Build a USB Digital Microscope in 60min and 15$ 

by moris_zen

Intro Build a USB Digital Microscope in 60min and 15$
How to turn a 15$ microscope and a 5$ USB camera into a cool digital microscope in 60 minutes.

Step 1 Disassemble any USB simple webcab
Just remove any screws and plastic cover that is not needed.
This webcam cost me 5$ - very simple low resolution web cam.
step 2 Place hot-glue over the electronic side of the camera so it won’t get damaged.

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step 3 Remove the insulation from the cable & add a red and white wire.

Use a cutter or a small knife to remove the insulation (BE VERY CAREFUL - DO NOT CUT YOURSELF!)
Cut the red and black wires and reveal the copper wiring.
Connect two additional extensions for these cables (5V DC) and solder the red together and the blacks together (not red to black!)

step 4 White LED connection

Connect a 50 to 330 Ohm resistor to the red wire and the other side to the long LED line. Then connect the black wire to the short LED lead.

step 5 Connect the white LED

1. Solder the LED lines and connected and isolate with isolation electric tape. Remove the mirror from the bottom and connect a toothpick to the two holes that remain. Connect the LED to the toothpick with hot-glue.
**step 6 Connect the camera**

While you view the image via the SW used for the webcam - position it so you get a clear image. You may need to play with it for a while.

After you find the exact location use a hot glue gun to fix it to that position. Then tape the wires tidily to the microscope and start taking pictures...

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**step 7 Pictures of Pollen (150x 300x 600x)**

Pictures of Pollen (150x 300x 600x)

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**step 8 Pictures of Cotton (150x 300x 600x)**

Pictures of Cotton (150x 300x 600x)

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**step 9 Pictures of Grass (150x 300x 600x)**

Pictures of Grass (150x 300x 600x)

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**step 10 I hope you like my instructable - If you do - please rate it

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