# Teaching Linux: Unit 1a

* What is Linux?
  + Operating system working behind the scenes
  + Open Source
    - This means anybody can contribute to Linux
    - This means Linux is free
  + Especially useful for developers, programmers etc.
  + Driven by command line
    - Speaking directly to the computer
  + Sleek by nature, not bogged down by windows garbage (Internet Explorer etc.)
* Where is Linux?
  + **Soda Machines**
  + **NASA:** Used for storing data sent down from satellites and telescopes, to crunching and serving up that data to research institutions
  + **The Large Hadron Collider:** The $10 machine that smashes protons together uses Linux to process petabytes of data
  + **The Internet:** About 1 to 2 thirds of websites on the internet are backed by Linux
  + **Android**
  + **Instagram**
  + **The New York Stock Exchange:** Linux is used to make very big calculations, track transactions, and analyse stocks at high speed
* Different “flavors” of Linux
  + Unlike windows, Linux can come in different modified forms, this is because it is open source and can be specialized by people or organizations
  + Different flavors have been modified to fit certain needs
    - Desktops
    - Servers
    - Lightweight
    - Scientific
    - Customizable
  + There is no one perfect Linux that meets all needs, that would be impossible
* How does it work?
  + For this one read of the slide
* How do you talk to it?
  + When using Linux, we talk directly to the computer using commands.
    - Commands are simply orders made to the computer given in text form
    - Commands are issued at the command line
  + Shells are how commands are made
    - They are like Waiters, giving your order to the kernel, and then bringing you the kernel’s response
    - Shells are picky and have a specific case sensitive format for the commands yu give them
    - The most popular Linux shell is called bash

# Unit 1b

* Terminal
  + Have the kids open module 1
  + Break down of hostname, $ vs #, (not too much depth though)
  + Have them log as root, brief explanation of root
    - Point out the difference in the shell “#” and path
* Directory hierarchy
* Locations of important files/directories ( /etc /home /bin etc..)
* Files and directories
  + Making/removing/editing files and directories
  + Hidden files/directories
  + What is ~/pwd
* Commands taught:
  + cd
  + ls
  + mkdir
  + rmdir
  + touch
  + nano
  + rmdir
  + rm ( rm \* is included in the drafted module)
* Things left out: sudo, permissions, users, location of system files, software