Reading:

Read/Skim the CMOS fabrication and layout concepts in sections 2.3 and 2.4 of the J&M textbook.

Some of this material is easier to follow in the ece721 webpage content. Look over the Harris lecture 0 and lecture 1 on CMOS fab/layout. The Harris material is also in the online chp.1 of the 721 textbook.

Writing:

From the J&M textbook. Chapter 2 Problems.

2.2, 2.6, 2.9, 2.10, 2.16, 2.17

7) From the Analog VLSI and Neural Systems sheets on the 720 web page:

Print out Plate 7 of the Analog Cells and label the transistor numbers on the layout following the numbering scheme in the schematics in figure 5.4 (Simple Amplifier) and figure 5.11 (Wide-range Amplifier).

8. Given two inverters, each with a resistor load, Vdd = 3v., one with a NMOS driver and the other with a PMOS driver:
   
   a. Draw schematics for both inverters.
   b. Draw quantitative DC transfer curves for each inverter.
   c. Draw a small signal model for each inverter (use just gm and rds)

Comment on the similarities and differences of the two inverters with regards to your answers in parts a, b, and c.