**How to put together a PC (for beginners)**

**Step 1: Components**

* CPU (Central Processing Unit)
  + This is pretty much the brain to the whole system.
  + You might need thermal paste for this, if the CPU doesn’t come with it already
* Motherboard
  + This connects everything together
* RAM (Random Access Memory)
  + Temporary Memory that runs all the applications
* Storage
  + Stores all the data (can use either HDD or SSD)
* GPU (Graphics Processing Unit)
  + This isn’t needed, unless you will be using this computer for gaming, video editing, or 3D rendering
* PSU (Power Supply Unit)
  + Powers the whole system
* Case
  + Encloses the whole system
* Cooling System
  + Prevents overheating for all components
* OS (Operating System)
  + This is either Windows or Linux

**Step 2: Clear of Workspace**

* Get to a clean spot, with no carpet.
* Use an anti-static wrist strap so that you don’t damage any sensitive parts.
* Double-check and organize all of your components.

**Step 3: Install the CPU**

* On the motherboard, there is a CPU socket. Lift the lever to open up the hatch.
* Align the little small triangle on the corner of the CPU to the one on the socket and carefully place the CPU into the socket without any force.
* Once it’s all in, lower the lever to close it all up.

**Step 4: Apply Thermal Paste (Only if needed)**

* Check your cooler to see if it has thermal paste pre-applied.
* If it doesn’t, apply a pea-sized amount of thermal paste to the center of the cpu.
* This will help regulate the temperature from the CPU to the cooler.

**Step 5: Install the CPU Cooler**

* Attach the cooler to the CPU socket.
* There are mounting holes on the motherboard that you will need to align with.
* Your cooler will come with either screws or a locking mechanism to secure the cooler into place. Make sure that they are all even.
* If it’s a fan, connect the cable to the CPU fan header on the motherboard.

**Step 6: Install RAM**

* Open the RAM slots by pushing down on the tabs.
* Align the notches on the RAM to the slots on the motherboard.
* Insert the ram into the 2nd and 4th slots until you hear a click, indicating that it’s in place.

**Step 7: Put the Motherboard into the Case**

* The case usually will need standoffs to be installed, which are small screws preventing the motherboard from touching the case.
* Align the back of the motherboard to the standoffs installed.
* Secure the motherboard to the case by screwing it in.

**Step 8: Install the PSU**

* Usually at the bottom of the case, there is a little compartment for the PSU. Place it there.
* Next align the PSU with the mounting holes on the case.
* Secure it with screws.
* Next grab the cables and through the case towards the GPU, and motherboard area.

**Step 9: Install Storage**

* Locate the drive bays, or the little SSD slots on your motherboard.
* Install the HDD or SSD into it’s respective spot.
* Secure them with screws.
* Connect the SATA power and data cables to the motherboard if it’s for SSD. If it’s for HDD, connect them straight to the drive.

**Step 10: Install the GPU**

* Open the PCIe slot cover on the side of the case for where the GPU will go.
* Insert the GPU into the PCIe x16 slot on the motherboard.
* Make sure to secure the GPU with screws.
* Connect the GPU power cables from the PSU.
* Normally GPUs come with fans. If it does, then connect the cables to the port labeled CPU fan and or Chassis fan.

**Step 11: Connections**

* This step is a little tricky so if you need help, get it.
* Find the 24-pin power cable from the PSU and connect it to the motherboard.
* Next, connect the 8 or 4 pin power cable to the slot near the CPU on the motherboard.
* This step isn’t needed, but if you have cables that are needed to be connected to your storage drives then connect those.
* This is the hard step. Find all of the front panel cables (USB, audio, power switch, lights, and etc.) from the case and then look at your motherboard manual and correctly connect each.
* If you have bought any additional case fans, then you will have to connect those to the motherboard on additional fan slots.

**Step 12: Double-Check**

* You are almost done!
* Now check all of your components to make sure that they are properly connected and secure.
* Verify that your power cables are connected to the right ports.

**Step 13: Power on and Test**

* Now power on your computer by turning on the switch for the PSU and then pressing the on button located on your case.
* Make sure that there are no flashing lights on the motherboard.
* If there aren’t then connect your monitor, keyboard, and mouse.
* If it’s all working, then you should see your motherboard’s splash screen.

**Step 14: Install the OS**

* For this step, you’ll have to find a way to install your OS onto a USB drive.
* Once you do this, insert the drive into your computer.
* Restart your system, and enter into your BIOS by pressing F2, F10, or DEL during your boot up.
* DON’T mess with your bios, as this can break your PC.
* Next, set your boot order to boot from USB.
* Now follow the prompts and install your OS.

**Step 15: Install Drivers**

* Now you’ll have to install drivers that will be needed for the CPU and GPU mainly.
* Go to your manufacturer's website to find what drivers you’ll have to download for your CPU and GPU.
* Lastly, check your other components such as Wi-Fi or USB’s to see if they need any either.

**Now you are done! Your PC should be up and running ready to do whatever you need.**