can also be used to repair iron tools and armor, and gold tools and armor. The basic concept is the same (one dust per resource used to make the tool). There is again an exception to this concept in that gold tools only need one medium covalence dust to repair (only gold tools, not gold armor).

Now that you have your medium tier divining rod, it's time to find some goodies! Use your divining rod to scan the area around you (make sure its on 16x3x3 scan range) and use the ore chart above to identify the "Best Found" ore! I recommend staying below level 16 if you want to find good stuff. If you hit something valuable (like diamonds, which are 8,192 EMC) Dig in that direction until you find it! Mining has never been easier! Proceed to the next section to find out what to do with your shiny new diamonds when you have found them!

### **What to do when you strike the light blue stuff of awesome (diamonds!)**

Give yourself a pat on the back my friend, you have found diamonds! But don't make that diamond pickaxe yet! Diamond pickaxes went out of fashion months ago my friend; we want to invest these diamonds into something more awesome. So for now, stick to that iron pickaxe, and make sure you repair it with your medium covalence dust when the durability gets low. It is now time to make high covalence dust! High covalence dust is made with one diamond and one piece of coal (not charcoal)





Now, use this high covalence dust to craft a high tier divining rod! By now I'm sure you are somewhat bored of reading about all this covalence dust but stick with me, this is the final tier of covalence dust! So, back to high tier divining rod. Plunk down a crafting table, put your medium tier divining rod in the center, and surround it with high covalence dust.



The high tier divining rod has some new and improved features from the medium tier divining rod. First of all it has a new and larger scan range, 64x3x3. Second, not only does it show the best block found, it shows the top three best blocks found! To get to this 64x3x3 scan range just hit **G** until the message on the bottom left of your screen tells you that you are using the high range (64x3x3). Now you can go find diamonds, even if they are far away! I recommend spending some time and gathering some more diamonds, you will need them. Also, as a footnote, NEVER make any diamond tools or armor; stick with iron for now. You will see why I am requesting this later. And again, as another footnote, do NOT smelt your ores yet, only smelt what you need too because with the industrialcraft mod, there is a way to double the gain from a single ore (I will get to that after the mining section)!

You may ask, "but Generalrowboat, what about obsidian?" Don't worry; there is a better, faster, and cheaper way to get obsidian, which I will show you next.

### **Obbie FTW**

We will need some obsidian very soon to make a portal and a few other mod items. I highly recommend you get at least 15 obsidian, 10 for a portal, and 5 for use later. When we get more into the equivalent exchange mod, it will be very easy to obtain obsidian.

I bet you are groaning inwardly at the thought of the tedious action of mining all that obsidian. But fear not! I have a solution!

Ladies and Gentlemen, I present to you...

The Redpower Blockbreaker!



This fancy machine will break the block in front of it and eject it from its back when it receives a redstone pulse! Now you would think a blockbreaker would be like a piston in the sense that it would be able to affect every block except bedrock and obsidian right? WRONG! Thankfully, the creator of redpower (Ms. Eloraam) is so awesome, that she is not bound by the petty restrictions Notch set for pistons! Block breakers can break any block except bedrock! Now the block breaker breaks the block in front of it, the front of the block breaker is the large hole with the wood-esq rim on the side. To make the block breaker face the right direction you need to use a screwdriver. A screwdriver is made with one stick and one iron ingot like this:



To re-orient your block breaker so it faces obsidian, just keep right clicking it with your screwdriver until it faces the right way.



So, make a blockbreaker, make a lever, make a screwdriver and go get yourself 15 obsidian!

Now it's time to return to the surface and get working with some machines!

### **Engineers Industrialists solve problems, practical problems**

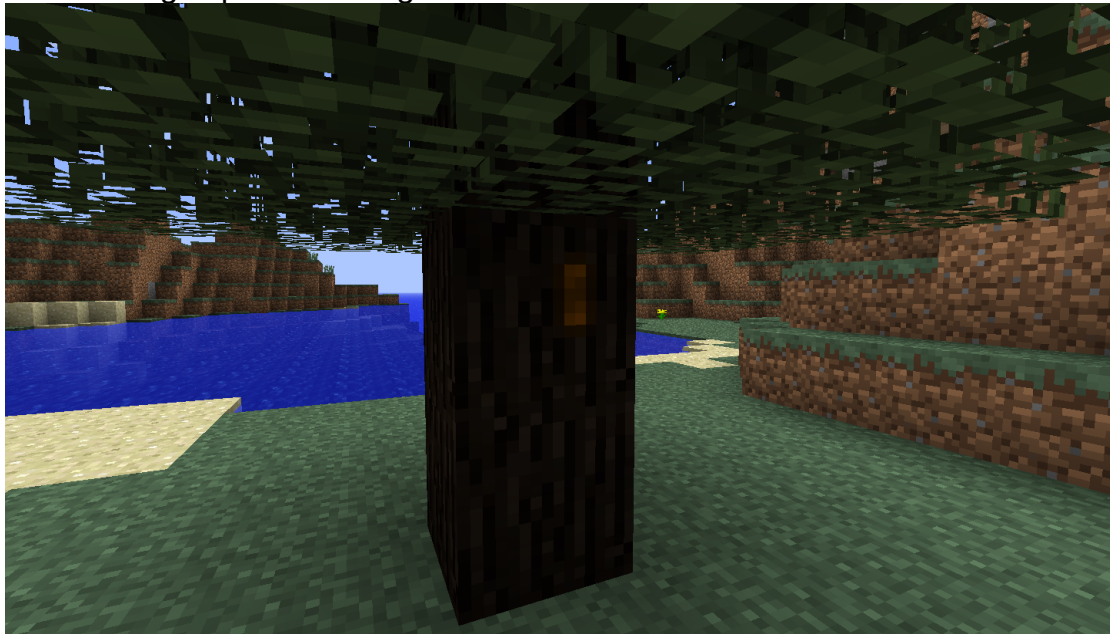
It is time to start working with some MACHINES! Remember how I said before that you can double the gain from a single ore? Well its time to get that set up as well as a few other things!

In this section we are going to start using the industrialcraft mod! I am going to show you how to get your basic machines set up and working and explain how they are useful! First of all, before we start with anything, you need to go and get yourself some rubber! You can get rubber from rubber trees (duh). Remember at the start of the guide I told you to be on the lookout for rubber trees? Well if you found some (and made a waypoint like I told you!) get ready to head over to them! If you didn't find any, go out exploring and find some. Rubber trees are most common in swamp biomes so head there.

Before we head out to the rubber trees, we need to make a tool to harvest them! Rubber trees have resin in them, which can be made into rubber. To get that resin you will need a treetap! The recipe for a treetap is as follows:



Now to harvest rubber trees, you don't cut them down like you would regular trees; you have to tap them for resin! When you get to some rubber trees look for an orange spot on the log that looks like this

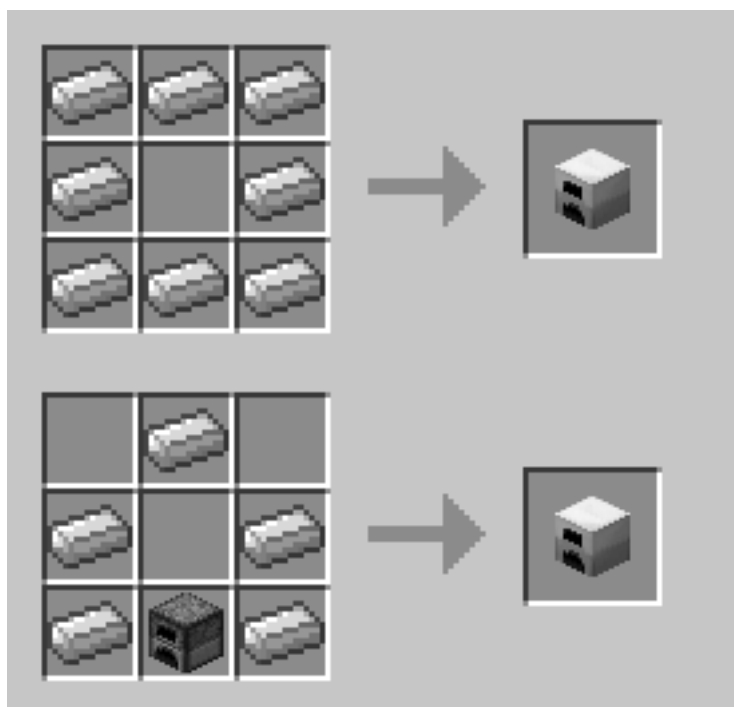


This is a deposit of sticky resin, to tap it, just right click it with your treetap and you will get some sticky resin! Sticky resin can convert into rubber! WOOT! Now, go around the trees and tap all the resin deposits you can find. When you have done so, chop all the trees down and collect all the wood and saplings you get from them (note, rubber trees are not affected by treecapitator, so you can't just chop the bottom block and have the whole thing fall). It is of vital importance that you collect the saplings because you want to start a rubber tree farm back at your home base. Rubber tree saplings look like this:



Head back to your home base with your spoils of resin. Then find an open area that is reasonably flat, and plant your rubber tree saplings. Soon you will need all the sticky resin you can get!

It is now time to smelt you some sticky resin, but we don't want to use that old cobblestone furnace, this is technic pack so lets get some industry on! It is time for an upgrade! We are going to make an iron furnace. Iron furnaces are part of industrialcraft, they are 20% faster than regular furnaces and are 25% more efficient (ex: 1 piece of coal/charcoal will smelt 10 items in an iron furnace as opposed to 8 in a regular furnace). There are two ways to make an iron furnace, 8 iron in a ring, or 5 iron covering a regular furnace:





I highly recommend you use the second recipe because as I have said before, IRON IS VALUABLE. And remember; don't smelt more iron than you need, try to save as much of the iron ore as you can so we can double the gain! So yes, place your brand new shiny iron furnace so we can smelt some resin!

To get rubber, just smelt some of your sticky resin. For now though, only smelt up 7 pieces of sticky resin because, just like ores, there is a machine we can use to increase the gain from a single resin.



Rubber is used to insulate electric cables so you don't get an electric shock and die ;). There are many types of electric cable but the first one we are going to use is the copper cable. So use that iron furnace and smelt yourself 10 copper ingots. Now we need some un-insulated copper cables first which are crafted like this:



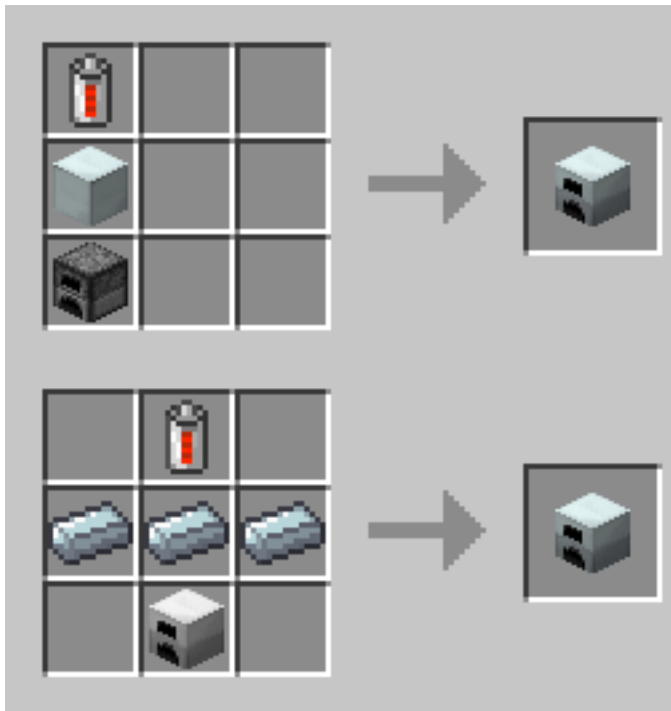
Craft yourself 12 un-insulated cables, and then put them back in your crafting table with your rubber to insulate them.



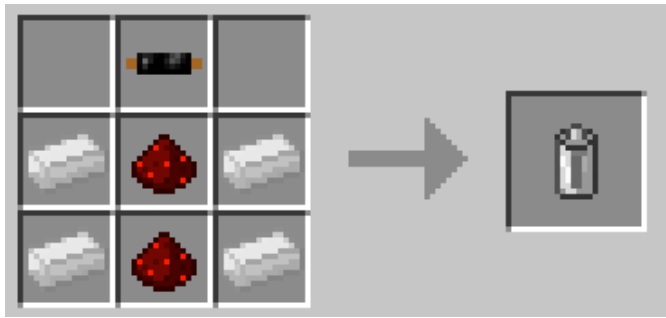
You can also make insulated copper cables by putting three copper and six rubber, I recommend you use the first method because we will need some un-insulated cables later for other machines.



Now that we have some cabling its time to make the actual machines. But since these machines run off electricity, so we need something that produces electricity. A generator! Generators are machines that produce electricity from coal and other burnable items. There are two ways to craft a generator:



Now, we are going to use the first recipe because it is slightly cheaper than the other one. If you are perceptive, you will notice that the first recipe requires a sort of bluish tinted ingot, and the second recipe requires a whitish block. The bluish tinted ingot is called refined iron, to make refined iron, simply re-smelt iron ingots in a furnace. That red and grey thing on the top of both recipes is a RE (re-chargeable) battery. First of all, to make the RE Battery you need 4 tin ingots (so go smelt up a bit of tin), two pieces of redstone, and an insulated copper cable in the following recipe:



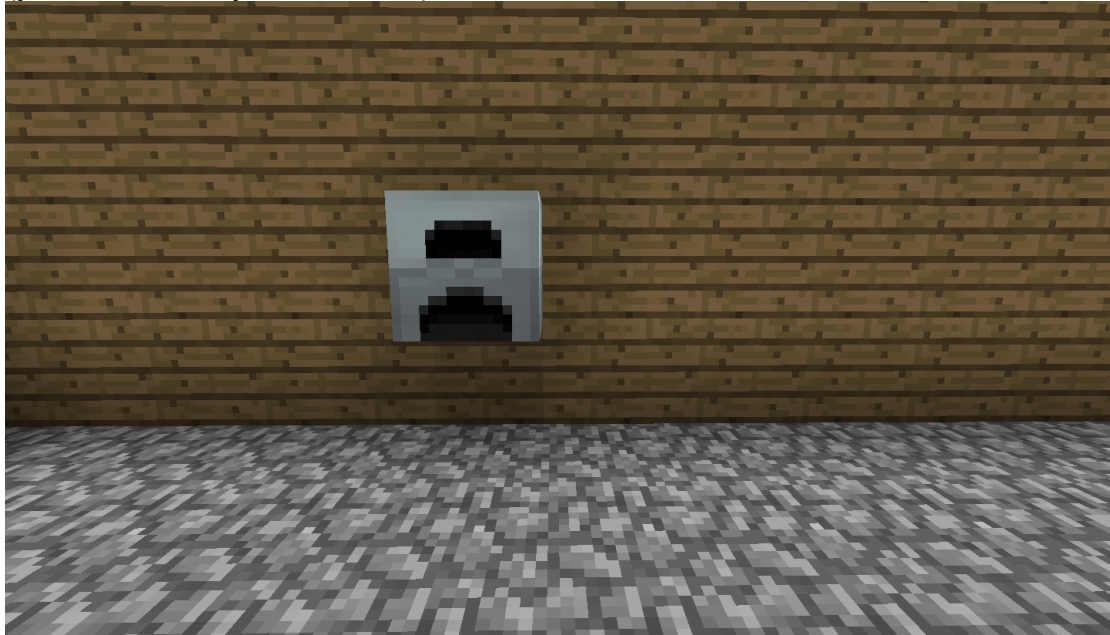
Note: The RE battery in the generator recipe has a red strip in the middle; this indicates the battery's charge level. For the generator recipe, you do not need an RE battery with that red strip, the regular, crafted, non-charged one will work just fine.

That white block in the second recipe is a machine block. Machine blocks are made with 8 refined iron in an O shape in a crafting table:



Nearly every industrialcraft machine requires a machine block, and seeing that they take eight iron to make, you will need to smelt up a lot of iron. But back to the generators, I recommend the first recipe because it requires three refined iron, and five regular iron for the iron furnace. This second recipe will save you a small bit of fuel that you will want to spend on getting more refined iron, so craft yourself a generator and let's get going with some POWER! I recommend you place your generator a block above the ground against a wall

(you will see why in a second) like this:

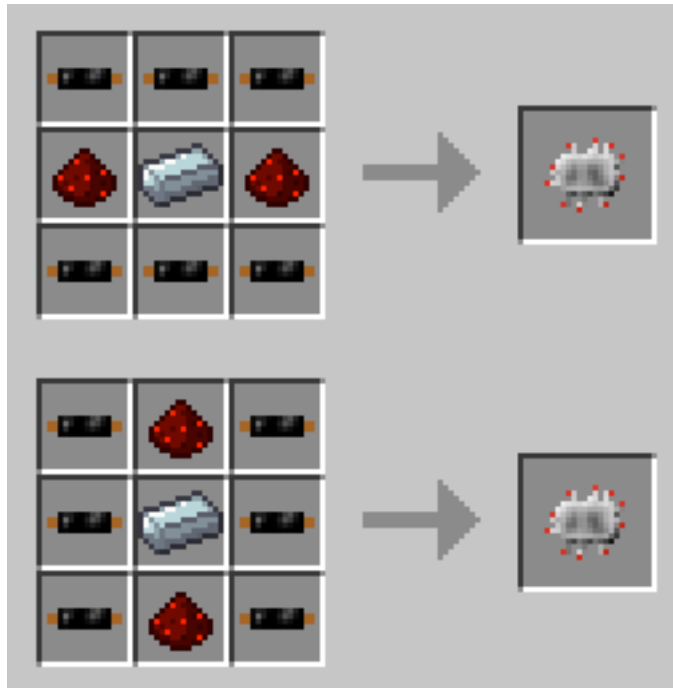


## Electricity for Dummies

Before we get to crafting more machines, I am going to give you a basic explanation of how electricity works in industrialcraft. Electrical energy is measured in EU/t (energy units per tick). When your minecraft game is running at the maximum speed, there are 20 ticks in a second. There is a lot more to EU than this explanation, but I am only giving you the very basic of basics. Machines can accept three different kinds of EU. Low voltage (32 eu/t), medium voltage (128 eu/t), and high voltage (512 eu/t). For now we will only use low voltage, which is what the basic machines use. If you want a much more detailed explanation on electricity and how it works, check out SimpleGuy's post on the technic forums!

## The Setup

Now that you have a source of power, it is time to construct your first machine. The top priority at the moment is getting more rubber, so we are going to craft an extractor so we can triple our rubber gain! To craft an extractor, you need four treetaps, one machine block, and something called an electronic circuit. To craft an electronic circuit, you need two redstone, six insulated copper cables, and one piece of refined iron (Only smelt as much rubber as you need, try to save your resin).



If you are out of resin go outside, plant some rubber trees with those rubber saplings I told you to collect, and use bonemeal on them so you can get more resin. Then cut the tree back down so you can get more saplings.

Now place your extractor on the floor one block away from the generator and connect the two with an insulated copper cable like this:



An extractor accepts 32 eu/t (low voltage) and a generator gets 4000 eu per piece of coal, and outputs at 10 eu/t. If you are confused, all you need to know right now really is that your extractor will run if your generator has energy. So stick some coal/charcoal or other form of fuel into your generator, stick all your sticky resin into the top slot of the extractor, and let the magic begin! By magic of course I mean a loud and annoying sound coming from the extractor



that does not seem to be affected by your volume level. This is due to a sound bug with industrialcraft, just go into your settings, change your volume slightly, and it should be fixed for now.

### **You grind those ores!**

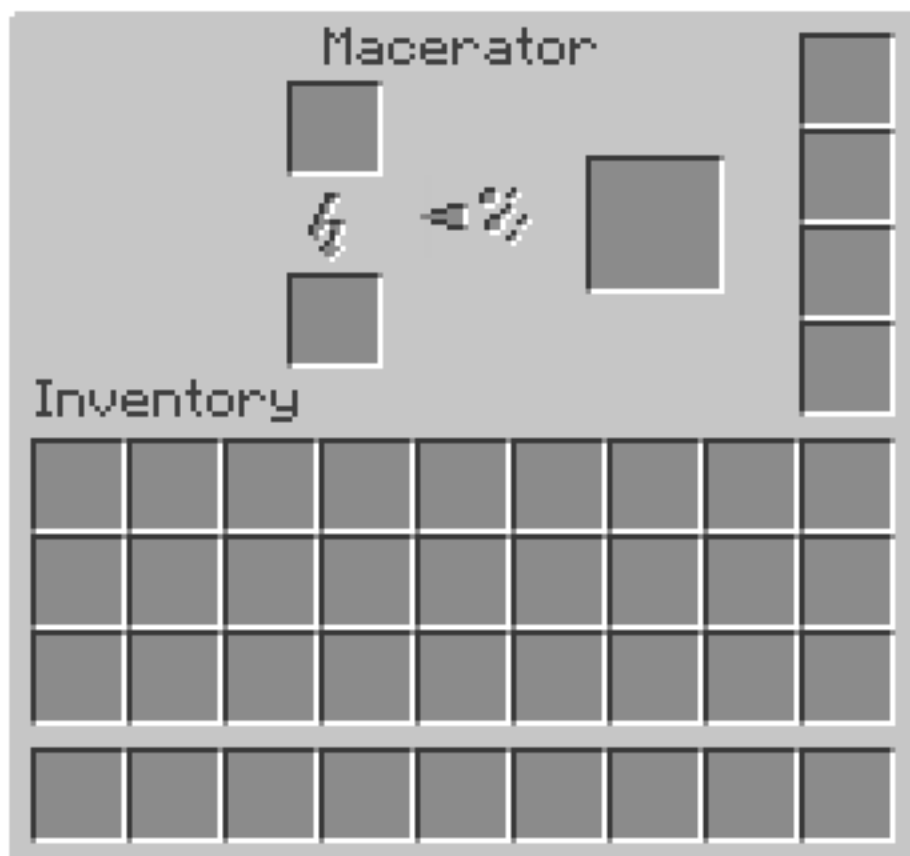
It is finally time to make a macerator, I know you are probably tired of hearing me rant about this but it is truly an awesome machine. So go smelt up some more refined iron to make one more machine block and one more electronic circuit. Grab two cobblestone and three flint, and craft yourself a macerator!



Stick your macerator on the other side of your extractor and hook it up underneath to your generator like this.



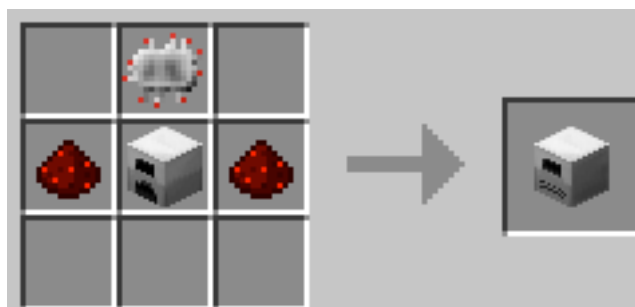
Now that you have that awesome macerator, take some iron ore and put it in the top slot. The macerator will grind a single ore into two dust.



Take these two dust and put them in a furnace and they will smelt into ingots! Yay! You can macerate iron, gold, tin, copper, and silver ore to yield two dust.

### **Electric is the new iron**

A final machine you might want to make (if you have the resources) is an electric furnace. These furnaces use electricity to smelt and are faster than iron furnaces. An electric furnace is crafted with one iron furnace, two redstone, and one electric circuit.



**MAGIC! \* gasp \***

Enough science for today, it's time to get into some magic and alchemy! There are two main mods in the Technic Pack involved in magic and alchemy and those are Thaumcraft and Equivalent Exchange. I will cover Equivalent Exchange first just because it will make resource gathering much easier for you.

To get started with EE we will first need the Philosophers Stone. The Philosophers Stone is a very useful item that is the basis of all alchemical conversion. To make the Philosophers Stone you need four glowstone dust, four redstone, and one diamond.

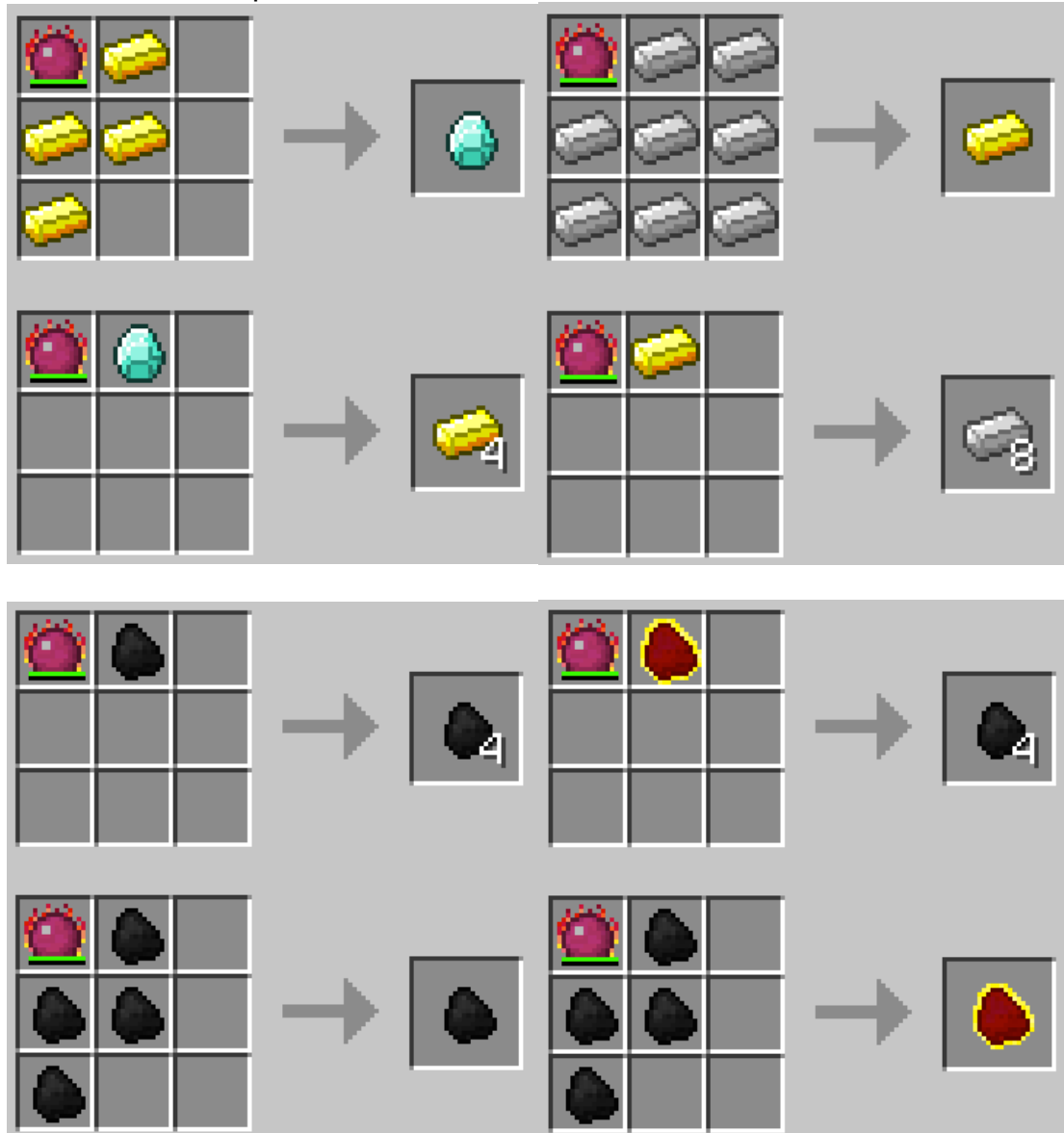


The PS (Philosophers stone) is an item that is used to make some very basic item conversions. Remember all that talk before about EMC? Well this is where it comes from. A lot of items in the Technic Pack have an EMC value. An EMC value determines how valuable or rare an item is. The higher the EMC value, the more valuable the item. With EE, you can change items into other items that have the same EMC value with something called a Transmutation Table. To craft a Transmutation Table, you need four pieces of that obsidian I told you to save, four pieces of stone, and your Philosophers Stone. It is crafted like this:



Note: You will never lose your Philosophers Stone in a recipe, it has infinite uses and you will always get it back.

Before I get into the greater mechanics of transmutation, lets go over the basic stuff you can do. This stuff only needs the PS and not the transmutation table. OK, so the PS has a few very neat and handy features. First of all, the PS is a portable crafting table; just hit C while holding it to open it up. Second, you can do a few basic transmutations with the PS in a crafting grid. These transmutation recipes are as follows:












Note: Those red and yellow coal things that you can make with the PS are higher tiers of fuel that are added in EE, I will get more into them later. And also that first fuel recipe is 1 coal + PS = 4 charcoal (and vice versa).

Third and finally, the PS can do something I like to call DIRECT transmutation. Stone, cobblestone, dirt, and sand all have the same EMC value of 1. Also, gravel and sandstone both have an EMC value of 4. And what the PS can do is, it can change those items into the other directly, without needing to access an interface. All you have to do is right click or shift right click on the block you want to change. Here is a small chart that shows which of those 6 blocks will change into what when you right click them with the PS.

Block	Right Click	Shift-Right Click
Dirt	Sand	Cobblestone
Sand	Dirt	Cobblestone
Cobblestone	Stone	Dirt
Stone	Cobblestone	Dirt
Gravel	Sandstone	Sandstone
Sandstone	Gravel	Gravel

If you want to directly transmute more blocks at a time, hold your PS and press V. When you do this you will see the little damage bar on your PS go up a bit. This bar shows the charge of your PS, the higher the charge is, the large area will be affected when you directly transmute something. To de-charge your Philosophers stone, just do shift-V. Here is another small chart showing the area affected in direct transmutation by the different levels of charge.

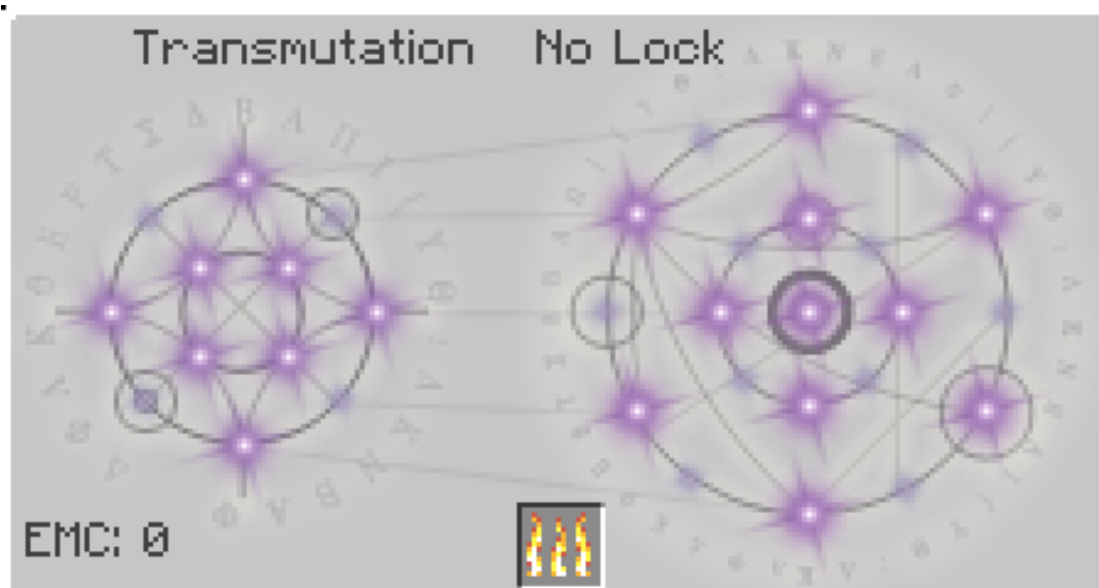
Charge Level	Area of Effect
 0	1x1

 1	3x3
 2	5x5
 3	7x7
 4	9x9

So yes, those are the useful things you can do with a Philosophers Stone.

### Transmutation Tables like a boss

It is time to get into the more advanced mechanics of transmutation! When I say advanced I mean that it is more advanced than the PS, it is actually not that difficult to use. So yes, stick your new shiny 8<sup>th</sup> block transmutation table down somewhere and right click it to open its inventory.



Expect more soon! :D

A Final Note from theGeneralRowboat:

Thank you so much for reading this. Please give me feedback on the guide so far, it is much appreciated! If you have a suggestion on what I should add, or if you want to report any spelling/grammatical/informational errors, post it on my twitter feed: <https://twitter.com/#!/GeneralRowboat>

Or post a reply to the original post on the Technic Pack Forums:

<http://forums.technicpack.net/index.php/topic,7204.msg46209.html#msg46209s>

Also, if you want to help me or give me feedback, try out the Technic Guide survey!