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RGB MINECRAFT ORE LAMP

By Mr Fox (/member/Mr+Fox/) in Play (/play/) > Minecraft (/play/minecraft/)

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Published May 22nd, 2016

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Intro: RGB Minecraft Ore Lamp

In this instructable you will learn how to make a cool Minecraft ore block which lights up when you put a pickaxe on it.

But this is not a simple lamp : according to where you put the pickaxe, the color is different. Other colors can also be made with several pickaxes.

If you are a fan of Minecraft, this project is made for you !

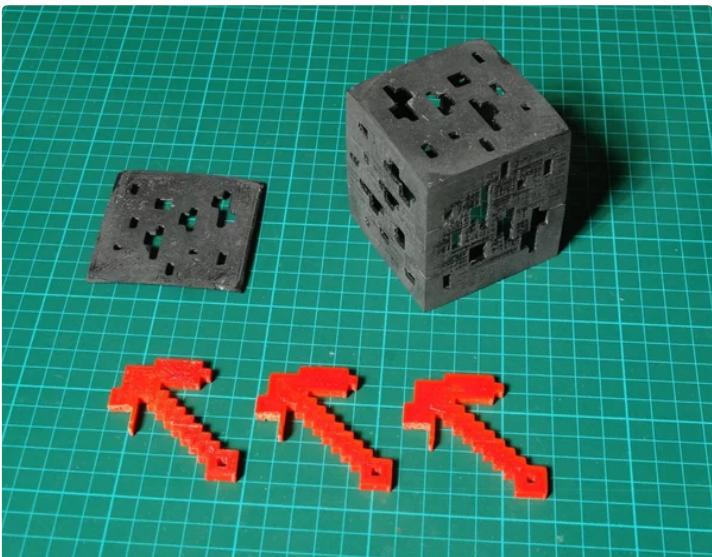
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Step 1: Gather All the Materials



Minecraft items

First of all, you have to print the objects needed for this project : the empty Minecraft ore cube, the pickaxe(s) and the cube base.

You can download the .stl files of both objects on thingiverse.

The Minecraft ore cube is a design by I_am_me : <http://www.thingiverse.com/thing:524925> (<http://www.thingiverse.com/thing:524925>).

You can find the pickaxes at <http://www.thingiverse.com/thing:1555781> (<http://www.thingiverse.com/thing:1555781>) and the base at <http://www.thingiverse.com/thing:1555781> (<http://www.thingiverse.com/thing:1581447>).

The pickaxes are designed to hold 10x10x5 mm neodymium magnets. Other magnets may have a too weak magnetic field. If other magnets are used, the pickaxe won't remain in balance on the cube as it is only held by the magnetic field attracting a small piece of iron to "stick" to the top of the cube.

Note : The objects can also be shaped with a laser cutter or a cnc machine (the 6 faces of the cube need to be separated with a 3D design software and reassembled later with glue). This method ensures that the faces are perfectly flat and the surfaces very smooth : you won't see the ugly ridges due to 3D printing (I personally coated the cube with 3 layers of black paint after sanding it with 240 grit sandpaper and the ridges are still there !)

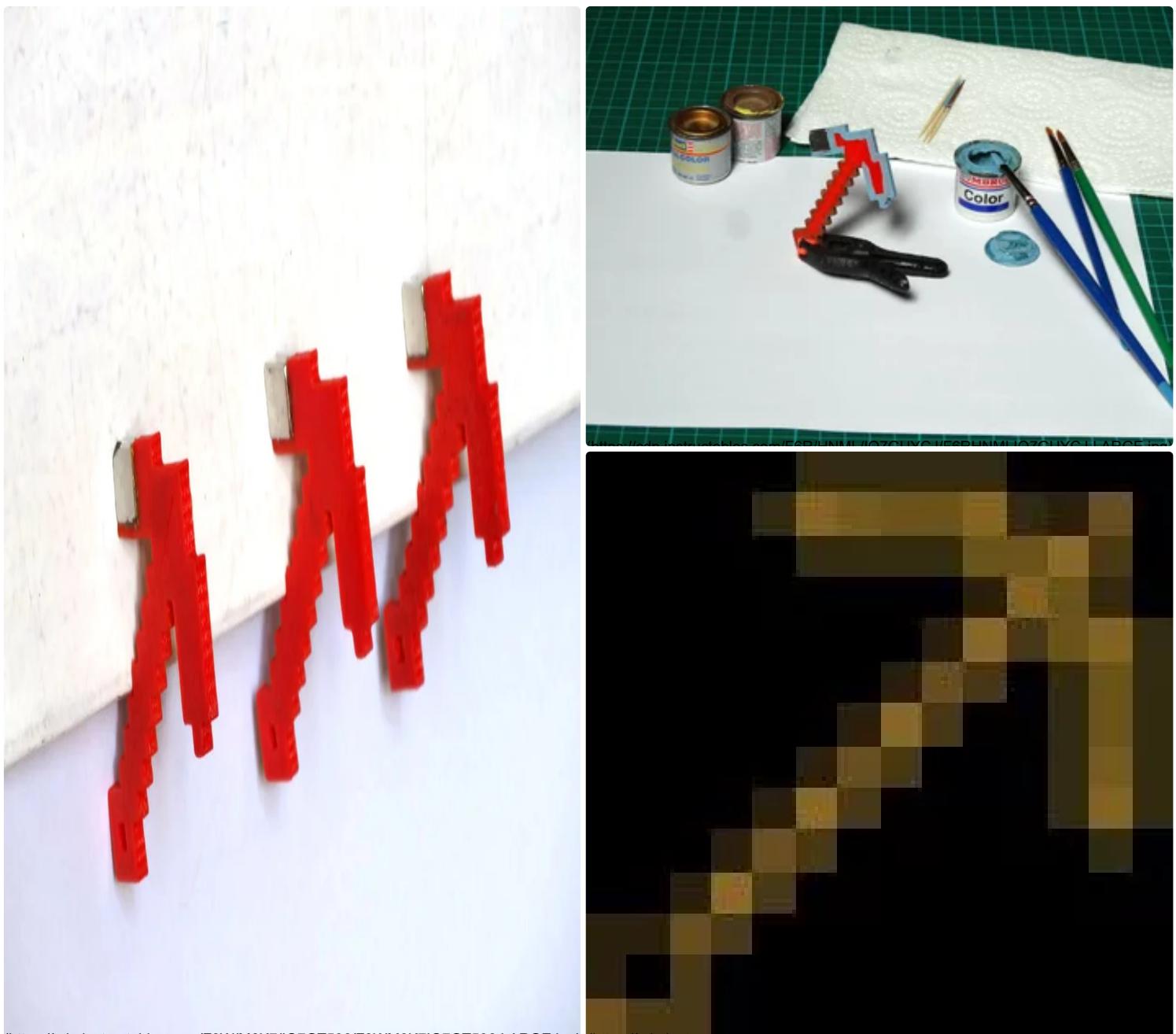
Circuit components

The circuit inside the cube requires :

- 3x RGB LEDs
- 6x 100Ω resistors
- 3x 150Ω resistors
- 1x 3xAA battery pack (= 4.5V DC)
- 3x reed switches
- a perfboard, wires and heat shrink tubing

You will also need some tools such as a hot glue gun or a soldering iron.

Step 2: Prepare the Pickaxes

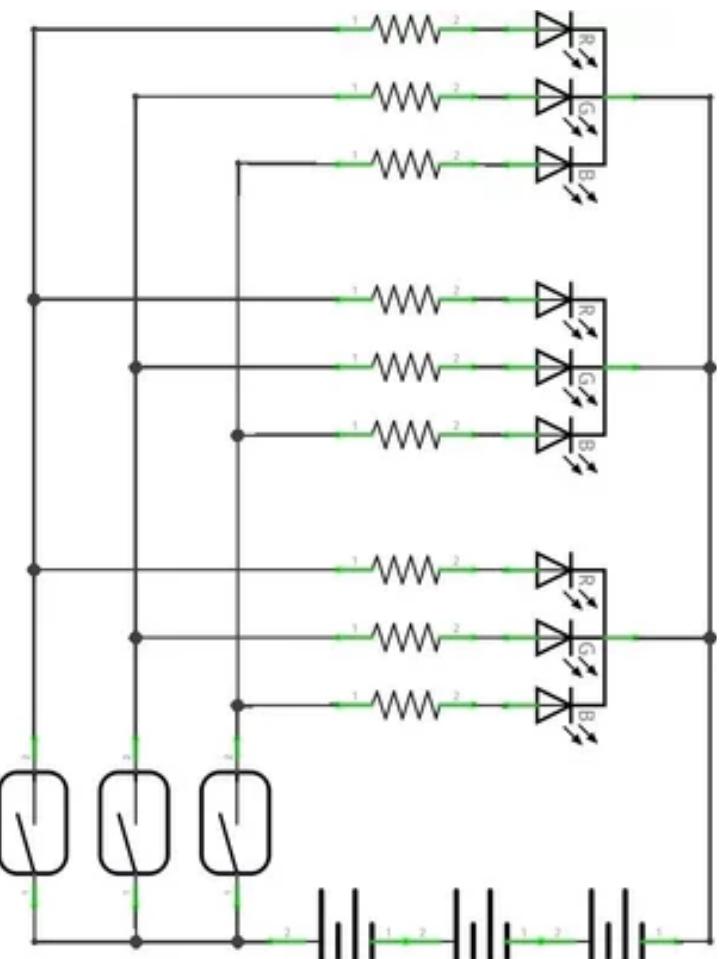
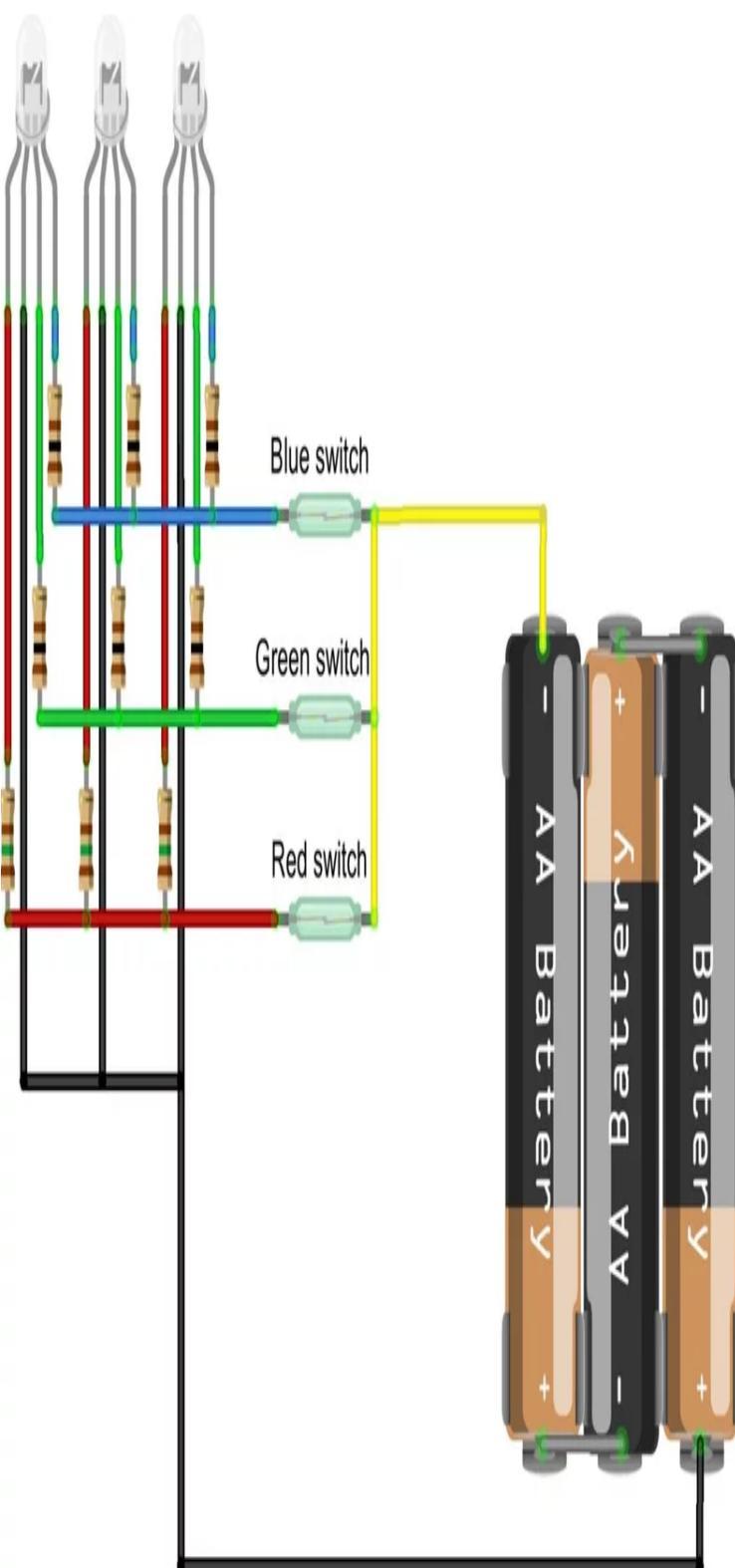


To enlighten the cube, you have to put a pickaxe on it. As it needs to be removable, I thought magnets were the solution.

After printing the pickaxes, you need to glue a magnet in the small space on the tip of the pickaxe. I used neoprene contact glue and let it dry overnight. The magnets are now in place and won't move !

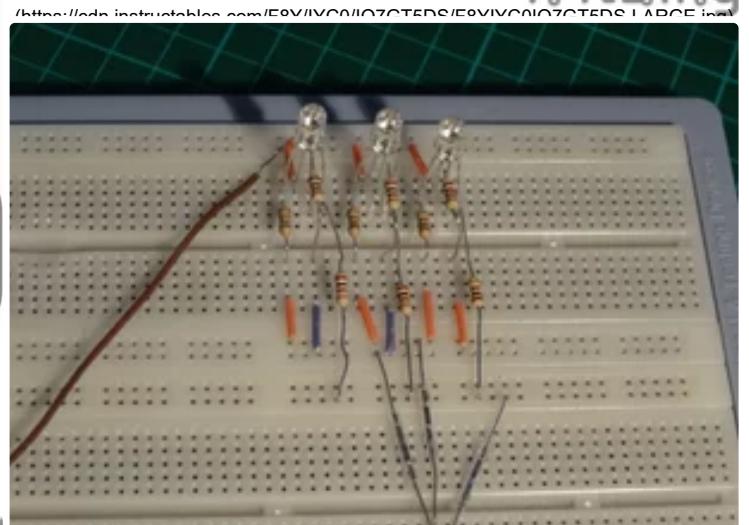
I then painted the edges with model paint.

The faces can be painted the same way, but I thought it would be easier to print the texture of Minecraft pickaxes on self-adhesive sticker paper (I made two diamond pickaxes and a golden one).



3x AA (LR6) = 4.5V

fritzing



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The circuit inside the cube requires :

- 3x RGB LEDs
- 6x 100Ω resistors
- 3x 150Ω resistors
- 1x 3xAA battery pack (= 4.5V DC)
- 3x reed switches

This circuit needs to be as ~~short~~ ~~as possible~~ ~~to fit in the cube~~.

I first designed the best circuit on a breadboard and then soldered all the components on a tiny piece of perfboard (the resistors are vertical to take less space).

I then cut in an A4 sheet of tracing paper, the net of a small light diffuser for the LEDs and the "screen" later glued on the inner faces of the plastic cube to make it glow.

I also cut a small gap for the wires to come out of the perfboard.

Each reed switch has been soldered to a double wire, insulated with heat shrink tubing and glued to a small iron washer. They were then glued inside the cube, under the top face with hot glue.

I then glued the wires on the inside of the side faces where light was blocked by plastic (not in front of holes). They are thus invisible from the outside when the cube is enlightened.

The piece of perfboard was glued to the bottom face of the cube.

The power wires were soldered to a nailhead and attached to a 5x5x5 mm neodymium magnet going through the cube. The connection between the cube and the base is made through these magnets, so the cube is removable.

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Step 4: The Base



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The base was 3D printed with a blue PLA filament looking like the color of diamond ore.

The two wires of the battery pack were soldered to iron nailheads and hot glued on the base. When the cube is placed on it, the connections between the circuit and the batteries are made.

I later added a piece of cardboard under the base to act as a lid and prevent the batteries from falling.

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Step 5: Turn Your Minecraft Ore Lamp on !





(<https://cdn.instructables.com/FSL/84/W/D/10HOW.IVY/FSL84WD10HOW.IVY.LARGE.jpg>)

The lamp is now finished and looks awesome on a desk !

You can let it turned on to make a cool ambient light or use a color code to communicate with others (for example, red = do not disturb; blue = I'm happy; green I need a coffee ! ...)

This project can also be a very good idea of present for a Minecraft fan.

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by LucasV81 (/member/LucasV81/) in...

The Royal Game of Ur (Game of

Twenty Squares) (/id/The-Royal-
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by RobhJoh (/member/RobhJoh/) in T...

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Dodeca Rubber Fidget Ball

From Inner Tubes (/id/Dodeca-
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by Waldemar Sha (/member/Waldema...)

4,721 Enrolled



A placeholder user icon.

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Great!



(/member/PandaTVgaming/) PandaTVgaming (/member/PandaTVgaming/) a year ago

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(/member/kubricknotes3955/) kubricknotes3955 (/member/kubricknotes3955/) 2 years ago

Reply Upvote

Voted. Great project



(/member/Ryderbike1/) Ryderbike1 (/member/Ryderbike1/) 2 years ago

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I voted for you. This is epic. I saw something like this once before (the link) but I like the color changing in this one more. I might try to combine them or something. Possibly using a color changing light bulbs
<https://www.instructables.com/id/Super-Solid-Minecr...> (<https://www.instructables.com/id/Super-Solid-Minecraft-Redstone-Lamp/>)

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So cool can you make me one I am having trouble



(/member/RGBFreak/) RGBFreak (/member/RGBFreak/) 2 years ago



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That looks cool!

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